# Pocket Guide to Transportation 2022



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## Pocket Guide to Transportation 2022

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## ABOUT THE POCKET GUIDE TO TRANSPORTATION

The Bureau of Transportation Statistics' *Pocket Guide to Transportation* is a quick reference guide that provides transportation statistics at your fingertips. It provides key information and highlights major trends on the U.S. transportation system.

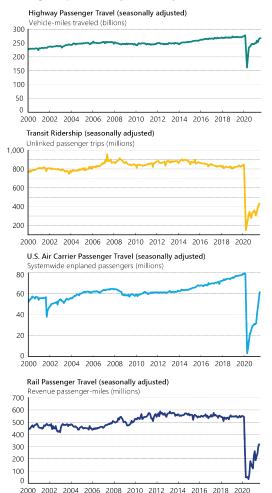
BTS welcomes comments and suggestions for improving this product.

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#### **Major Trends**

#### Moving People: January 2000-July 2021

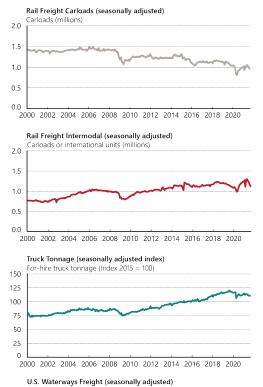


**NOTES**: Graph scales are not comparable. Seasonally adjusted data measure the real differences in data trends by adjusting for seasonal factors, such as the change in the number of days, weekends, holidays, or other seasonal activity in a month, such as vacation travel.

SOURCE: Seasonally adjusted transportation data—U.S. Department of Transportation, Bureau of Transportation Statistics, available at <u>www.bts.gov</u> as of October 2021.

#### **Major Trends**

#### Moving Freight: January 2000-August 2021



500 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020

NOTES: Graph scales are not comparable. Rail freight intermodal—Rail intermodal traffic includes shipping containers and truck trailers moved on rail cars. U.S. waterways freight—Includes tonnage carried on internal U.S. waterways.

**SOURCE:** Seasonally adjusted transportation data—U.S. Department of Transportation, Bureau of Transportation Statistics, available at <a href="www.bts.gov">www.bts.gov</a> as of October 2021.

#### 1 INFRASTRUCTURE

The U.S. transportation system consists of a network of roads, bridges, airports, railroads, transit systems, ports, waterways, and pipelines that connect the Nation internally and to the rest of the world.

## 1-1 Transportation Network Length

Mode	2009	2019
Highway		
Public roads	4,050,717	4,171,125
Public road lanes <sup>a</sup>	8,542,163	8,785,398
Pipeline		
Gas distribution	2,086,689	2,262,562
Gas transmission and gathering	324,936	320,041
Rail		
Class I freight railroad	94,048	92,282
Amtrak	21,178	21,407
Transit		
Commuter rail <sup>b</sup>	7,561	7,901
Heavy rail <sup>b</sup>	1,623	1,661
Light rail <sup>b,c</sup>	1,477	2,088
Water		
Navigable waterways <sup>d</sup>	25,000	25,000

<sup>&</sup>lt;sup>a</sup>Measured in lane-miles. <sup>b</sup>Measured in directional route-miles. <sup>c</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. <sup>d</sup>Estimated length of domestic waterways.

**SOURCES: Highway, Pipeline, Rail, Transit, Water**—as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 1-1, 1-6, and 1-10, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of January 2021.

#### 1-2 Transportation Facilities

number

. .

Mode	2009	2019
Air		
Certificated airports <sup>a</sup>	559	522
General aviation airports	19,191	19,117
Highway		
Bridges	603,310	617,084
Pipeline		
LNG facilities	U	163
Rail		
Amtrak stations	511	526
Transit rail		
Commuter rail stations	1,214	1,300
Heavy rail stations	1,041	1,055
Light rail stations <sup>b</sup>	836	1,267
Water		
Ports <sup>c</sup>	184	185
Cargo handling docks	8,184	8,250
Lock chambers	238	237

2000

2040

KEY: LNG = liquified natural gas; U = Data are not available.

SOURCES: Air, Highway, Rail—As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, tables 1-3, 1-7, and 1-28, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of August 2021. Pipeline—U.S. Department of Transportation, Pipeline and Hazardous Materials Administration, available at <a href="https://www.phmsa.dot.gov">https://www.phmsa.dot.gov</a> as of August 2021. Transit—U.S. Department of Transportation, National Transit Database, available at <a href="https://www.transit.dot.gov/ntd/">https://www.transit.dot.gov/ntd/</a> as of August 2021. Water—U.S. Army Corps of Engineers, Navigation Data Center, Transportation Facts and Information, available at <a href="http://www.navigationdatacenter.us/">http://www.navigationdatacenter.us/</a> as of August 2021.

<sup>&</sup>lt;sup>a</sup>Certificated airports serve air carrier operations with aircrafts seating more than nine passengers. <sup>b</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. <sup>c</sup>Ports handling over 250,000 short tons.

#### 1-3 Transportation Vehicles

number

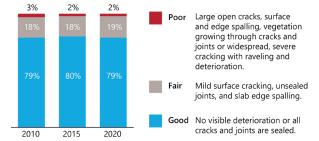
Mode	2009	2019
Air		
Air carrier aircraft	7,169	7,628
General aviation aircraft	223,877	210,981
Highway		
Light-duty vehicle <sup>a</sup>	234,467,679	253,814,184
Truck	10,973,215	13,085,643
Motorcycle	7,929,724	8,596,314
Rail		
Class I freight locomotive	24,045	24,597
Class I freight car	416,180	270,378
Amtrak locomotive	274	403
Amtrak car	1,214	1,415
Transit rail		
Commuter rail <sup>b</sup>	6,722	7,144
Heavy rail <sup>b</sup>	11,461	11,198
Light rail <sup>b, c</sup>	2,059	2,811
Water		
Nonself-propelled vessel	31,761	33,329
Self-propelled vessel	10,607	9,928
Oceangoing vessel	217	182
Recreational boat	12,721,541	11,878,542

<sup>&</sup>lt;sup>a</sup>lncludes passenger cars, light trucks, vans, and sport utility vehicles. <sup>b</sup>Includes revenue vehicles available for maximum service. <sup>c</sup>Light rail was revised beginning in 2011.

SOURCE: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 1-11, available at https://www.bts.gov/nts as of January 2021.

#### 1-4 Airport Runway Pavement Condition

percent of NPIAS runways

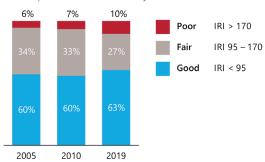


**NOTE**: National Plan of Integrated Airport Systems (NPIAS) airports include commercial service airports, reliever airports, and selected general aviation airports.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 1-25, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of June 2021.

#### 1-5 National Highway System Pavement Condition

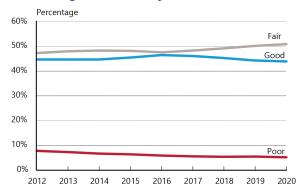
percent of NHS facility miles



NOTES: Pavement condition is measured by the International Roughness Index (IRI), which takes a longitudinal profile of pavement roughness based on one-way facility centerline miles. A lower IRI indicates smoother highway conditions and a higher IRI indicates rougher highway conditions.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, table HM-47, available at <a href="https://www.fhwa.dot.gov/policyin-formation/statistics.cfm">https://www.fhwa.dot.gov/policyin-formation/statistics.cfm</a> as of November 2020.

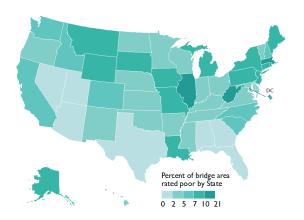
#### 1-6 Bridge Condition by Deck Area: 2012–2020



**NOTE**: The deck area calculation was changed as of 2018 in accordance with 23 CFR 490.409.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory, available at <a href="https://www.fhwa.dot.gov/bridge/nbi.cfm">https://www.fhwa.dot.gov/bridge/nbi.cfm</a> as of March 2021.

#### 1-7 Condition of Highway Bridges by State: 2020



**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory, available at <a href="https://www.fhwa.dot.gov/bridge/nbi.cfm">https://www.fhwa.dot.gov/bridge/nbi.cfm</a> as of March 2021.

#### 2 Moving People

The U.S. transportation system makes personal mobility possible. Every day people use the transportation system to get to and from work, school, and shopping and for recreation, social, and personal purposes.

#### 2-1 Vehicle-Miles Traveled

millions

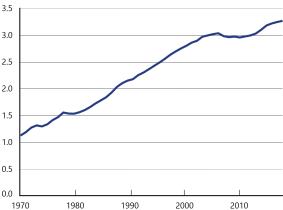
Mode	2009	2019
Air		
U.S. air carrier, domestic <sup>a</sup>	5,935	6,811
Highway		
Light-duty vehicle <sup>b</sup>	2,633,248	2,924,053
Motorcycle	20,822	19,688
Truck	288,306	300,050
Bus	14,387	17,980
Passenger rail		
Amtrak <sup>c</sup>	283	279
Commuter rail <sup>c</sup>	337	377
Heavy rail <sup>c</sup>	685	719
Light rail <sup>c,d</sup>	90	136

<sup>&</sup>lt;sup>a</sup>Measured in revenue aircraft-miles. <sup>b</sup>Includes passenger cars, light trucks, vans, and sport utility vehicles. <sup>c</sup>Measured in passenger car-miles. <sup>d</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-35, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of January 2021.

#### 2-2 Highway Travel: 1970-2019

Trillions of vehicle-miles (unadjusted)



**NOTE**: Data for 2007 and later years may not be comparable to previous years due to changes in methodology.

**SOURCE**: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, available at <a href="https://www.fhwa.dot.gov/policyinformation/statistics.cfm">https://www.fhwa.dot.gov/policyinformation/statistics.cfm</a> as of February 2021.

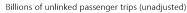
## 2-3 Passenger-Miles Traveled millions

Mode	2009	2019
Air		
U.S. air carrier, domestic	540,694	754,303
Highway		
Light-duty vehicle <sup>a</sup>	4,405,258	4,894,385
Motorcycle	24,162	22,846
Truck	288,307	300,050
Bus	305,014	381,176
Passenger rail		
Amtrak <sup>b</sup>	5,914	6,420
Commuter rail	11,129	12,707
Heavy rail	16,805	17,366
Light rail <sup>c</sup>	2,196	2,693

<sup>&</sup>lt;sup>a</sup>lncludes passenger cars, light trucks, vans, and sport utility vehicles. <sup>b</sup>Measured in revenue passenger-miles. <sup>c</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-40, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of January 2021.

#### 2-4 Transit Ridership: 1970-2020





**NOTE**: Includes bus, commuter rail, demand response, heavy rail, light rail, trolley bus, ferry boat, aerial tramway, automated guideway, cable car, inclined plane, monorail, and other.

SOURCES: 1970-1989—American Public Transportation Association, Public Transportation Fact Book, Appendix, available at <a href="https://www.apta.com/Pages/default.aspx/">https://www.apta.com/Pages/default.aspx/</a> as of March 2020. 1990-2020—American Public Transportation Association, Ridership Report, available at <a href="https://www.apta.com/research-technical-resources/transit-statistics/ridership-report/">https://www.apta.com/research-technical-resources/transit-statistics/ridership-report/</a> as of June 2021.

#### 2-5 Daily Passenger Travel

	2001	2009	2017 <sup>a</sup>
Travel per person			
Daily person trips	4.1	3.8	3.4
Daily person-miles	36.9	36.1	36.1
Travel per driver			
Daily vehicle trips	3.4	3.0	2.7
Daily vehicle-miles of travel	32.7	29.0	25.8
Average commute			
Length in miles	12.1	11.8	11.5
Travel time in minutes	23.3	23.9	26.6
Percent of work trips by usual mode			
Private vehicles	90.8	89.4	87.5
Public transit <sup>b</sup>	5.1	5.1	6.9
Walk	2.8	2.8	2.9
Other <sup>c</sup>	1.3	2.7	2.7

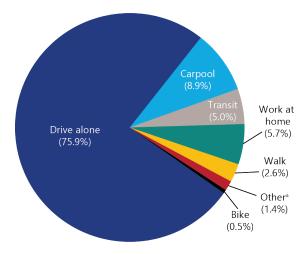
<sup>&</sup>lt;sup>a</sup>The 2017 National Household Travel Survey includes a different methodology compared to previous years, such as an address-based sample including more urban and cell phone only households. <sup>b</sup>Public transit includes local bus, commuter bus, commuter bus, commuter train, subway, trolley, and streetcar. <sup>C</sup>Other includes travel modes not specifically cited, such as motorcycle, taxi, bike, truck, and other.

**NOTE**: The usual mode is defined as the means of transportation usually used to go to work in the week prior to the travel day.

**SOURCE**: U.S. Department of Transportation, Federal Highway Administration, 2017 National Household Travel Survey, Summary of Travel Trends, available at <a href="https://nhts.ornl.gov/">https://nhts.ornl.gov/</a> as of September 2018.

#### 2-6 Commute Mode Share: 2019

percent of workers age 16 and older

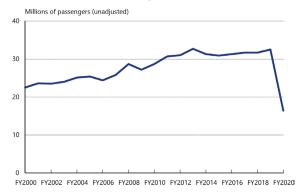


<sup>&</sup>lt;sup>a</sup> Includes motorcycle, taxi, and other means.

**NOTES**: Percents may not add to 100 due to rounding. *The American Community Survey* asks for the mode usually used by the respondent to get to work. For more than one mode of transportation, respondents select the mode used for most of the distance traveled.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-41, available at <a href="https://www.bts.gov">www.bts.gov</a> as of September 2020.

#### 2-7 Amtrak Ridership: FY2000-FY2020



**SOURCE:** U.S. Department of Transportation, Federal Railroad Administration, available at <a href="http://safetydata.fra.dot.gov/officeofsafety/default.aspx/">http://safetydata.fra.dot.gov/officeofsafety/default.aspx/</a> as of February 2021.

#### 2-8 Top 10 Amtrak Stations: FY2020

by passengers

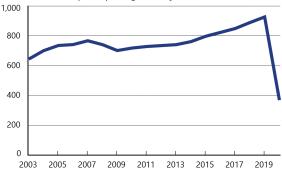
Rank	Station	FY '19–FY '20 change	Millions of passengers
1	New York Penn Station, NY	<b>▼</b> -49.7%	5.4
2	Washington, DC	-50.0%	2.6
3	Philadelphia 30th St., PA	<b>▼</b> -49.8%	2.3
4	Chicago, IL	<b>▼</b> -49.3%	1.7
5	Boston South Station, MA	<b>▼</b> -50.0%	0.8
6	Los Angeles, CA	<b>▼</b> -49.8%	0.7
7	Sacramento, CA	<b>▼</b> -48.6%	0.6
8	Baltimore, MD	-48.4%	0.5
9	Albany-Rensselaer, NY	<b>▼</b> -43.1%	0.5
10	New Haven Union Station, C	T ▼ -45.3%	0.4

NOTE: Includes passenger boardings and deboardings.

**SOURCE**: Amtrak, *National Fact Sheet and State Fact Sheet*, available at <a href="https://www.amtrak.com/home.html">www.amtrak.com/home.html</a> as of May 2021.

## 2-9 U.S. Air Carrier Passenger Traffic: 2003–2020





**NOTE**: Includes passenger enplanements on scheduled services only (domestic and international flights).

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Market data, available at <a href="www.bts.gov">www.bts.gov</a> as of September 2021.

#### 2-10 Top 10 U.S. Airports: 2020

by enplaned passengers

Rank	Airport	'19-'20 change		Millions of passengers
1	Atlanta, GA	•	-61.6%	20.6
2	Dallas/Fort Worth, TX	•	-48.0%	18.6
3	Denver, CO	•	-51.7%	16.2
4	Chicago O'Hare, IL	•	-64.3%	14.6
5	Los Angeles, CA	•	-67.3%	14.1
6	Charlotte, NC	•	-46.5%	13.0
7	Las Vegas, NV	•	-57.0%	10.6
8	Phoenix, AZ	•	-53.1%	10.5
9	Orlando, FL	•	-57.4%	10.5
10	Seattle, WA	•	-62.2%	9.5

**NOTE**: Includes passenger enplanements on U.S. carrier scheduled domestic and international service and foreign carrier scheduled international service to and from the United States.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-44, available at <a href="https://www.bts.gov/nts">https://www.bts.gov/nts</a> as of September 2021.

#### 2-11 Top 10 World Airports: 2020

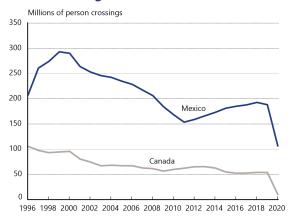
by enplaned, deplaned, and in-transit passengers

Rank 1	<b>Airport</b> Guangzhou, China	'19-'20 ▼	change -40.4%	Millions of passengers 43.8
2	Atlanta, USA	•	-61.2%	42.9
3	Dallas/Fort Worth, USA	•	-27.1%	40.7
4	Chengdu, China	•	-47.6%	39.4
5	Shenzhen, China	•	-28.4%	37.9
6	Chongqing, China	•	-22.0%	34.9
7	Beijing, China	•	-65.5%	34.5
8	Denver, USA	•	-51.1%	33.7
9	Kunming, China	•	-31.4%	33.0
10	Shanghai, China	•	-31.7%	31.2

**NOTE**: Preliminary data for passengers enplaned, deplaned, and passengers in transit.

**SOURCE**: Airports Council International, available at <a href="https://www.aci.aero/">https://www.aci.aero/</a> as of July 2021.

## 2-12 Incoming Land Border Person Crossings: 1996–2020



NOTE: Excludes drivers and passengers in commercial trucks.

**SOURCE**: U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing Entry Data*, available at <a href="https://www.bts.gov/content/border-crossingentry-data/">https://www.bts.gov/content/border-crossingentry-data/</a> as of September 2021.

#### 2-13 Top 5 Land Ports of Entry: 2020

by incoming person crossings

#### U.S.-Canada ports of entry

Rank	Port	'19-'20	0 change	Millions of person crossings
1	Detroit, MI	$\blacksquare$	-74.7%	1.9
2	Buffalo-Niagara Falls, NY	•	-84.2%	1.8
3	Blaine, WA	•	-83.3%	1.3
4	Massena, NY	•	-42.4%	0.9
5	Port Huron, MI	•	-83.1%	0.5

#### U.S.-Mexico ports of entry

Rank	Port	'19-'20	) change	Millions of	person crossings
1	San Ysidro, CA	•	-37.1%		23.1
2	El Paso, TX	•	-55.4%	11.9	
3	Otay Mesa, CA	•	-37.9%	9.3	
4	Calexico, CA	•	-38.3%	7.8	
5	Laredo, TX	•	-49.5%	7.7	

NOTE: Excludes drivers and passengers in commercial trucks.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Entry Data, available at https://www.bts.gov/content/ border-crossingentry-data/ as of September 2021.

#### 3 Moving Goods

The freight transportation network links natural resources, manufacturing facilities, labor markets, and customers across the Nation and with international trading partners.

## 3-1 Freight Shipments Within the U.S. by Mode

Value of shipments (billions of constant 2012 dollars)

Mode	2012	2018	2045
Truck	12,216	12,975	24,001
Rail	721	782	1,629
Water	431	545	872
Air and truck-air	674	593	3,208
Pipeline	1,325	1,533	1,901
Multiple modes <sup>a</sup>	2,122	2,265	4,970
Other <sup>b</sup>	241	215	484
Total	17,729	18,907	37,064

#### Weight of shipments (millions of tons)

Mode	2012	2018	2045
Truck	10,700	11,920	16,415
Rail	1,797	1,782	2,250
Water	658	838	942
Air and truck-air	7	6	26
Pipeline	3,031	3,346	4,766
Multiple modes <sup>a</sup>	418	504	800
Other <sup>b</sup>	342	221	273
Total	16,952	18,616	25,472

#### Ton-miles of shipments (billions of ton-miles)

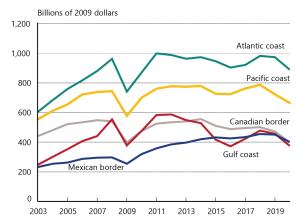
Mode	2012	2018	2045			
Truck	1,886	2,070	3,274			
Rail	1,461	1,431	1,760			
Water	323	361	418			
Air and truck-air	6	6	21			
Pipeline	857	979	1,414			
Multiple modes <sup>a</sup>	339	398	765			
Other <sup>b</sup>	7	3	16			
Total	4,879	5,251	7,668			

 $<sup>^{\</sup>rm a}$  Includes mail.  $^{\rm b}$  Includes other, unknown, and imported crude oil with no domestic mode.

**NOTES**: Details may not add to totals due to rounding. Includes domestic trade and the domestic portion of imports and exports.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, Version 4.5.1, available at <a href="https://www.bts.gov/fafas">www.bts.gov/fafas</a> of November 2019.

## 3-2 U.S. Trade by Coasts and Borders: 2003–2020

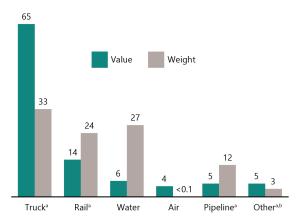


NOTE: Includes U.S. international merchandise trade only.

SOURCES: Value—U.S. Department of Commerce, Census Bureau, Foreign Trade Division, HS Port-Level Data (Washington, DC: annual issues) as of September 2021. Implicit GDP Deflator—Organization for Economic Cooperation and Development, GDP Implicit Price Deflator in United States [USAGDP-DEFAISMEI], retrieved from FRED, Federal Reserve Bank of St. Louis; available at <a href="https://fred.stlouisfed.org/series/USAGDPDEFAISMEI">https://fred.stlouisfed.org/series/USAGDPDEFAISMEI</a> and <a href="https://sww.bea.gov">www.bea.gov</a> as of September 2021.

## 3-3 U.S. Trade with Canada and Mexico by Mode: 2020

Percent of freight trade



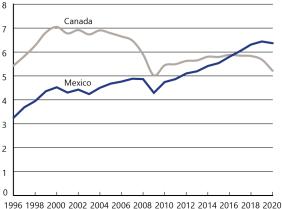
<sup>&</sup>lt;sup>a</sup> Export weights for land modes are estimated by the Bureau of Transportation Statistics using value-to-weight ratios derived from import data. <sup>b</sup> Includes mail, other, unknown, and shipments through Foreign Trade Zones.

NOTE: Percents may not add to 100 due to rounding.

**SOURCE**: U.S. Department of Transportation, Bureau of Transportation Statistics, North American Transborder Freight Data, special tabulation, available at <a href="https://www.bts.gov/transborder">www.bts.gov/transborder</a> as of March 2021.

## 3-4 Incoming Truck Border Crossings: 1996–2020

Millions of truck crossings



1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing Entry Data*, available at <u>data.transportation.gov/</u> as of February 2021.

#### 3-5 Top 5 Truck Ports of Entry: 2020

by incoming truck crossings

#### U.S.-Canada ports of entry

Rank	Port	'19-'20 change		Millions of truck crossings
1	Detroit, MI	•	-12.2%	1.4
2	Buffalo-Niagara Falls, NY	•	-7.7%	0.8
3	Port Huron, MI	•	-9.8%	0.7
4	Blaine, WA	•	-8.8%	0.3
5	Champlain-Rouses Point, N	IY 🔻	-6.4%	0.3

#### U.S.-Mexico ports of entry



<sup>&</sup>lt;sup>a</sup>Customs and Border Patrol separated the Ysleta Port of Entry from the El Paso Port of Entry beginning on Mar. 1, 2020, thus no change from 2019 data is given.

**SOURCE**: U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing Entry Data*, available at <u>data.transportation.gov/</u> as of September 2021.

## **3-6 Top 10 U.S. Water Ports: 2019** by short tons



#### by container TEUs



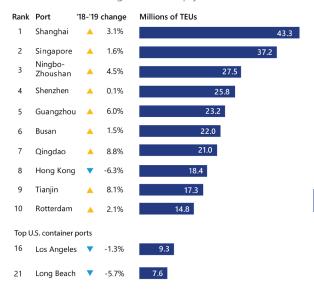
KEY: TEU = twenty-foot equivalent unit.

**NOTE**: Includes domestic and foreign waterborne trade. Excludes foreign empty TEUs.

**SOURCE**: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, personal communication, as of November 2020.

#### 3-7 Top 10 World Container Ports: 2019

TEUs, including full and empty containers



KEY: TEU = twenty-foot equivalent unit.

**SOURCE**: Lloyd's List, *One Hundred Ports 2020*, available at <a href="https://lloydslist.maritimeintelligence.informa.com/one-hundred-container-ports-2020">https://lloydslist.maritimeintelligence.informa.com/one-hundred-container-ports-2020</a> as of November 2020.

## 3-8 Top 10 U.S. International Trade Gateways: 2019

by value of shipments



**KEY**: = airport, = land port, = water port.

**NOTES**: Air gateways include a low level (generally less than 3% of the total value) of freight shipped through small user-fee airports located in the same area as the gateways listed. Air gateways not identified by airport name (e.g., Chicago, IL) include major airport(s) in the area and small regional airports.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-51, available at <a href="https://www.bts.gov/nts.as of November 2020">https://www.bts.gov/nts.as of November 2020</a>.

#### 4 SAFETY

ransportation safety is the top priority of the U.S. Department of Transportation.

#### 4-1 Transportation Fatalities by Mode

Mode	2010	2019	2020
Air	477	452	358
U.S. air carrier	2	4	0
Commuter carrier	0	2	5
On-demand air taxi	17	32	21
General aviation	458	414	332
Highway	32,999	36,096	38,680
Passenger car occupants	12,491	12,239	U
Motorcyclists	4,518	5,014	5,458
Light-truck occupants	9,782	9,976	U
Heavy-truck occupants	530	892	U
Bus occupants	44	35	U
Pedestrians	4,302	6,205	6,236
Pedalcyclists	623	846	891
Other	709	889	U
Pipeline	22	11	15
Rail	735	863	752
Train Accidents	8	3	6
Highway-rail grade crossing <sup>a</sup>	261	294	197
Trespassers	441	540	525
Other	25	26	24
Transit <sup>b</sup>	222	268	289
Water	821	707	851
Freight vessel and Industrial/Other	62	50	40
Passenger vessel and Recreational boating	759	657	811

<sup>&</sup>lt;sup>a</sup> Individual modes don't add up to totals due to double counting in highway, rail, and transit grade crossings. <sup>b</sup>Includes transit employee, contract worker, passenger, people waiting or leaving (revenue facility occupant), and other fatalities for all modes reported to the National Transit Database. Excludes commuter rail (reporting under FRA jurisdiction). Other transit fatalities are assumed to be counted under Highway or Rail categories.

KEY: U = data are not available.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-1, available at <a href="www.bts.gov/nts">www.bts.gov/nts</a> as of October 2021.

#### 4-2 Transportation Injuries by Mode

Mode	2010	2019	2020
Air	278	260	202
U.S. air carrier	17	17	8
Commuter carrier	2	0	0
On-demand air taxi	3	14	9
General aviation	256	229	187
Highway <sup>a</sup>	2,248,000	2,740,000	U
Passenger car occupants <sup>a</sup>	1,256,000	1,498,000	U
Motorcyclists <sup>a</sup>	82,000	84,000	U
Light-truck occupants <sup>a</sup>	737,000	950,000	U
Heavy-truck occupants <sup>a</sup>	20,000	46,000	U
Bus occupants <sup>a</sup>	18,000	15,000	U
Pedestrians <sup>a</sup>	70,000	76,000	U
Pedalcyclists <sup>a</sup>	52,000	49,000	U
Other <sup>a</sup>	13,000	23,000	U
Pipeline	108	36	42
Rail	8,379	7,997	5,503
Train Accidents	110	54	72
Highway-rail grade crossing <sup>b</sup>	888	837	688
Trespassers	390	529	557
Other	6,991	6,577	4,186
Transit <sup>c</sup>	25,376	23,363	15,418
Water	3,770	3,002	3,536
Freight vessel and Industrial/Other	407	257	230
Passenger vessel and Recreational boating	3,363	2,745	3,306

<sup>&</sup>lt;sup>a</sup>2019 and 2020 Crash Reporting Sampling System (CRSS) estimates for injuries are not comparable with 2010 and earlier NASS GES estimates because of different sampling designs. <sup>b</sup>Excludes injuries involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories. <sup>c</sup>Includes transit employee, contract worker, passenger, people waiting or leaving (revenue facility occupant), and other injuries for all modes reported to the National Transit Database. Excludes commuter rail (reporting under FRA jurisdiction). Other transit injuries are assumed to be counted under Highway or Rail categories.

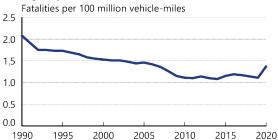
#### **KEY**: U = Data are not available.

NOTES: Highway numbers are estimates rather than actual counts. The estimates are calculated from data obtained from a nationally representative sample of crashes. NHTSA redesigned the nationally representative sample of police-reported traffic crashes, which estimates the number of police-reported injury and property-damage-only crashes in the US. The new system, CRSS, replaced the NASS GES in 2016 and has a different sample design. Thus, the 2019 and 2020 persons injured estimates are not comparable to earlier estimates.

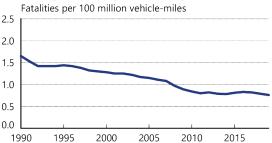
**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-2, available at <a href="https://www.bts.gov/nts">www.bts.gov/nts</a> as of October 2021.

## 4-3 Fatality Rates by Mode

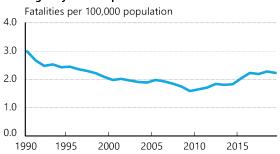




#### Passenger car and light-truck occupants: 1990-2019



#### Highway nonoccupants: 1990-2019



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## 4-3 Fatality Rates by Mode (continued)

# Large-truck occupants: 1990–2019 Fatalities per 100 million vehicle-miles

2005

2010

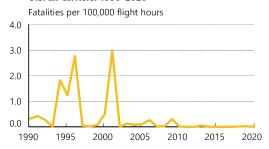
2015

#### U.S. air carriers: 1990-2020

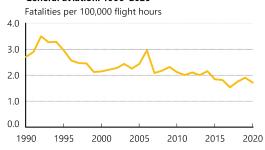
2000

1995

2.5 2.0 1.5 1.0 0.5 0.0



#### General aviation: 1990-2020

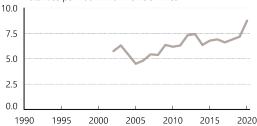


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#### 4-3 Fatality Rates by Mode (continued)

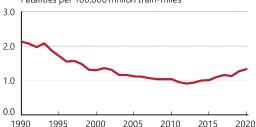
#### Transit: 1990-2020

Fatalities per 100 million vehicle-miles



#### Rail: 1990-2020

Fatalities per 100,000 million train-miles



#### Recreational boating: 1990-2020

Fatalities per 100,000 registered boats

7.5

5.0

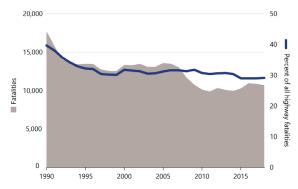
2.5

0.0

1990
1995
2000
2005
2010
2015
2020

NOTES: Graphs with same color trend lines have identical scales. SOURCES: Highway, Passenger car and light-truck occupants, Highway-nonoccupants, Large-truck occupants, U.S. air carriers, General aviation, and Recreational boating—as cited in or calculated from U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, tables 2-9, 2-14, 2-17, 2-19, 2-21, 2-23, 2-47, and 3-10 available at <a href="https://www.transit.org/www.transit.org/www.transit.org/www.transit.org/ww.transit

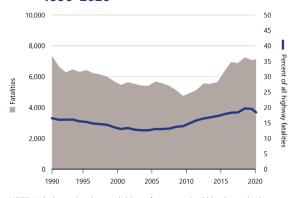
# 4-4 Alcohol-Impaired Driving Fatalities: 1990–2019



**NOTE**: Includes fatalities occurring in any crash involving a driver with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or higher.

**SOURCE**: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts*: 2019 Fatal Motor Vehicle Crashes: Overview as of January 2021.

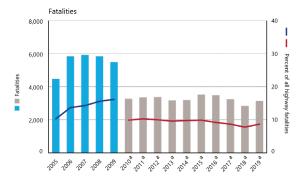
# 4-5 Pedestrian and Bicyclist Fatalities: 1990–2020

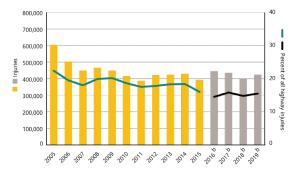


**NOTE**: Includes pedestrians and riders of nonmotorized bicycles and other pedal-powered vehicles.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 2-1, available at <a href="www.bts.gov/nts">www.bts.gov/nts</a> as of September 2021.

# 4-6 Distracted Driving Fatalities and Injuries: 2005–2019





<sup>a</sup>Distracted driving fatality data for 2010 and later are not comparable with previous years due to changes in methodology. <sup>b</sup>Crash Reporting Sampling System (CRSS) estimates for injuries are not comparable with 2015 and earlier NASS GES estimates because of different sampling designs.

**NOTE**: Distracted driving involves any activity that could divert a person's attention away from the primary task of driving, such as texting, using a cell phone, eating and drinking, grooming, using a navigation system, adjusting a radio, etc.

SOURCE: Fatalities—U.S. Department of Transportation, National Center for Statistics and Analysis, Fatality and Injury Reporting System Tool (FIRST), available at <a href="https://www.cdan.dot.gov">www.cdan.dot.gov</a>. Injuries—U.S. Department of Transportation, National Highway Traffic Safety Administration, Traffic Safety Facts, Research Note, Distracted Driving 2019, available at <a href="https://www.crashstats.nhtsa.dot.gov">www.crashstats.nhtsa.dot.gov</a>, as of September 2021.

# 5 Performance

The physical capacity of the U.S. transportation system has not kept pace with growth in travel and commerce. The resulting congestion and delays have significant impacts on passengers and freight shippers.

#### 5-1 Road Congestion: 1985–2020



NOTES: Annual hours of delay per car commuter—the extra time spent during the year traveling at congested speeds rather than free-flow speeds by private vehicle drivers and passengers who typically travel in the peak periods.

The methodology to calculate congestion performance measures was updated to reflect more comprehensive data collection using INRIX data for each of the 494 U.S. urban areas. The congestion estimates for all study years are recalculated every time the methodology is altered to provide a consistent data trend. For a detailed explanation of the updated methodology, see the *Urban Mobility Report* at mobility.tamu.edu/ums/report/.

**SOURCE**: Texas A&M Transportation Institute, *Urban Mobility Report*, available at <a href="mailto:mobility.tamu.edu/umr/report/">mobility.tamu.edu/umr/report/</a> as of September 2021.

# 5-2 Top 10 Metropolitan Area Congestion Rankings: 2020

by calendar year, average minutes of congestion

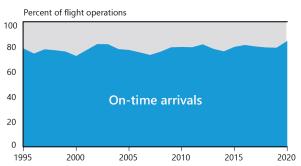
Rank	Urban area	Minutes of delay
1	Los Angeles, CA	266
2	Washington, DC	265
3	Seattle, WA	260
4	Denver, CO	258
5	San Juan, PR	252
6	New York, NY	245
7	Portland, OR	220
8	Riverside-San Bernardino, CA	208
9	Houston, TX	193
10	Baltimore, MD	188
	Average of 52 MSAs	138

KEY: MSA = Metropolitan Statistical Area

**NOTES: Minutes of congestion**—the amount of time when freeways operate less than 90 percent of free-flow freeway speeds. Calculated by calendar year for an average duration of daily congestion.

**SOURCE**: U.S. Department of Transportation, Federal Highway Administration, *Urban Congestion Report*, personal communication, as of October 2021.

## 5-3 U.S. Airline On-time Performance: 1995–2020

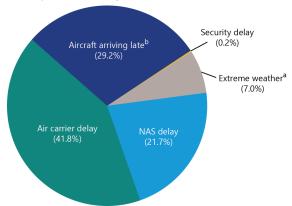


**NOTE:** Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

**SOURCE**: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance*, available at <a href="www.bts.gov">www.bts.gov</a> as of March 2021.

# 5-4 U.S. Major Airport Delays by Cause: 2020

percent of delayed time



<sup>a</sup>Includes weather events that prevent flying. Other weather delays that slow operations are included under other categories. <sup>b</sup>Delay resulting from a previous flight with the same aircraft arriving late.

**KEY**: NAS = Delays attributable to the national aviation system (NAS) that refer to a broad set of conditions, such as non-extreme weather, airport operations, heavy traffic volume, and air traffic control.

NOTE: Percents may not add to 100 due to rounding.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Airline On-Time Performance, available at transtats.bts.gov as of October 2021.

#### **U.S. Major Airport Performance** 5-5 Rankings: 2020

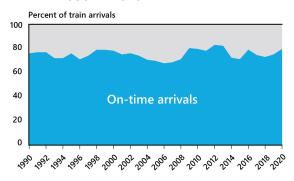
by percent of on-time arrivals

	by percent of on	arrivals
	Honolulu, HI	88.4
	Detroit, MI	88.0
Top 5	Minneapolis/St. Paul, MN	87.9
-	Atlanta, GA	87.4
	Salt Lake City, UT	87.3
	All major U.S. airports	85.0
	Fort Lauderdale, FL	83.3
2	Washington, DC (DCA)	83.1
Bottom 5	New York, NY (LGA)	81.1
Bo	Dallas/Fort Worth, TX	81.0
	Newark, NJ	80.6

NOTE: Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Airline On-Time Performance, available at transtats.bts.gov as of March 2021.

# 5-6 Amtrak On-time Performance: FY1990–FY2020



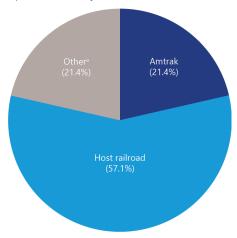
**NOTE:** On-time performance is a percentage measure of train performance. A train is considered on-time if it arrives at the final destination, or end-point, within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance at the end-point based on the number of miles traveled.

Trip length	Train arrives at endpoint within
0-250 miles	10 minutes
251-350 miles	15 minutes
351-450 miles	20 minutes
451-550 miles	25 minutes
>551 miles	30 minutes

SOURCE: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 1-73, available at https://www.bts.gov/nts as of May 2021.

## 5-7 Amtrak Delays by Cause: FY2020

percent of delayed time



<sup>a</sup>Delays not attributable to Amtrak or other host railroads, such as customs and immigration, law enforcement action, weather, or waiting for scheduled departure time.

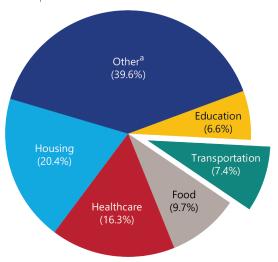
NOTE: Percents may not add to 100 due to rounding.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, available at <a href="https://www.bts.gov/nts">www.bts.gov/nts</a> as of August 2021.

## 6 Есопому

Transportation is a major sector of the U.S. economy. The transportation system moves people and goods, employs millions of workers, generates revenue, and consumes resources and services provided by other sectors.

# 6-1 U.S. GDP by Spending Category: 2020 percent of GDP



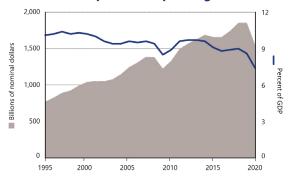
<sup>a</sup>Includes all other categories (e.g., entertainment, personal care products and services, and payments to pension plans).

**KEY**: GDP = gross domestic product.

NOTE: Percents may not add to 100 due to rounding.

SOURCE: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 3-9, available at <a href="www.bts.gov/nts">www.bts.gov/nts</a> as of November 2021.

#### 6-2 U.S. Transportation Spending: 1995–2020



**KEY**: GDP = gross domestic product.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-9, available at <a href="www.bts.gov/nts">www.bts.gov/nts</a> as of November 2021.

#### 6-3 Transportation-Related Final Demand billions of chained 2012 dollars

Category	2010	2020
Personal consumption of transportation	1,087	1,235
Motor vehicles and parts	360	542
Motor vehicle fuels, lubricants, and fluids	406	356
Transportation services	321	337
Gross private domestic investment	152	204
Transportation structures	10	13
Transportation equipment	142	191
Government transportation-related purchases	327	323
Federal purchases	40	40
State and local purchases	260	271
Defense-related purchases	27	12
Exports ( + )	277	245
Imports ( - )	369	434
Total transportation-related GDP	1,486	1,552
U.S. GDP	15,649	18,385

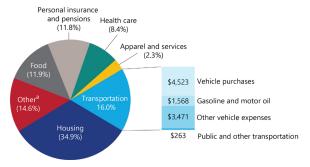
KEY: GDP = gross domestic product

NOTES: Data may not add to totals due to rounding. Transportation-related final demand measures the size of transportation functions in relation to the Gross Domestic Product (GDP). It includes the transportation portion of the four components of the GDP: personal consumption, gross private domestic investment, government purchases, and net exports of goods and services.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 3-4, available at www.bts.gov/nts as of November 2021.

# 6-4 Household Expenses by Category: 2020

percent of average annual household expenses

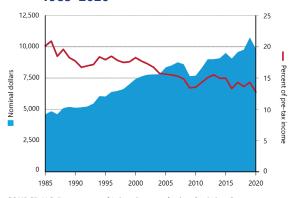


<sup>&</sup>lt;sup>a</sup> Includes alcoholic beverages, cash contributions, education, entertainment, personal care products and services, reading, tobacco products and smoking supplies, and other miscellaneous items.

NOTE: Percents may not add to 100 due to rounding.

**SOURCE**: U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*, available at <a href="https://www.bls.gov/cex">www.bls.gov/cex</a> as of September 2021.

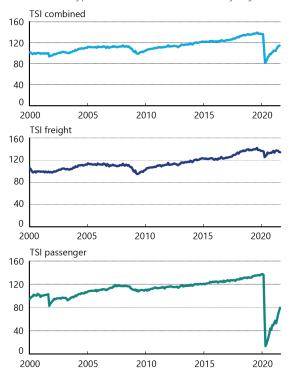
# 6-5 Household Transportation Expenses: 1985–2020



**SOURCE**: U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*, available at <a href="https://www.bls.gov/cex">www.bls.gov/cex</a> as of September 2021.

# 6-6 Transportation Services Index: January 2000–July 2021

chain-type index: 2000 = 100, seasonally adjusted



NOTES: TSI Combined—the TSI, created by the U.S. Department of Transportation, Bureau of Transportation Statistics, is a measure of the month-to-month changes in the output of services provided by the for-hire transportation industries. TSI data change monthly due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added. TSI Freight—includes freight railroad services (including rail-based intermodal shipments, such as containers on flat cars), inland waterway traffic, pipeline movements (including principally petroleum and petroleum products and natural gas), and air freight. TSI Passenger—the passenger transportation services index consists of local mass transit, intercity passenger rail, and passenger air transportation.

**SOURCE**: U.S. Department of Transportation, Bureau of Transportation Statistics, available at www.bts.gov as of October 2021.

#### 6-7 Employment in Transportation-Related Industries

thousands

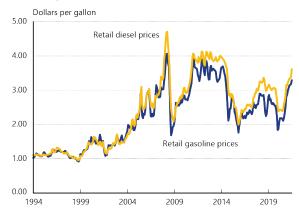
Category	2010	2020
For-hire transportation and warehousing	4,179	5,555
Air	458	430
Rail	183	149
Water	62	61
Truck	1,251	1,466
Transit and ground passenger	436	375
Pipeline	42	51
Scenic and sightseeing	27	23
Support activities	553	700
Couriers and messengers	528	957
Warehousing and storage	638	1,343
Transportation-related manufacturing <sup>a</sup>	1,645	1,880
Other transportation-related industries	4,694	5,326
Postal service	659	602
Government employment <sup>b</sup>	876	872
Total transportation-related labor force	12,054	14,236
U.S. labor force	130,345	142,185

<sup>&</sup>lt;sup>a</sup>Includes transportation equipment; petroleum products; tires; rubber; plastics; search, detection, navigation, guidance, aeronautical, and nautical systems; and instrument manufacturing. <sup>b</sup>Fiscal year data for federal, state, and local personnel.

**NOTES**: Annual averages based on North American Industry Classification System data. Details may not add to totals due to rounding.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-23, available at <a href="https://www.bts.gov/nts">www.bts.gov/nts</a> as of September 2021.

## 6-8 Motor Vehicle Fuel Prices: April 1994–October 2021



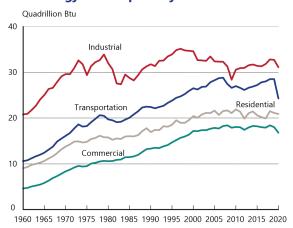
NOTES: Retail gasoline prices include average nominal monthly prices of U.S. regular all formulations retail gasoline. Retail diesel prices include average nominal monthly prices of U.S. No. 2 retail diesel prices.

**SOURCE**: U.S. Department of Energy, Energy Information Administration, available at <a href="https://www.eia.gov/">https://www.eia.gov/</a> as of October 2021.

# 7 ENVIRONMENT

The U.S. transportation system is a major consumer of energy and has consequences for the human and natural environment.

#### 7-1 Energy Consumption by Sector: 1960–2020



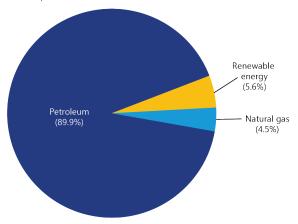
KEY: Btu = British thermal unit.

**NOTE**: Includes primary energy consumption, electricity retail sales, and electrical system energy losses.

**SOURCE**: U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at <a href="https://www.eia.gov/totalenergy/data/monthly">www.eia.gov/totalenergy/data/monthly</a> as of October 2021.

# 7-2 Transportation Energy Consumption by Source: 2020

percent of Btu consumed

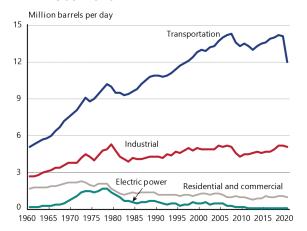


KEY: Btu = British thermal unit.

**NOTES**: Includes primary energy consumed. Excludes electricity retail sales and electrical system energy losses. Percents may not add to 100 due to rounding.

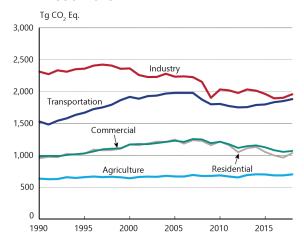
**SOURCE**: U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at <a href="https://www.eia.gov/totalenergy/data/monthly">www.eia.gov/totalenergy/data/monthly</a> as of October 2021.

# 7-3 Petroleum Consumption by Sector: 1960–2020



**SOURCE**: U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at <a href="https://www.eia.gov/totalenergy/data/monthly">www.eia.gov/totalenergy/data/monthly</a> as of October 2021.

# 7-4 Greenhouse Gas Emissions by Sector: 1990–2019



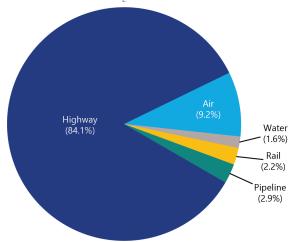
**KEY**: Tg CO<sub>2</sub> Eq. = teragrams of carbon dioxide equivalent. Teragram = 1 million metric tons.

**NOTES**: Electric power sector emissions are distributed across sectors. Emissions include  $CO_{\gamma}$ ,  $CH_{\alpha'}$ ,  $N_{\gamma}O$ , HFCs, PFCs, and  $SF_{\varepsilon}$ .

**SOURCE**: U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*: 1990-2019 Report Tables, <a href="https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks">https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks</a> as of May 2021.

# 7-5 Greenhouse Gas Emissions by Transportation Mode: 2019

Percent of Tg CO, Eq.

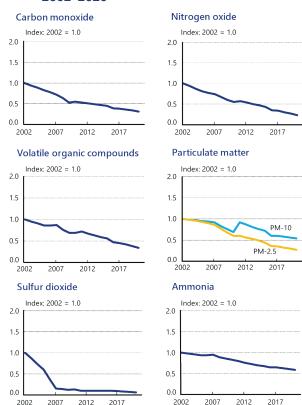


 $\mbox{\bf KEY}$ : Tg CO  $_2$  Eq. = teragrams of carbon dioxide equivalent. Teragram = 1 million metric tons.

**NOTES**: Percents may not add to 100 due to rounding. Does not include international bunker fuels.

**SOURCE:** U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks:* 1990–2019 Report Tables, available at <a href="https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks">https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks</a> as of May 2021.

# 7-6 Highway Vehicle Air Pollutant Emissions: 2002–2020

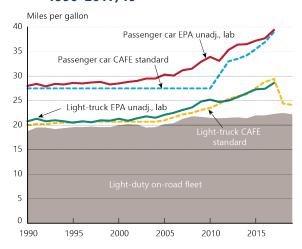


**KEY**: PM-10 = airborne particulates of less than 10 microns; PM-2.5 = airborne particulates of less than 2.5 microns.

**NOTES**: Indices are calculated using data on highway vehicle emissions only. Particulate matters include PM without condensibles.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 4-45 through 4-50, available at <a href="https://www.bts.gov/nts">www.bts.gov/nts</a> as of March 2021.

# 7-7 Fuel Economy of Light-Duty Vehicles: 1990–2017/19

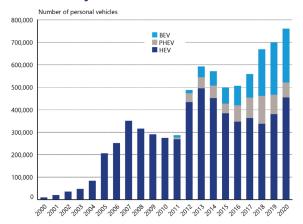


**KEY**: CAFE = Corporate Average Fuel Economy; EPA = Environmental Protection Agency.

**NOTES**: New fleet data and CAFE standards are for vehicle model years. Onroad fleet data include passenger cars and light trucks and are estimated using average miles traveled per gallon of fuel consumed for each calendar year.

**SOURCE**: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-23, available at <a href="https://www.bts.gov/nts.

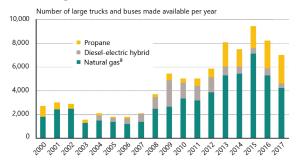
# 7-8 Sales of Hybrid, Plug-in Hybrid, and Battery Electric Vehicles: 2000–2020

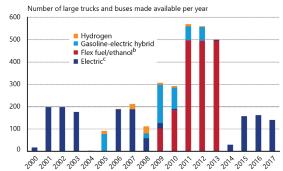


**KEY:** BEV = Battery electric-only vehicles, HEV = Hybrid electric vehicle, PHEV = Pluq-in hybrid electric vehicle

**SOURCE**: Oak Ridge National Laboratory, *Transportation Energy Data Book*, Annual Issues, available at <u>tedb.ornl.gov</u> as of May 2021.

## 7-9 Alternative Fuel Vehicles by Fuel Type, Large Trucks and Buses: 2000–2017





NOTES: <sup>a</sup>Includes compressed natural gas (CNG) and liquified natural gas (LNG). Includes the total number of heavy duty vehicles that were manufactured or converted by vehicle suppliers (companies or organizations) in the associated calendar year. <sup>b</sup>Flex fuel/ethanol vehicles are capable of running on E85, unblended gasoline, or any ethanol-gasoline blends in between. <sup>c</sup>Excludes gasoline-electric and diesel-electric hybrids.

**SOURCE**: U.S. Department of Energy, Energy Information Administration, Alternative Fuel Vehicle Data, Supplier Database, available at www.eia.gov/renewable/afv/ as of June 2019.

## **GLOSSARY**

**Air carrier:** Certificated provider of scheduled and nonscheduled services

Alternative fueled vehicle: A vehicle designed to operate on an alternative fuel (e.g., compressed natural gas, propane, electricity). The vehicle can be either a dedicated vehicle designed to operate exclusively on alternative fuel or a non-dedicated vehicle designed to operate on alternative fuel and/or traditional fuel.

**Chained dollars:** A method of adjusting to real dollar amounts to account for both changes in price-levels and the composition of output over time. This is completed by using a chain-weighted type index, or average weights in successive time periods, to get a comparable time series of data.

**Class I railroad:** Railroads earning adjusted annual operating revenues for three consecutive years of \$250,000,000 or more, based on 1991 dollars with an adjustment factor applied to subsequent years.

**Commuter rail:** Urban/suburban passenger train service for short-distance travel between a central city and adjacent suburbs run on tracks of a traditional railroad system. Does not include heavy or light rail transit service.

**Demand response transit:** A nonfixed-route, nonfixed-schedule form of transportation that operates in response to calls from passengers or their agents to the transit operator or dispatcher.

**Directional route-miles:** The sum of the mileage in each direction over which transit vehicles travel while in revenue service.

**Enplanements:** Total number of revenue passengers boarding aircraft.

**For-hire:** Refers to a vehicle operated on behalf of or by a company that provides services to external customers for a fee. It is distinguished from private transportation services, in which a firm transports its own freight and does not offer its transportation services to other shippers.

**General aviation:** Civil aviation operations other than those air carriers holding a Certificate of Public Convenience and Necessity. Types of aircraft used in general aviation range from corporate, multiengine jets piloted by a professional crew to amateur-built, single-engine, piston-driven, acrobatic planes.

**Gross domestic product:** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the suppliers may be either U.S. residents or residents of foreign countries.

**Heavy-rail transit:** High-speed transit rail operated on rights-of-way that exclude all other vehicles and pedestrians.

**Hybrid electric vehicle:** Hybrid electric vehicles combine features of internal combustion engines and electric motors. Unlike 100% electric vehicles, hybrid vehicles do not need to be plugged into an external source of electricity to be recharged. Most hybrid vehicles operate on gasoline.

**International Roughness Index (IRI):** A scale for pavement roughness based on the simulated response of a generic motor vehicle to the roughness in a single wheel path of the road surface.

Lane-mile: One mile of one lane of road.

**Light-duty vehicle:** Includes passenger cars, light trucks, vans, pickup trucks, and sport/utility vehicles regardless of wheelbase.

**Light-rail transit:** Urban transit rail operated on a reserved rightof-way that may be crossed by roads used by motor vehicles and pedestrians.

**Nominal dollars:** A market value that does not take inflation into account and reflects prices and quantities that were current during the period being measured.

**Nonself-propelled vessels:** Includes dry cargo, tank barges, and railroad car floats that operate in U.S. ports and waterways.

**Oceangoing vessels:** Includes U.S. flag, privately owned merchant fleet of oceangoing, self-propelled, cargo-carrying vessels of 1,000 gross tons or greater.

**Particulates:** Carbon particles formed by partial oxidation and reduction of hydrocarbon fuel. Also included are trace quantities of metal oxides and nitrides originating from engine wear, component degradation, and inorganic fuel additives.

**Passenger-mile:** One passenger transported one mile. For example, 1 vehicle traveling 3 miles carrying 5 passengers generates 15 passenger-miles.

**Personal communication:** Involves contacting the source for data if not publicly available.

**Plug-in hybrid electric vehicles:** Plug-in hybrids use the electric battery as the primary energy source by relying on battery power for propulsion for a limited range (15–40 miles) before switching to internal combustion propulsion (thus reducing gasoline consumption).

**Reliever airports:** Airports designated by the Federal Aviation Administration to relieve congestion at commercial service airports and to provide improved general aviation access to the overall community.

**Seasonally adjusted:** Measures the real differences in data trends by adjusting for seasonal factors, such as the change in the number of days, weekends, holidays, or other seasonal activity in a month, such as vacation travel.

**Self-propelled vessels:** Includes dry cargo vessels, tankers, and offshore supply vessels, tugboats, pushboats, and passenger vessels, such as excursion/sightseeing boats, combination passenger and dry cargo vessels, and ferries.

Short ton: A unit of weight equal to 2,000 pounds.

**Structurally deficient:** Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and reduced load-carrying capacity.

**Real dollars:** A method of adjusting nominal dollars to account for price level changes over time. It reflects purchasing power in a given period.

**Tg CO<sub>2</sub> Eq.:** Teragrams of carbon dioxide equivalent, a metric measure used to compare the emissions from various greenhouse gases based on their global warming potential.

**Ton-mile:** A unit of measure equal to movement of 1 ton over 1 mile.

**Transportation Services Index:** BTS' monthly measure indicating the relative change in the volume of services over time performed by the for-hire transportation sector. Change is shown relative to a base year, which is given a value of 100. The TSI covers the activities of for-hire freight carriers, for-hire passenger carriers, and a combination of the two. See www.bts.gov for a detailed explanation.

**Transportation Services Index Combined**: The combined Transportation Services Index (TSI) includes available data on freight traffic, as well as passenger travel, that have been weighted to yield a monthly measure of transportation services output.

**Transportation Services Index Freight**: The freight TSI measures the output of the for-hire freight transportation industry and consists of data from for-hire trucking, rail, inland waterways, pipelines, and air freight.

**Transportation Services Index Passenger**: The passenger TSI includes local transit, intercity passenger rail, and passenger air transportation, which have been weighted to yield a monthly measure of transportation services output.

**Unlinked passenger trip:** The number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.

Vehicle-mile: One vehicle traveling 1 mile.



**MAJOR TRENDS INFRASTRUCTURE MOVING PEOPLE MOVING GOODS** SAFETY **PERFORMANCE ECONOMY ENVIRONMENT GLOSSARY** 

