Section E
Physical Performance

Table 1-55 Passengers Denied Boarding by the Largest U.S. Air Carriers[a]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Boarded (millions)	421	429	445	449	457	460	481	503	514	523
Denied boarding[b] (thousands)										
Voluntary	561	599	718	632	771	794	899	1,018	1,081	1,024
Involuntary	67	47	46	51	53	49	58	54	45	46
Total	**628**	**646**	**764**	**683**	**824**	**843**	**957**	**1,072**	**1,126**	**1,070**

[a] Data are for nonstop scheduled service flights between points within the United States (including territories) by the 10 largest U.S. air carriers, i.e., those with at least 1% of total domestic scheduled-service passenger revenues (Alaska, America West, American, Continental, Delta, Northwest, Southwest, TWA, United, and US Airways). Before 1994, carriers included both majors and national airlines, i.e., airlines with over $100 million in revenue.

[b] Number of passengers who hold confirmed reservations and are denied boarding ("bumped") from a flight because it is oversold. These figures include only passengers whose oversold flight departs without them; they do not include passengers affected by canceled, delayed, or diverted flights.

SOURCE: U.S. Department of Transportation, Office of the Secretary, *Air Travel Consumer Report* (Washington, DC: Annual April issues).

Table 1-56 Mishandled-Baggage Reports Filed by Passengers with the Largest U.S. Air Carriers[a]

	1990 [b]	1991 [c]	1992	1993	1994	1995	1996	1997	1998	1999
Total mishandled-baggage reports (millions)	**2.66**	**2.20**	**2.45**	**2.28**	**2.32**	**2.28**	**2.46**	**2.28**	**2.48**	**2.54**
Enplaned passengers (domestic) (millions)	395.7	408.5	417.0	407.5	435.7	439.8	464.0	459.8	481.7	499.1
Reports per 1,000 passengers	6.73	5.38	5.87	5.60	5.33	5.18	5.30	4.96	5.16	5.08

[a] Data include nonstop, scheduled service between points within the United States (including territories) by the 10 largest U.S. air carriers, i.e., those with at least 1% of the total domestic scheduled service passenger revenues (Alaska, America West, American, Continental, Delta, Northwest, Southwest, TWA, United, and US Airways).

[b] Includes Pan Am.

[c] Includes Pan Am and Midway.

NOTES: Domestic system only. Based on passenger reports of mishandled baggage, including those that did not subsequently result in claims for compensation.

SOURCE: U.S. Department of Transportation, Office of the Secretary, *Air Travel Consumer Report* (Washington, DC: Annual compilation, February).

Table 1-57 Flight Operations Arriving On Time by the Largest U.S. Air Carriers[a] (Percent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
On-time flight operations	79.4	82.5	82.3	81.6	81.5	78.6	74.5	77.7	77.2	76.1

[a] Data include nonstop, scheduled service between points within the United States (including territories) by the 10 largest U.S. air carriers, i.e., those with at least 1% of the total domestic scheduled service passenger revenues (Alaska, America West, American, Continental, Delta, Northwest, Southwest, TWA, United, and US Airways).

NOTES: A flight is considered on time if it arrived less than 15 minutes after the scheduled time shown in the carriers' Computerized Reservations Systems. Canceled and diverted operations are counted as late.

SOURCE: U.S. Department of Transportation, Office of the Secretary, *Air Travel Consumer Report* (Washington, DC: Annual compilation, February), table 1a, 12-month column.

Table 1-58 U.S. Air Carrier Delay Greater Than 15 Minutes by Cause

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Operations delayed (thousands)	356	338	394	393	298	281	276	248	237	272	245	306	374
Cause (%)													
Weather	67	70	57	56	65	65	72	75	72	75	68	74	68
Airport terminal volume	11	9	29	35	27	27	22	19	18	18	22	15	20
ARTCC volume	13	12	8	2	0	0	0	0	0	0	0	0	2
Closed runways/taxiways	4	5	3	3	3	3	3	2	3	3	3	3	3
NAS equipment	4	3	2	1	2	2	2	2	3	2	3	2	2
Other	1	1	1	4	3	3	2	2	4	2	4	6	5

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, *Aviation Capacity Enhancement Plan* (Washington, DC: Annual issues), figure 3-2 and similar tables in earlier editions, and personal communications, July 6, 2000, and Dec. 5, 2000.

KEY: ARTCC = Air Route Traffic Control Center; NAS = National Airspace System

Table 1-59 Major U.S. Air Carrier Delays, Cancellations, and Diversions

	1988	1989	1990	1991[a]	1992	1993	1994[a]	1995	1996	1997	1998	1999	2000[a]
Late Departures	730,712	883,167	753,182	520,491	617,148	661,056	670,218	919,839	1,102,484	944,633	1,014,904	1,091,584	1,157,577
Late Arrivals	1,042,452	1,208,470	1,087,774	748,842	902,567	931,437	884,317	1,141,647	1,362,702	1,193,678	1,227,741	1,320,591	1,378,040
Cancellations	50,163	74,165	52,458	34,736	52,836	59,845	61,533	91,905	128,536	97,763	144,509	154,311	158,816
Diversions	14,436	14,839	15,954	10,279	11,384	10,333	11,245	10,492	14,121	12,081	13,161	13,555	12,774
Total Operations	5,202,096	5,041,200	5,270,893	4,259,689	5,092,157	5,070,501	4,744,532	5,327,435	5,351,983	5,411,843	5,384,721	5,527,884	5,196,611

[a] Data are incomplete; December data not yet available.

NOTES: Late departures and arrivals are strongly seasonal and are affected by weather and the heavy demand in winter and summer months. The term "late" is defined as 15 minutes after the scheduled departure or arrival time. Major air carriers are the 10 largest U.S. air carriers. A cancelled flight is one that was not operated, but was listed in a carrier's computer reservation system within seven calendar days of the scheduled departure. A diverted flight is one that left from the scheduled departure airport but flew to a destination point other than the scheduled destination point. The total for late departures includes flights that were cancelled. The total for late arrivals includes both cancelled and diverted flights, in addition to flights that arrived at the destination airport at least 15 minutes past scheduled arrival, and therefore measures all flights with arrival problems.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, Airline Service Quality Performance data.

Table 1-60 Annual Person-Hours of Delay Per Eligible Driver[R]

								% change			
								Short-term 1992-1997		Long-term 1982-1997	
Urban area	**1982**	**1986**	**1990**	**1992**	**1995**	**1996**	**1997**	**%**	**Rank**	**%**	**Rank**
Albany-Schenectady-Troy, NY	1	3	7	7	8	9	8	14	55	700	12
Albuquerque, NM	4	9	15	18	31	34	39	117	6	875	8
Atlanta, GA	16	33	27	30	53	61	68	127	4	325	39
Austin, TX	11	18	20	29	38	40	53	83	15	382	32
Bakersfield, CA	1	3	5	6	7	8	8	33	41	700	12
Baltimore, MD	13	20	36	33	44	45	47	42	35	262	45
Beaumont, TX	1	3	5	7	10	8	12	71	19	1,100	3
Boston, MA	19	32	43	48	61	64	66	38	39	247	47
Boulder, CO	1	2	3	4	5	5	6	50	31	500	22
Brownsville, TX	1	1	3	3	4	4	3	0	64	200	52
Buffalo-Niagara Falls, NY	2	3	5	5	7	7	7	40	38	250	46
Charlotte, NC	9	11	22	24	28	30	41	71	19	356	36
Chicago, IL-Northwestern, IN	13	26	31	34	38	41	44	29	44	238	48
Cincinnati, OH-KY	5	8	18	21	26	28	31	48	33	520	19
Cleveland, OH	2	4	9	10	16	19	20	100	8	900	5
Colorado Springs, CO	2	4	6	10	14	14	16	60	25	700	12
Columbus, OH	3	6	16	17	26	26	30	76	18	900	5
Corpus Christi, TX	6	6	6	6	6	7	8	33	41	33	68
Dallas, TX	15	35	35	39	49	49	58	49	32	287	41
Denver, CO	10	15	22	28	40	43	45	61	23	350	38
Detroit, MI	23	30	48	52	53	58	62	19	51	170	55
El Paso, TX-NM	2	4	7	11	12	10	12	9	56	500	22
Eugene-Springfield, OR	1	2	3	4	4	6	8	100	8	700	12
Fort Worth, TX	8	18	23	24	32	34	38	58	26	375	33
Fresno, CA	7	11	20	15	15	15	19	27	47	171	54
Fort Lauderdale-Hollywood-Pompano Beach, FL	5	9	11	22	26	27	31	41	36	520	19
Hartford-Middletown, CT	6	14	25	23	18	20	23	0	64	283	42
Honolulu, HI	14	20	25	29	30	29	29	0	64	107	63
Houston, TX	37	40	35	36	40	47	58	61	23	57	67
Indianapolis, IN	3	7	11	16	44	46	52	225	1	1633	1
Jacksonville, FL	11	14	21	23	31	35	35	52	29	218	51
Kansas City, MO-KS	3	6	11	11	20	24	28	155	3	833	9

KEY: R = revised

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Table 1-60 Cont'd Annual Person-Hours of Delay Per Eligible Driver[R]

Urban area	1982	1986	1990	1992	1995	1996	1997	% change Short-term 1992-1997 %	Short-term Rank	Long-term 1982-1997 %	Long-term Rank
Laredo, TX	2	2	2	2	5	6	6	200	2	200	52
Las Vegas, NV	7	11	28	23	35	37	34	48	33	386	31
Los Angeles, CA	41	61	79	79	79	81	82	4	60	100	64
Louisville, KY-IN	4	7	11	24	32	37	40	67	21	900	5
Memphis, TN-AR-MS	4	5	10	15	26	28	29	93	10	625	17
Miami-Hialeah, FL	22	29	48	54	54	50	57	6	59	159	56
Milwaukee, WI	5	8	15	21	28	26	25	19	51	400	30
Minneapolis-St. Paul, MN	4	8	15	18	27	28	34	89	11	750	11
Nashville, TN	8	13	22	21	36	39	46	119	5	475	27
New Orleans, LA	12	20	24	24	28	26	25	4	60	108	62
New York, NY-Northeastern, NJ	15	22	31	27	32	34	38	41	36	153	57
Norfolk, VA	9	17	22	22	26	32	34	55	28	278	43
Oklahoma City, OK	2	4	8	10	13	16	18	80	17	800	10
Omaha, NE-IA	5	9	18	24	30	33	31	29	44	520	19
Orlando, FL	9	15	14	27	30	35	41	52	29	356	36
Philadelphia, PA-NJ	16	20	21	21	23	26	27	29	49	69	65
Phoenix, AZ	16	25	29	28	28	33	35	25	50	119	60
Pittsburgh, PA	6	9	13	13	15	15	15	15	54	150	59
Portland-Vancouver, OR-WA	9	18	27	38	50	55	52	37	40	478	26
Providence-Pawtucket, RI-MA	5	10	20	16	20	22	21	31	43	320	40
Rochester, NY	1	2	6	7	10	11	11	57	27	1,000	4
Sacramento, CA	8	14	33	30	35	40	38	27	47	375	33
Salem, OR	1	3	6	8	11	12	15	88	12	1,400	2
Salt Lake City, UT	3	3	8	14	22	24	23	64	22	667	16
San Antonio, TX	7	19	12	14	21	24	26	86	13	271	44
San Bernardino-Riverside, CA	7	21	38	43	47	50	47	9	56	571	18
San Diego, CA	6	18	34	35	35	36	36	3	62	500	22
San Francisco-Oakland, CA	35	56	62	58	59	60	58	0	64	66	66
San Jose, CA	14	28	49	48	47	47	45	-6	68	221	50
Seattle-Everett, WA	21	36	53	68	61	62	69	1	63	229	49
Spokane, WA	2	4	5	6	7	9	11	83	15	450	29
St. Louis, MO-IL	11	16	24	28	50	50	52	86	13	373	35

KEY: R = revised

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Table 1-60 Cont'd Annual Person-Hours of Delay Per Eligible Driver[R]

Urban area	1982	1986	1990	1992	1995	1996	1997	% change Short-term 1992-1997 %	Short-term Rank	Long-term 1982-1997 %	Long-term Rank
Tacoma, WA	5	13	29	27	26	26	29	7	58	480	25
Tampa, FL	19	24	28	35	40	39	41	17	53	116	61
Tucson, AZ	5	5	13	13	18	20	28	115	7	460	28
Washington, DC-MD-VA	30	45	58	60	70	76	76	27	47	153	57

KEY: R = revised

NOTES: An eligible driver is someone 16 years of age and older who is eligible for a driver's license. The cities shown represent the 50 largest metropolitan areas, as well as others chosen by the states sponsoring the Texas Transportation Institute study on mobility. Due to changes in methodology, data for all years shown were revised. For a detailed explanation of the formulas used, see the source document.

SOURCE: 1982-97: Texas Transportation Institute, *The 1999 Annual Urban Mobility Report* (College Station, TX: 1999), table 4.

Table 1-61 Roadway Congestion Index[R]

Urban area	1982	1986	1990	1992	1995	1996	1997	% change Short-term 1992-1997 %	Short-term Rank	Long-term 1982-1997 %	Long-term Rank
Albany-Schenectady-Troy, NY	0.48	0.56	0.68	0.69	0.72	0.74	0.75	9	35	56	60
Albuquerque, NM	0.69	0.84	0.85	0.87	0.98	1.01	1.05	21	64	52	56
Atlanta, GA	0.85	1.01	0.95	0.97	1.12	1.17	1.23	27	68	45	51
Austin, TX	0.78	0.86	0.89	0.92	0.94	0.96	1.03	12	46	32	32
Bakersfield, CA	0.47	0.57	0.66	0.69	0.72	0.74	0.75	9	35	60	63
Baltimore, MD	0.78	0.81	0.94	0.95	1.03	1.04	1.05	11	41	35	38
Beaumont, TX	0.67	0.74	0.75	0.81	0.82	0.84	0.90	11	41	34	35
Boston, MA	0.91	1.01	1.08	1.12	1.19	1.22	1.24	11	41	36	42
Boulder, CO	0.64	0.71	0.71	0.73	0.74	0.75	0.80	10	39	25	20
Brownsville, TX	0.53	0.54	0.62	0.64	0.70	0.69	0.71	11	41	34	35
Buffalo-Niagara Falls, NY	0.60	0.57	0.64	0.67	0.72	0.73	0.72	7	22	20	14
Charlotte, NC	1.08	1.00	0.97	0.91	0.96	0.97	1.04	14	50	-4	1
Chicago, IL-Northwestern, IN	0.94	1.06	1.15	1.18	1.24	1.26	1.28	8	26	36	42
Cincinnati, OH-KY	0.81	0.78	0.89	0.91	1.00	1.02	1.08	19	62	33	33
Cleveland, OH	0.75	0.77	0.89	0.90	0.98	0.99	1.01	12	46	35	38
Colorado Springs, CO	0.62	0.63	0.66	0.67	0.75	0.74	0.77	15	54	24	19
Columbus, OH	0.61	0.72	0.87	0.88	0.99	1.00	1.04	18	61	70	68
Corpus Christi, TX	0.67	0.70	0.69	0.62	0.62	0.67	0.72	16	56	7	4
Dallas, TX	0.77	0.97	0.99	1.01	0.98	1.00	1.04	3	13	35	38
Denver, CO	0.77	0.84	0.91	0.92	1.03	1.07	1.08	17	57	40	45
Detroit, MI	0.98	1.02	1.08	1.16	1.15	1.15	1.18	2	11	20	14
El Paso, TX-NM	0.66	0.75	0.77	0.82	0.84	0.83	0.86	5	17	30	29
Eugene-Springfield, OR	0.54	0.54	0.63	0.72	0.78	0.82	0.84	17	57	56	60
Fort Lauderdale-Hollywood-Pompano Beach, FL	0.70	0.76	0.79	0.95	1.02	1.04	1.08	14	50	54	58
Fort Worth TX	0.73	0.86	0.92	0.90	0.87	0.90	0.91	1	8	25	20
Fresno, CA	0.81	0.89	0.93	0.85	0.87	0.84	0.90	6	21	11	8
Hartford-Middletown, CT	0.69	0.79	0.87	0.86	0.87	0.88	0.90	5	17	30	29
Honolulu, HI	0.86	0.99	1.04	1.07	1.07	1.07	1.06	-1	5	23	18
Houston, TX	1.09	1.12	1.00	0.99	0.98	1.02	1.07	8	26	-2	2
Indianapolis, IN	0.62	0.76	0.81	0.84	1.01	1.00	1.05	25	67	69	67
Jacksonville, FL	0.84	0.87	0.87	0.84	0.88	0.92	0.93	11	41	11	8
Kansas City, MO-KS	0.56	0.62	0.66	0.65	0.72	0.75	0.76	17	57	36	42

KEY: R = revised

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Table 1-61 Cont'd Roadway Congestion Index[R]

Urban area	1982	1986	1990	1992	1995	1996	1997	% change Short-term 1992-1997 %	Short-term Rank	Long-term 1982-1997 %	Long-term Rank
Laredo, TX	0.52	0.56	0.61	0.51	0.54	0.56	0.61	20	63	17	11
Las Vegas, NV	0.67	0.79	0.95	0.98	1.09	1.10	1.07	9	35	60	63
Los Angeles, CA	1.39	1.46	1.56	1.54	1.50	1.54	1.51	-2	3	9	6
Louisville, KY-IN	0.72	0.74	0.80	0.89	0.99	1.02	1.04	17	57	44	49
Memphis, TN-AR-MS	0.76	0.73	0.84	0.85	0.93	0.95	0.96	13	49	26	22
Miami-Hialeah, FL	0.97	1.05	1.23	1.24	1.28	1.22	1.26	2	11	30	29
Milwaukee, WI	0.76	0.82	0.93	1.02	1.02	1.01	1.01	-1	5	33	33
Minneapolis-St. Paul, MN	0.70	0.83	0.89	0.93	1.06	1.08	1.13	22	66	61	65
Nashville, TN	0.71	0.82	0.85	0.86	0.93	0.92	0.96	12	46	35	38
New Orleans, LA	0.89	0.93	1.01	0.98	1.02	0.99	0.99	1	8	11	8
New York, NY-Northeastern, NJ	0.94	0.98	1.05	1.01	1.04	1.06	1.11	10	39	18	12
Norfolk, VA	0.75	0.86	0.92	0.89	0.93	0.97	0.97	9	35	29	28
Oklahoma City, OK	0.57	0.62	0.73	0.74	0.82	0.84	0.85	15	54	49	53
Omaha, NE-IA	0.67	0.74	0.87	0.96	0.99	1.02	1.00	4	16	49	53
Orlando, FL	0.65	0.80	0.76	0.86	0.84	0.87	0.93	8	26	43	48
Philadelphia, PA-NJ	0.98	1.01	0.99	0.98	1.00	1.03	1.05	7	22	7	4
Phoenix, AZ	0.94	1.04	1.04	1.06	1.06	1.11	1.13	7	22	20	14
Pittsburgh, PA	0.72	0.73	0.75	0.74	0.76	0.76	0.76	3	13	6	3
Portland-Vancouver, OR-WA	0.79	0.98	1.02	1.07	1.15	1.20	1.22	14	50	54	58
Providence-Pawtucket, RI-MA	0.79	0.87	0.91	0.83	0.84	0.87	0.87	5	17	10	7
Rochester, NY	0.53	0.58	0.72	0.74	0.79	0.79	0.78	5	17	47	52
Sacramento, CA	0.71	0.86	1.06	1.06	1.12	1.15	1.14	8	26	61	65
Salem, OR	0.57	0.67	0.72	0.76	0.77	0.80	0.82	8	26	44	49
Salt Lake City, UT	0.68	0.66	0.78	0.91	1.04	1.05	1.04	14	50	53	57
San Antonio, TX	0.73	0.85	0.75	0.76	0.88	0.89	0.92	21	64	26	22
San Bernardino-Riverside, CA	0.73	0.83	1.06	1.15	1.16	1.17	1.15	0	7	58	62
San Diego, CA	0.80	1.02	1.15	1.15	1.13	1.14	1.12	-3	1	40	45
San Francisco-Oakland, CA	1.04	1.26	1.36	1.32	1.34	1.36	1.33	1	8	28	27
San Jose, CA	0.76	0.87	1.07	1.11	1.08	1.08	1.08	-3	1	42	47
Seattle-Everett, WA	1.05	1.22	1.21	1.17	1.20	1.22	1.26	8	26	20	14
Spokane, WA	0.64	0.72	0.76	0.75	0.76	0.77	0.81	8	26	27	24
St. Louis, MO-IL	0.81	0.84	0.93	0.95	1.00	1.01	1.03	8	26	27	24

KEY: R = revised

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Table 1-61 Cont'd Roadway Congestion Index[R]

Urban area	1982	1986	1990	1992	1995	1996	1997	% change Short-term 1992-1997 %	Short-term Rank	Long-term 1982-1997 %	Long-term Rank
Tacoma, WA	0.77	0.91	1.06	1.12	1.10	1.11	1.15	3	13	49	53
Tampa, FL	0.91	0.91	1.02	1.09	1.11	1.09	1.07	-2	3	18	12
Tucson, AZ	0.79	0.73	0.89	0.93	0.94	0.95	1.00	8	26	27	24
Washington, DC-MD-VA	0.99	1.16	1.21	1.24	1.32	1.32	1.33	7	22	34	35

KEY: R = revised

NOTES: The roadway congestion index (RCI) is a measure of vehicle travel density on major roadways in an urban area. An RCI exceeding 1.0 indicates an undesirable congestion level, on average, on the freeways and principal arterial street system during the peak period. The cities shown represent the 50 largest metropolitan areas, as well as others chosen by the states sponsoring the Texas Transportation Institute study on mobility. Due to changes in methodology, data for all years shown were revised. For a detailed explanation of the formulas used, see the source document.

SOURCE: 1982-97: Texas Transportation Institute, *The 1999 Annual Urban Mobility Report* (College Station, TX: 1999), Appendix A-4.

Table 1-62 Congestion Index and Cost Values

Urban area	Annual congestion cost per driver ($)						Annual congestion cost ($ millions)					
	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank
Albany-Schenectady-Troy, NY	270	295	140	62	61	62	105	115	55	59	61	59
Albuquerque, NM	585	700	650	22	25	24	240	300	285	46	47	45
Atlanta, GA	850	1,095	1,125	8	4	4	1,595	2,110	2,270	9	9	8
Austin, TX	805	970	880	10	11	12	370	465	430	34	36	34
Bakersfield, CA	220	270	155	64	65	61	55	70	40	63	63	61
Baltimore, MD	565	715	780	25	23	16	950	1,205	1,330	17	16	14
Beaumont, TX	150	180	225	66	68	56	15	20	25	67	67	63
Boston, MA	720	900	1,095	14	14	5	1,725	2,170	2,635	8	8	7
Boulder, CO	125	125	110	68	70	65	10	10	10	69	70	66
Brownsville, TX	110	165	50	70	69	68	10	15	5	69	69	68
Buffalo-Niagara Falls, NY	215	285	115	65	63	64	180	240	95	53	52	55
Charlotte, NC	450	590	680	41	37	21	190	260	300	52	50	44
Chicago, IL-Northwestern, IN	545	670	720	26	26	20	3,225	4,005	4,400	3	3	3
Cincinnati, OH-KY	460	590	525	39	37	35	445	570	515	27	28	28
Cleveland, OH	305	390	345	57	58	51	435	570	505	28	28	29
Colorado Springs, CO	375	450	275	51	52	54	105	135	85	59	58	58
Columbus, OH	410	505	515	47	45	36	320	400	405	40	41	37
Corpus Christi, TX	240	285	110	63	63	65	50	65	25	64	64	63
Dallas, TX	845	1,015	975	9	10	8	1,410	1,765	1,715	12	12	12
Denver, CO	635	825	760	18	18	19	815	1,115	1,050	20	18	17
Detroit, MI	860	1,095	1,010	7	4	6	2,655	3,165	3,145	6	6	5
El Paso, TX-NM	280	290	205	59	62	58	115	125	90	58	60	57
Eugene-Springfield, OR	125	220	120	68	66	63	20	35	20	66	66	65
Fort Lauderdale-Hollywood-Pompano Beach, FL	495	625	515	32	30	36	515	730	605	26	25	25
Fort Worth, TX	655	840	640	16	15	27	610	805	625	22	22	24
Fresno, CA	280	350	315	59	59	52	100	130	120	61	59	54
Hartford-Middletown, CT	490	640	390	33	29	49	240	320	195	46	46	53
Honolulu, HI	465	520	510	37	43	38	250	285	280	45	48	46
Houston, TX	935	1,055	960	5	7	9	2,040	2,405	2,210	7	7	9
Indianapolis, IN	360	505	865	52	45	13	275	400	665	44	41	23

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Table 1-62 Cont'd Congestion Index and Cost Values

Urban area	Annual congestion cost per driver ($)						Annual congestion cost ($ millions)					
	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank
Jacksonville, FL	600	830	580	19	17	30	355	505	360	35	32	41
Kansas City, MO-KS	425	610	475	44	33	42	435	630	485	28	27	31
Laredo, TX	150	200	90	66	67	67	15	20	10	67	67	66
Las Vegas, NV	425	510	575	44	44	32	300	420	505	41	40	29
Los Angeles, CA	1,035	1,205	1,370	1	2	1	9,185	10,805	12,405	1	1	1
Louisville, KY-IN	540	720	680	27	22	21	340	475	455	38	34	32
Memphis, TN-AR-MS	425	505	480	44	45	41	290	365	350	43	44	42
Miami-Hialeah, FL	780	905	930	12	13	10	1,195	1,460	1,515	13	13	13
Milwaukee, WI	405	495	425	48	49	46	385	475	410	31	34	36
Minneapolis - St. Paul, MN	465	575	570	37	40	33	795	1,020	1,030	21	20	19
Nashville, TN	730	920	765	13	12	17	350	450	375	36	37	39
New Orleans, LA	440	500	400	43	48	47	375	430	350	32	39	42
New York, NY-Northeastern, NJ	590	705	640	21	24	27	8,235	9,810	8,885	2	2	2
Norfolk, VA	460	645	570	39	28	33	350	505	450	36	32	33
Oklahoma City, OK	325	460	305	54	51	53	210	345	235	49	45	49
Omaha, NE-IA	500	595	510	31	36	38	205	250	215	50	51	52
Orlando, FL	505	660	670	30	27	23	375	535	555	32	31	27
Philadelphia, PA-NJ	385	445	445	49	53	44	1,585	1,825	1,825	10	10	10
Phoenix, AZ	580	590	580	24	37	30	950	1,070	1,050	17	19	17
Pittsburgh, PA	385	485	245	49	50	55	595	755	370	23	24	40
Portland-Vancouver, OR-WA	585	765	885	22	20	11	545	765	930	24	23	21
Providence-Pawtucket, RI-MA	480	615	360	36	32	50	335	435	255	39	38	47
Rochester, NY	280	405	200	59	56	59	135	190	95	57	57	55
Sacramento, CA	595	730	645	20	21	26	540	670	595	25	26	26
Salem, OR	310	395	215	56	57	57	40	55	30	65	65	62
Salt Lake City, UT	315	430	400	55	54	47	195	270	255	51	49	47
San Antonio, TX	450	605	435	41	35	45	405	550	395	30	30	38
San Bernardino-Riverside, CA	890	1,030	815	6	9	15	855	990	790	19	21	22
San Diego, CA	520	620	635	28	31	29	1,015	1,200	1,265	14	17	16
San Francisco-Oakland, CA	975	1,055	995	4	7	7	3,000	3,250	3,065	4	5	6

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Table 1-62 Cont'd Congestion Index and Cost Values

Urban area	Annual congestion cost per driver ($)						Annual congestion cost ($ millions)					
	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank	1994 value	1996 value	1997 value	1994 rank	1996 rank	1997 rank
San Jose, CA	805	1,070	765	10	6	17	955	1,315	955	16	14	20
Seattle-Everett, WA	995	1,155	1,165	3	3	3	1,495	1,780	1,805	11	11	11
Spokane, WA	290	340	200	58	60	59	70	85	50	62	62	60
St. Louis, MO-IL	650	825	845	17	18	14	995	1,280	1,310	15	15	15
Tacoma, WA	510	535	500	29	42	40	220	240	225	48	52	50
Tampa, FL	490	610	650	33	33	24	300	395	430	41	43	34
Tucson, AZ	360	420	450	52	55	43	170	210	225	55	54	50
Washington, DC-MD-VA	1,030	1,290	1,260	2	1	2	2,930	3,655	3,560	5	4	4

NOTES: The roadway congestion index (RCI) is a measure of vehicle travel density on major roadways in an urban area. An RCI exceeding 1.0 indicates an undesirable congestion level, on average, on the freeways and principal arterial street system during the peak period. The cities shown represent the 50 largest metropolitan areas, as well as others chosen by the states sponsoring the Texas Transportation Institute study on mobility. The cost of congestion is estimated with a value for each hour of travel time and each gallon of fuel. For a more detailed explanation of the formulas used, see the source document.

SOURCE: 1994-97: Texas Transportation Institute, *The 1999 Annual Urban Mobility Report* (College Station, TX: 1999), tables 7 and 8.

Table 1-63 Amtrak On-Time Performance Trends and Hours of Delay by Cause

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
On-time performance, total % (weighted)	69	81	76	77	77	72	72	76	71	74	79	79
Short distance (<400 miles)	71	82	82	82	82	79	78	81	76	79	81	80
Long distance (>=400 miles)	64	78	53	59	61	[a]47	49	57	49	53	59	61
Hours of delay by cause												
Amtrak[a]	N	N	3,565	5,915	6,433	8,488	8,538	5,527	5,193	5,310	4,796	4,891
Freight[b]	N	N	4,244	7,743	8,229	12,827	14,319	11,224	11,438	12,904	14,202	16,158
Other[c]	N	N	4,316	7,426	8,185	11,675	11,871	8,497	8,425	7,611	8,291	8,203
Total[d]	**N**	**N**	**12,126**	**21,084**	**22,847**	**32,991**	**34,729**	**25,248**	**25,056**	**25,825**	**27,289**	**29,252**

KEY: N = data do not exist

[a] Amtrak delays include equipment malfunctions, train servicing in stations, and passenger-related delays.

[b] Freight delays include maintenance of way/slow orders, freight train interference, and signal delays.

[c] Other delays include passenger train interference, waiting for connections, running time, weather-related delays, and miscellaneous.

[d] Numbers may not add to totals due to rounding.

NOTES: All percentages are based on Amtrak's fiscal year (October 1-September 30). Amtrak trips are considered delayed based on the following chart:

Trip length (miles)	Delayed departure time (minutes)
0-250	10
251-350	15
351-450	20
451-550	25
≥ 551	30

SOURCES: 1980: Amtrak, *National Railroad Passenger Corporation Annual Report* (Washington, DC: 1981).

1985-99: Ibid., Amtrak Annual Report, *Statistical Appendix* (Washington, DC: Annual issues).