Performance Measure Summary - Knoxville TN

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 Knoxville TN

Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	610	610	605	605	600	600
Rank	71	71	72	71	71	70
Commuters (1000s)	315	315	312	312	310	310
Daily Vehicle-Miles of Travel (1000s)						
Freeway	6,756	7,272	6,966	6,827	6,622	6,563
Arterial Streets	8,393	9,034	8,737	8,907	8,748	8,529
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 ($/gallon)	2.15	2.37	2.65	2.14	2.00	2.06
Diesel ($/gallon)	2.68	2.84	3.05	2.35	2.13	2.37
System Performance	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Congested Travel (% of peak VMT)	--	--	--	13.0	--	--
Congested System (% of lane-miles)	--	--	--	7.9	--	--
Congested Time (number of "Rush Hours")	--	--	--	1.4	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	3,972	7,705	7,297	7,356	7,302	7,224
Rank	71	66	66	64	64	64
Fuel per Peak Auto Commuter (gallons)	10	19	18	18	18	17
Rank	59	62	64	63	60	65
Annual Delay						
Total Delay (1000s of person-hours)	9,058	17,570	16,994	17,020	16,801	16,480
Rank	72	66	68	66	66	65
Delay per Auto Commuter (pers-hrs)	23	45	44	44	42	42
Rank	68	60	60	59	62	61
Travel Time Index	1.05	1.14	1.13	1.13	1.13	1.13
Rank	85	79	82	83	83	83
Commuter Stress Index	1.06	1.15	1.14	1.13	--	--
Rank	91	81	84	90	--	--
Freeway Planning Time Index (95th Pctile)	--	1.38	1.37	1.38	--	--
Rank	--	55	55	57	--	--
Congestion Cost						
Total Cost ($ millions)	209	399	381	373	362	349
Rank	72	66	66	65	65	65
Cost per Auto Commuter ($)	493	941	905	887	882	860
Rank	63	49	52	48	47	48
Truck Congestion						
Annual Person-Hours of Delay (000)	615	1,124	1,081	1,057	1,043	1,023
Rank	59	55	55	54	53	53
Annual Gallons of Wasted Fuel (000)	1,118	2,044	1,956	1,899	1,886	1,866
Rank	57	55	55	58	57	57
Annual Congestion Cost ($ million)	33	67	60	56	53	49
Rank	58	52	55	53	53	53
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)	40,290	78,153	--	--	--	--
Rank	70	65	--	--	--	--
Due to All Travel (tons)	1,786,485	3,465,356	--	--	--	--
Rank	58	53	--	--	--	--
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)	12,416	22,690	--	--	--	--
Rank	58	55	--	--	--	--
Due to Truck Travel (tons)	652,021	1,191,624	--	--	--	--
Rank	39	42	--	--	--	--

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

Mobility Data for Knoxville TN

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	600	595	590	585	580	570
Rank	69	69	69	69	69	69
Commuters (1000s)	310	313	311	308	304	297
Daily Vehicle-Miles of Travel (1000s)						
Freeway	6,092	5,758	5,405	5,438	5,395	5,250
Arterial Streets	8,089	6,530	6,545	6,541	6,490	6,200
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 ($/gallon)	3.05	3.29	3.32	3.21	2.58	2.15
Diesel ($/gallon)	3.49	3.78	3.75	3.57	2.84	2.45
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)	7,126	6,800	6,770	6,557	6,474	6,315
Rank	64	66	65	65	66	66
Fuel per Peak Auto Commuter (gallons)	18	17	17	16	16	15
Rank	57	64	61	67	68	62
Annual Delay						
Total Delay (1000s of person-hours)	15,975	14,977	14,778	14,054	13,623	13,038
Rank	66	67	66	66	66	66
Delay per Auto Commuter (pers-hrs)	40	38	38	37	36	35
Rank	63	68	65	66	64	68
Travel Time Index	1.14	1.14	1.14	1.13	1.13	1.13
Rank	78	76	77	83	82	82
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	344	318	309	292	271	253
Rank	65	66	65	65	64	64
Cost per Auto Commuter ($)	828	785	784	769	769	748
Rank	48	53	50	51	52	54
Truck Congestion						
Annual Person-Hours of Delay (000)	991	930	917	873	846	810
Rank	53	54	53	54	53	54
Annual Gallons of Wasted Fuel (000)	1,841	1,756	1,748	1,693	1,672	1,631
Rank	57	57	57	57	57	57
Annual Congestion Cost ($ million)	48	42	41	42	38	36
Rank	53	54	53	54	53	53
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 Knoxville TN

Inventory Measures	2008	2007	2006	2005	2004	2003
Urban Area Information						
Population (1000s)	555	545	530	515	500	485
Rank	70	71	70	70	70	70
Commuters (1000s)	289	282	273	263	254	245
Daily Vehicle-Miles of Travel (1000s)						
Freeway	5,140	5,170	5,095	5,130	5,030	4,830
Arterial Streets	6,025	6,150	6,200	6,385	6,370	6,160
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 ($/gallon)	3.32	2.98	2.54	2.24	1.86	1.46
Diesel ($/gallon)	4.03	3.26	2.72	2.39	1.87	1.44
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)	6,507	6,404	6,157	5,874	5,744	5,651
Rank	65	67	66	68	68	68
Fuel per Peak Auto Commuter (gallons)	16	17	16	14	14	15
Rank	68	61	64	75	71	58
Annual Delay						
Total Delay (1000s of person-hours)	12,796	12,592	12,107	11,551	11,295	11,112
Rank	68	66	68	71	67	67
Delay per Auto Commuter (pers-hrs)	36	36	35	35	35	36
Rank	61	59	62	59	56	50
Travel Time Index	1.14	1.14	1.14	1.14	1.14	1.14
Rank	76	77	75	73	71	69
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	257	242	224	205	192	181
Rank	65	66	66	67	68	65
Cost per Auto Commuter ($)	728	745	735	726	734	742
Rank	53	57	59	59	57	53
Truck Congestion						
Annual Person-Hours of Delay (000)	794	782	751	718	701	690
Rank	54	55	55	55	54	54
Annual Gallons of Wasted Fuel (000)	1,681	1,654	1,590	1,517	1,484	1,459
Rank	57	57	57	57	57	58
Annual Congestion Cost ($ million)	37	34	31	28	26	24
Rank	55	55	55	55	54	54
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 Knoxville TN

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	470	450	430	410	390	370
Rank	71	73	73	75	76	78
Commuters (1000s)	234	221	207	195	183	171
Daily Vehicle-Miles of Travel (1000s)						
Freeway	4,650	4,475	4,300	4,210	4,100	4,000
Arterial Streets	5,975	5,775	5,620	5,500	5,370	5,150
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 ($/gallon)	1.32	1.45	1.47	1.07	1.03	1.13
Diesel ($/gallon)	1.30	1.47	1.42	1.06	1.11	1.20
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)	5,411	5,071	4,850	4,546	4,131	3,810
Rank	67	69	68	69	69	70
Fuel per Peak Auto Commuter (gallons)	14	13	13	12	11	10
Rank	61	63	56	64	65	66
Annual Delay						
Total Delay (1000s of person-hours)	10,641	9,971	9,539	8,941	8,124	7,492
Rank	66	68	69	68	69	69
Delay per Auto Commuter (pers-hrs)	36	35	36	36	34	34
Rank	45	45	40	37	40	38
Travel Time Index	1.14	1.14	1.14	1.14	1.14	1.13
Rank	68	66	62	58	53	60
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	169	156	145	130	116	106
Rank	66	68	68	68	70	70
Cost per Auto Commuter ($)	726	690	679	655	608	574
Rank	51	54	56	59	61	61
Truck Congestion						
Annual Person-Hours of Delay (000)	660	619	592	556	504	465
Rank	55	55	56	58	58	56
Annual Gallons of Wasted Fuel (000)	1,397	1,309	1,252	1,174	1,067	984
Rank	58	58	59	58	59	58
Annual Congestion Cost ($ million)	22	20	19	16	15	14
Rank	55	55	55	58	55	53
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 Knoxville TN

Inventory Measures	1996	1995	1994	1993	1992	1991
Urban Area Information						
Population (1000s)	350	335	325	320	320	320
Rank	79	79	80	80	80	79
Commuters (1000s)	159	150	143	139	137	135
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,900	3,650	3,500	3,400	3,280	3,150
Arterial Streets	4,900	4,555	4,300	4,090	3,915	3,730
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 ($/gallon)	1.24	1.11	1.03	1.07	1.08	1.11
Diesel ($/gallon)	1.33	1.21	1.10	1.14	1.18	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)	3,466	3,069	2,782	2,469	2,286	2,138
Rank	71	71	71	72	72	72
Fuel per Peak Auto Commuter (gallons)	9	8	8	6	6	6
Rank	69	72	65	76	69	67
Annual Delay						
Total Delay (1000s of person-hours)	6,817	6,036	5,472	4,855	4,496	4,205
Rank	71	71	71	72	72	72
Delay per Auto Commuter (pers-hrs)	33	31	29	26	25	23
Rank	38	41	42	49	45	49
Travel Time Index	1.13	1.12	1.11	1.10	1.10	1.09
Rank	50	57	60	64	58	61
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	95	81	72	62	56	51
Rank	71	71	71	71	71	72
Cost per Auto Commuter ($)	535	485	456	410	397	378
Rank	64	69	70	75	71	70
Truck Congestion						
Annual Person-Hours of Delay (000)	423	374	339	302	279	261
Rank	57	59	61	61	61	60
Annual Gallons of Wasted Fuel (000)	895	793	719	637	591	552
Rank	58	60	61	61	60	60
Annual Congestion Cost ($ million)	12	11	9	8	8	7
Rank	57	55	61	60	57	57
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 Knoxville TN

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	315	315	315	315	310	310
Rank	79	77	76	76	76	75
Commuters (1000s)	130	130	128	128	124	123
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,025	2,705	2,520	2,365	2,100	1,920
Arterial Streets	3,610	3,570	3,380	3,210	3,095	2,900
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 ($/gallon)	1.08	1.12	1.03	1.04	1.01	1.32
Diesel ($/gallon)	1.07	1.02	0.94	0.94	0.92	1.20
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)	1,926	1,691	1,511	1,383	1,205	1,130
Rank	71	72	73	72	73	72
Fuel per Peak Auto Commuter (gallons)	6	4	4	3	3	3
Rank	60	76	71	80	74	66
Annual Delay						
Total Delay (1000s of person-hours)	3,787	3,326	2,971	2,719	2,370	2,221
Rank	73	73	73	73	73	72
Delay per Auto Commuter (pers-hrs)	22	19	17	16	14	13
Rank	46	55	58	55	57	56
Travel Time Index	1.09	1.08	1.07	1.06	1.06	1.05
Rank	56	55	59	65	56	64
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	44	37	32	28	24	22
Rank	72	72	72	71	71	72
Cost per Auto Commuter ($)	353	332	313	296	268	251
Rank	71	72	72	72	71	69
Truck Congestion						
Annual Person-Hours of Delay (000)	235	207	184	169	147	138
Rank	61	61	62	65	66	64
Annual Gallons of Wasted Fuel (000)	497	436	390	357	311	292
Rank	61	62	64	62	66	62
Annual Congestion Cost ($ million)	6	5	5	4	4	3
Rank	59	61	59	61	58	64
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 Knoxville TN

Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	305	300	300
Rank	75	75	75
Commuters (1000s)	121	118	116
Daily Vehicle-Miles of Travel (1000s)			
Freeway	2,060	2,020	1,980
Arterial Streets	2,800	2,700	2,575
Cost Components			
Value of Time ($/hour)	7.75	7.43	7.20
Commercial Cost ($/hour)	23.94	23.63	23.31
Gasoline ($/gallon)	1.34	1.37	1.43
Diesel ($/gallon)	1.22	1.24	1.30
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)	1,044	930	950
Rank	71	71	70
Fuel per Peak Auto Commuter (gallons)	3	2	2
Rank	61	69	55
Annual Delay			
Total Delay (1000s of person-hours)	2,052	1,829	1,868
Rank	71	72	68
Delay per Auto Commuter (pers-hrs)	12	11	12
Rank	56	56	47
Travel Time Index	1.05	1.05	1.05
Rank	57	55	51
Commuter Stress Index	--	--	--
Rank	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--
Rank	--	--	--
Congestion Cost			
Total Cost ($ millions)	20	17	17
Rank	70	72	68
Cost per Auto Commuter ($)	241	230	243
Rank	68	67	61
Truck Congestion			
Annual Person-Hours of Delay (000)	127	113	116
Rank	63	65	61
Annual Gallons of Wasted Fuel (000)	269	240	245
Rank	62	63	58
Annual Congestion Cost ($ million)	3	3	3
Rank	58	54	50
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.