

Section C

Condition

Table 1-21**U.S. Airport Runway Pavement Conditions**

	1986	1990	1993	1997	1999
NPIAS^a airports, total	3,243	3,285	3,294	3,331	3,344
Condition (%)					
Good	61	61	68	72	72
Fair	28	29	25	23	23
Poor	11	10	7	5	5
Commercial service airports,^b total	550	568	554	566	547
Condition (%)					
Good	78	78	79	79	78
Fair	15	17	18	19	20
Poor	7	5	3	2	22

KEY: NPIAS = National Plan of Integrated Airport Systems

^a The U.S. Department of Transportation, Federal Aviation Administration's (FAA's) National Plan of Integrated Airport Systems is composed of all commercial service airports, all reliever airports, and selected general aviation airports. It does not include over 1,000 publicly owned public-use landing areas, privately owned public-use airports, and other civil landing areas not open to the general public. NPIAS airports account for 100% of all enplanements and serve 91.5% of all aircraft (based on an estimated fleet of 200,000 aircraft). In 1997, there were 14,961 non-NPIAS airports. See table 1-2 for more detail on airports.

^b Commercial service airports are defined as public airports receiving scheduled passenger service, and having at least 2,500 enplaned passengers per year.

NOTES: Data are as of January 1 of each year. Runway pavement condition is classified by the FAA as follows:

Good: All cracks and joints are sealed.

Fair: Mild surface cracking, unsealed joints, and slab edge spalling.

Poor: Large open cracks, surface and edge spalling, vegetation growing through cracks and joints.

SOURCES:

Condition (%): 1986-90: U.S. Department of Transportation, Federal Aviation Administration, *National Plan of Integrated Airport Systems* (Washington DC:1991).

1993: Ibid., *National Plan of Integrated Airport Systems* (Washington DC: 1995).

1997: Ibid., Office of Airport Planning and Programming, National Planning Division, personal communication, 1997.

1999: Ibid., Office of Airport Planning and Programming, National Planning Division, personal communication, 2000.

Total number of airports: 1986-99: U.S. Department of Transportation, Federal Aviation Administration, Office of Airport Planning and Programming, National Planning Division, personal communication, June 23, 2000.

Table 1-22**Median Age of Automobiles and Trucks in Operation in the U.S.**

	Automobiles	Trucks
1970	4.9	5.9
1975	5.4	5.8
1980	6.0	6.3
1985	6.9	7.6
1990	6.5	6.5
1991	6.7	6.8
1992	7.0	7.2
1993	7.3	7.5
1994	7.5	7.5
1995	7.7	7.6
1996	7.9	7.7
1997	8.1	7.8
1998	8.3	7.6
1999	8.3	7.2

NOTE: The National Personal Transportation Survey conducted by the U.S. Department of Transportation, Federal Highway Administration, estimates the mean age of automobiles, trucks, and vans for several years:

	1969	1977	1983	1990	1995
Automobiles	5.1	5.5	6.7	7.6	8.2
Trucks	N	6.4	7.9	9.0	8.3 (inc. vans)

KEY: N = data do not exist

SOURCE: The R.L. Polk Co., personal communication, Mar. 28, 2000.

Table 1-23 Condition of U.S. Roadways by Functional System

	1990	1991	1992	1993	1994	1995	1996	1997	1998
RURAL									
Interstates									
Miles reported	33,547	33,677	33,027	29,089	31,502	31,254	31,312	31,431	30,498
Poor (%)	8.7	7.6	5.2	7.0	6.5	6.3	3.9	3.6	4.1
Mediocre (%)	^a	^a	14.1	27.7	26.5	20.7	19.1	19.1	16.5
Fair (%)	31.9	31.7	17.4	20.9	23.9	22.3	21.7	20.7	17.8
Good (%)	^a	^a	27.6	36.1	33.2	36.9	38.8	41.0	42.6
Very good (%)	59.5	60.7	35.6	8.3	9.9	13.9	16.6	15.7	19.0
Unpaved (%)	N	N	N	N	N	N	N	N	N
Miles not reported	N	N	N	3,563	955	1,326	1,508	1,382	2,313
Other principal arterials									
Miles reported	83,802	85,729	94,798	78,296	89,506	89,265	92,103	92,170	93,333
Poor (%)	3.4	3.6	3.3	2.9	2.4	4.4	1.4	1.6	1.4
Mediocre (%)	^a	^a	5.9	9.2	8.2	7.6	5.8	4.9	4.6
Fair (%)	42.6	44.5	34.6	54.8	57.4	51.1	49.1	47.7	43.3
Good (%)	^a	^a	28.5	26.7	26.6	27.9	34.4	37.2	38.3
Very good (%)	53.8	51.9	27.6	6.4	5.4	9.0	9.3	8.6	12.3
Unpaved (%)	N	N	N	N	N	N	N	N	N
Miles not reported	N	N	N	17,905	7,489	8,683	6,028	6,083	5,524
Minor arterials									
Miles reported	144,735	142,866	137,637	134,837	124,877	121,443	126,381	126,525	130,591
Poor (%)	4.6	4.3	3.9	3.9	3.5	3.7	2.3	2.3	1.9
Mediocre (%)	^a	^a	7.1	9.1	10.5	9.0	8.2	6.7	6.0
Fair (%)	48.2	47.3	36.4	53.5	57.9	54.7	50.7	50.4	47.2
Good (%)	^a	^a	25.3	25.0	23.6	23.9	31.0	33.6	34.3
Very good (%)	47.2	48.4	26.8	8.5	4.5	8.7	7.7	7.0	10.6
Unpaved (%)	—	—	N	N	N	N	N	N	N
Miles not reported	N	N	N	12,740	13,294	15,708	11,201	10,978	6,664
Major collectors									
Miles reported	436,365	436,737	434,175	432,223	431,111	431,712	432,117	386,122	388,498
Poor (%)	8.9	7.7	7.8	6.8	6.5	6.5	6.7	7.8	7.4
Mediocre (%)	^a	^a	11.0	12.4	11.3	11.4	10.3	12.3	11.9
Fair (%)	43.8	45.2	32.3	37.7	33.5	30.8	34.3	37.6	39.0
Good (%)	^a	^a	17.7	16.3	16.1	17.4	20.0	23.0	23.4

KEY: N = data do not exist; R = revised;
— =value too small to report

Continued next page

Table 1-23
Cont'd

Condition of U.S. Roadways by Functional System

	1990	1991	1992	1993	1994	1995	1996	1997	1998
RURAL (continued)									
Very good (%)	36.2	36.1	20.4	15.9	21.9	23.7	18.4	19.3	18.3
Unpaved (%)	11.1	11.0	10.7	10.9	10.7	10.2	10.1	N	N
Miles not reported	N	2,402	N						
URBAN									
Interstates									
Miles reported	11,527	11,603	12,466	10,738	12,338	12,307	12,430	12,477	12,231
Poor (%)	8.6	7.7	7.1	10.6	13.0	10.4	8.6	9.0	9.4
Mediocre (%)	^a	^a	13.2	30.9	29.9	26.8	28.3	27.0	25.5
Fair (%)	32.2	32.3	17.0	23.6	24.2	23.8	24.7	24.4	21.8
Good (%)	^a	^a	28.0	28.3	26.7	27.5	30.7	32.9	32.0
Very good (%)	59.1	60.0	34.7	6.5	6.2	11.4	7.6	6.7	11.4
Unpaved (%)	N	N	N	N	N	N	N	N	N
Miles not reported	N	N	N	2,140	788	857	787	771	1,040
Other freeways and expressways									
Miles reported	7,670	7,714	8,465	7,011	7,618	7,804	8,410	8,480	8,772
Poor (%)	2.2	2.3	2.6	3.8	5.3	4.8	3.4	^R 3.3	3.2
Mediocre (%)	^a	^a	5.9	9.4	12.7	9.8	8.7	^R 8.7	8.7
Fair (%)	43.9	44.2	32.4	60.6	58.1	54.7	54.7	^R 58.5	54.3
Good (%)	^a	^a	28.1	22.7	20.9	20.4	26.3	^R 25.2	27.1
Very good (%)	53.9	53.5	31.0	3.5	2.9	10.3	6.8	^R 4.2	6.6
Unpaved (%)	N	N	N	N	N	N	N	N	N
Miles not reported	N	N	N	1,846	1,377	1,166	619	579	397
Other principal arterials									
Miles reported	51,987	52,349	52,165	30,337	38,598	41,444	44,498	45,009	44,886
Poor (%)	5.9	6.6	6.8	9.2	12.5	12.4	11.8	^R 12.1	12.9
Mediocre (%)	^a	^a	11.5	13.3	16.3	14.7	14.1	^R 14.6	18.5
Fair (%)	49.0	49.1	34.8	55.0	50.8	47.2	48.9	^R 49.5	45.3
Good (%)	^a	^a	21.4	19.3	16.6	15.9	17.5	^R 17.8	17.6
Very good (%)	45.1	44.3	25.3	3.3	3.8	9.7	7.7	^R 6.0	5.8
Unpaved (%)	N	N	N	N	N	N	N	N	N
Miles not reported	N	N	N	22,498	14,492	11,352	8,485	8,209	8,246

KEY: N = data do not exist; R = revised;
— =value too small to report

Continued next page

Table 1-23
Cont'd**Condition of U.S. Roadways by Functional System**

	1990	1991	1992	1993	1994	1995	1996	1997	1998
URBAN (continued)									
Minor arterials									
Miles reported	74,656	74,979	80,368	86,819	87,852	88,510	89,020	88,484	88,667
Poor (%)	8.9	7.4	7.9	7.9	6.7	6.7	6.9	7.2	7.3
Mediocre (%)	^a	^a	14.3	13.8	12.3	13.6	13.0	13.0	12.2
Fair (%)	48.5	49.9	34.1	40.2	38.1	36.9	37.9	37.9	39.5
Good (%)	^a	^a	19.2	18.4	20.5	20.4	20.7	21.4	21.1
Very good (%)	42.1	42.1	24.0	19.4	22.1	22.1	21.1	20.6	19.9
Unpaved (%)	0.5	0.6	0.5	0.4	0.3	0.3	0.4	N	N
Miles not reported	N	374	N						
Collectors									
Miles reported	78,248	77,097	82,657	84,856	86,098	87,331	87,790	86,666	86,705
Poor (%)	16.5	11.2	10.5	10.6	9.8	9.7	9.7	10.6	10.4
Mediocre (%)	^a	^a	16.9	16.8	16.2	16.8	16.6	16.0	15.0
Fair (%)	50.4	53.5	35.2	40.0	40.0	39.0	39.2	39.0	39.9
Good (%)	^a	^a	17.3	16.1	17.0	17.2	18.2	18.4	17.6
Very good (%)	31.7	34.2	19.1	15.5	16.0	16.6	15.4	15.9	17.1
Unpaved (%)	1.3	1.1	1.1	1.0	0.9	0.8	0.9	N	N
Miles not reported	N	663	N						

NOTES: Structurally deficient bridges are defined as those needing significant maintenance attention, rehabilitation, or replacement. Functionally deficient bridges: those that do not have the lane widths, shoulder widths, or vertical clearances adequate to serve traffic demand; or the bridge may not be able to handle occasional roadway flooding. Table includes: rural--Interstate, principal arterial, minor arterial, major collector, minor collector and local roads; urban--Interstate, other freeways or expressways, other principal arterial, minor arterial, collector, and local roads. Data for 1990, 1992 and 1997-99 are as of

December of those years; data for 1991, 1994-96 are as of June of those years; and data for 1993 is as of September of that year.

KEY: N = data do not exist; R = revised;
— =value too small to report

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Engineering, Bridge Division, National Bridge Inventory Database.

Table 1-24

Condition of U.S. Bridges

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Urban bridges	108,770	112,363	115,312	117,488	121,141	122,537	124,950	127,633	128,312	130,339
Rural bridges	463,435	461,673	456,885	456,228	455,319	458,598	456,913	455,118	454,664	455,203
Total	572,205	574,036	572,197	573,716	576,460	581,135	581,863	582,751	582,976	585,542
Urban deficient bridges										
Structurally	16,847	17,032	16,323	15,932	15,692	15,205	15,094	14,846	14,073	12,967
Functionally	30,266	30,842	26,243	26,511	27,024	27,487	28,087	26,865	27,588	29,065
Total	47,113	47,874	42,566	42,443	42,716	42,692	43,181	41,711	41,661	42,032
Rural deficient bridges										
Structurally	121,018	117,502	102,375	96,048	91,991	89,112	86,424	83,629	78,999	75,183
Functionally	70,089	66,751	54,150	53,489	52,808	53,463	53,121	50,545	51,912	52,835
Total	191,107	184,253	156,525	149,537	144,799	142,575	139,545	134,174	130,911	128,018
All deficient bridges										
Structurally	137,865	134,534	118,698	111,980	107,683	104,317	101,518	98,475	93,072	88,150
Functionally	100,355	97,593	80,393	80,000	79,832	80,950	81,208	77,410	79,500	81,900
Total	238,220	232,127	199,091	191,980	187,515	185,267	182,726	175,885	172,572	170,050

NOTES: Structurally deficient bridges are defined as those needing significant maintenance attention, rehabilitation, or replacement. Functionally deficient bridges: those that do not have the lane widths, shoulder widths, or vertical clearances adequate to serve traffic demand; or the bridge may not be able to handle occasional roadway flooding. Table includes: rural--Interstate, principal arterial, minor arterial, major collector, minor collector and local roads; urban--Interstate, other freeways or expressways, other principal arterial, minor arterial, collector, and local roads. Data for 1990, 1992 and 1997-99 are as of

December of those years; data for 1991, 1994-96 are as of June of those years; and data for 1993 is as of September of that year.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Engineering, Bridge Division, National Bridge Inventory Database.

Table 1-25 Average Age of Urban Transit Vehicles (Years)

	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
Transit rail										
Commuter rail locomotives ^a	16.3	15.7	15.3	15.8	15.6	15.3	15.9	17.6	17.0	14.7
Commuter rail passenger coaches	19.1	17.6	17.3	19.3	18.6	20.1	21.4	24.1	21.6	19.4
Commuter rail self-propelled passenger cars	12.3	15.9	16.5	17.6	18.2	16.0	19.8	21.1	22.3	23.2
Heavy-rail passenger cars	17.1	16.2	16.9	17.7	17.8	15.8	19.3	20.2	21.1	22.0
Light rail vehicles (streetcars)	20.6	15.2	16.6	17.0	14.9	16.7	16.8	16.0	15.9	15.7
Transit bus^b										
Articulated	3.4	7.6	8.2	9.1	9.5	9.1	10.9	11.5	11.9	11.3
Full-size	8.1	8.2	8.0	8.3	8.5	9.9	8.7	8.8	8.6	8.5
Mid-size	5.6	6.6	6.7	6.8	6.4	7.2	6.9	6.3	5.8	5.7
Small	4.8	3.9	4.0	4.1	4.0	4.4	4.1	4.1	4.0	4.0
Trolley	U	10.9	10.3	11.2	12.0	11.1	13.1	14.0	14.7	14.6
Other										
Vans	3.8	2.8	3.0	3.1	3.1	3.9	3.1	3.1	3.0	2.9
Ferry boats	U	21.7	19.6	22.7	24.7	23.5	23.4	25.3	25.4	25.8

^a Locomotives used in Amtrak intercity passenger services are not included.

^b Full-size buses have more than 35 seats; mid-size buses have 25-35 seats; small buses have fewer than 25 seats.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, *National Transit Database* (Washington, DC: Annual issues), table 28 and similar tables in earlier editions.

KEY: U = data are not available

Table 1-26 Class I Railroad Locomotive Fleet by Year Built (Locomotive units)

Year built ^a	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Before 1970	5,117	4,353	4,038	3,766	3,535	^b	^b	^b	^b	^b
1970-74	3,852	3,617	3,384	3,248	3,184	^c 6,048	^c 5,783	^c 5,529	^c 5,565	^c 5,196
1975-79	4,432	4,375	4,292	4,352	4,275	4,254	4,274	4,219	4,116	4,000
1980-84	2,837	2,826	2,784	2,730	2,625	2,754	2,735	2,728	2,723	2,581
1985-89	1,989	1,985	1,970	1,968	1,971	1,890	1,866	1,829	1,830	1,779
1990	608	605	604	604	599	^d 2,965	^d 2,959	^d 2,958	^d 2,736	^d 2,688
1991		583	595	595	594	^e	^e	^e	^e	^e
1992			337	340	339	^e	^e	^e	^e	^e
1993				558	602	^e	^e	^e	^e	^e
1994					781	^e	^e	^e	^e	^e
1995						901	945	983	953	951
1996							707	696	708	706
1997								742	741	743
1998									889	890
1999										722
Total	18,835	18,344	18,004	18,161	18,505	18,812	19,269	19,684	20,261	20,256

^a Disregards year of rebuilding.^c Included in 1990 figure.^b Included in 1970-74 category.**SOURCE:** Association of American Railroads, *Railroad Facts* (Washington, DC: Annual issues).^c Includes all locomotives built before 1975.^d Includes locomotives built between 1990-94.**Table 1-27** Age and Availability of Amtrak Locomotive and Car Fleets

	1972	1975	1980	1985	1990	1995	1996	1997	1998	1999
Locomotives										
% available for service ^a	N	87	83	93	84	88	88	88	88	90
Average age (years) ^b	22.3	14.4	7.4	7.0	12.0	13.9	14.4	12.0	12.6	12.8
Passenger and other train cars										
% available for service ^a	N	82	77	90	90	90	90	91	93	91
Average age (years) ^b	22.0	24.7	14.3	14.2	20.0	21.8	20.7	20.2	17.3	17.2

^a Year-end daily average. Active units less backshop units under going heavy maintenance less back-ordered units undergoing progressive maintenance and running repairs.^b Year-end average.**SOURCES:** 1972-80:Amtrak, *Amtrak Annual Report* (Washington, DC: Annual issues).1985-99: Ibid., *Amtrak Annual Report*, Statistical Appendix (Washington, DC: Annual issues), pg. 44.

KEY: N = data do not exist

NOTE: 1972 was Amtrak's first full fiscal year of operation.

Table 1-28 U.S. Flag Vessels by Type and Age (Number of vessels)

Age ^a	Vessel type							Total ^e
	Dry cargo	Tanker	Towboat	Passenger ^b	Offshore support/crewboats ^c	Dry barge	Tank/liquid barge ^d	
1990-91								
<=5	80	6	132	151	85	2,335	162	2,951
6-10	161	38	706	120	318	4,570	316	6,229
11-15	212	50	1,029	110	474	7,639	829	10,343
16-20	141	35	844	80	144	6,374	750	8,368
21-25	82	38	750	65	84	2,607	759	4,385
>25	196	86	1,718	188	51	3,372	1,049	6,660
Total^e	900	257	5,210	721	1,168	27,110	3,874	39,342
1992								
<=5	36	5	134	219	93	3,224	296	4,012
6-10	73	28	398	198	208	1,783	121	2,829
11-15	135	54	1,137	203	567	9,114	902	12,150
16-20	73	33	926	169	189	6,696	740	8,853
21-25	31	42	716	122	91	2,475	677	4,167
>25	124	82	1,874	287	53	3,496	1,123	7,049
Total^e	497	249	5,203	1,201	1,205	26,981	3,864	39,313
1993								
<=5	25	3	135	207	103	3,558	325	4,356
6-10	67	22	205	221	107	1,070	68	1,764
11-15	135	43	1,221	211	597	8,810	869	11,894
16-20	70	33	968	164	218	6,772	791	9,019
21-25	41	31	674	129	106	2,904	655	4,543
>25	128	73	2,008	311	64	3,713	1,256	7,555
Total^e	470	205	5,219	1,243	1,197	26,982	3,970	39,306
1994								
<=5	46	4	146	157	107	3,630	399	4,489
6-10	103	12	151	185	61	1,171	36	1,719
11-15	200	36	1,135	123	540	7,903	754	10,691
16-20	130	44	966	122	309	6,314	799	8,684
21-25	90	32	664	82	130	3,873	638	5,509
>25	206	74	2,107	259	86	3,706	1,327	7,765
Total^e	778	202	5,179	928	1,236	26,757	3,966	39,064

Continued next page

Table 1-28
Cont'd**U.S. Flag Vessels by Type and Age (Number of vessels)**

Age ^a	Vessel type							Total ^e
	Dry cargo	Tanker	Towboat	Passenger ^b	Offshore support/ crewboats ^c	Dry barge	Tank/ liquid barge ^d	
1995								
<=5	38	5	168	149	119	3,975	489	4,943
6-10	90	8	134	195	58	1,483	46	2,014
11-15	168	34	959	133	463	6,387	611	8,760
16-20	135	38	988	121	412	6,507	736	8,939
21-25	80	29	726	91	141	4,897	697	6,661
>25	213	64	2,146	263	92	3,966	1,403	8,148
Total^e	726	178	5,127	954	1,288	27,375	3,985	39,641
1996								
<=5	43	7	205	153	123	5,189	573	6,293
6-10	74	8	118	188	61	2,041	87	2,577
11-15	141	29	715	142	351	4,505	346	6,229
16-20	155	36	1,036	119	460	7,234	840	9,881
21-25	79	23	842	87	155	5,416	723	7,325
>25	229	62	2,386	290	144	4,766	1,576	9,453
Total^e	713	161	5,177	967	1,274	28,775	4,036	41,104
1997								
<=5	52	8	227	150	122	5,515	519	6,593
6-10	66	2	118	187	94	2,582	181	3,230
11-15	96	27	396	152	223	1,800	137	2,831
16-20	183	36	1,173	131	588	8,943	928	11,982
21-25	84	21	918	102	177	5,772	727	7,801
>25	209	53	2,332	302	159	4,284	1,477	8,816
Total^e	692	147	5,173	1,025	1,369	29,040	3,971	41,419
1998								
<=5	56	12	247	150	163	5,877	485	6,991
6-10	55	3	124	168	105	3,117	267	3,839
11-15	105	19	196	166	111	1,113	72	1,782
16-20	179	31	1,198	129	634	8,591	865	11,626
21-25	88	22	979	106	211	5,909	763	8,076
>25	230	48	2,487	292	195	4,817	1,499	9,573
Total^e	714	135	5,237	1,011	1,423	29,557	3,952	42,032

^a Age is based on the year the vessel was built or rebuilt.

^b Includes passenger excursion/sightseeing, combination passenger and dry cargo vessels, and ferries.

^c In 1992, offshore supply boats were designated as crewboats.

^d In 1992, tank barges were designated as liquid barges.

^e Totals may be greater than sum of columns because of unclassified vessels and vessels of unknown age; figures include vessels available for operation.

SOURCE: U.S. Army Corps of Engineers, *Waterborne Transportation Lines of the United States, Volume 1, National Summaries* (New Orleans, LA: Annual issues), Table 4 in 1998 and similar tables in previous years; also available on Internet site www.wrsc.usace.army.mil/ndc/wtlusv1.pdf as of June 21, 2000.