



Federal Transit Administration
U.S. Department of Transportation

Office of Budget and Policy



2021

National Transit Database

National Transit Summaries & Trends

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AR	Alaska Railroad
ARP	The American Rescue Plan Act of 2021
CARES	The Coronavirus Aid, Relief, and Economic Security Act
CC	Cable Car
COVID-19	Coronavirus Disease 2019
CRRSA	Coronavirus Response and Relief Supplemental Appropriations Act
CY	Calendar Year
DRM	Directional Route Miles
FG	Fixed Guideway
FTA	The Federal Transit Administration
FY	Fiscal Year
HIB	High Intensity Busway
HOV	High Occupancy Vehicle
IP	Inclined Plane
MB	Bus
MG	Monorail/Automated Guideway
NTD	The National Transit Database
NTST	National Transit Summaries and Trends
PB	Público
PMT	Passenger Miles Traveled
PPH	Passengers Per Hour
ROW	Right-of-Way
RY	Report Year
TNC	Transportation Network Company
TR	Aerial Tramways
ULB	Useful Life Benchmark
UPT	Unlinked Passenger Trips
U.S.	United States of America
USOA	Uniform System of Accounts

UZA	Urbanized Area
VOMS	Vehicles Operated in Maximum Service
VRH	Vehicle Revenue Hours
VRM	Vehicle Revenue Miles

Preface

On March 13, 2020, Proclamation 9994 declared the novel coronavirus disease 2019 (COVID-19) a national public health emergency. The impacts of the emergency on data reported to the National Transit Database (NTD) are evident for Fiscal Year (FY) 2021. Most annual data reported to the NTD represents data collected during each reporting agency's fiscal year. Readers should take this into account when reviewing this document and when further analyzing differences in data values reported in the NTD annual datasets.

- 59 percent of agencies reporting to the NTD in 2021 began their fiscal year on July 1, 2020,
- 19 percent began on October 1, 2020,
- 20 percent began on January 1, 2021, and
- 2 percent began on various other dates in 2020.

A full list of agency fiscal years can be found in the 2021 Agency Information annual database file published on the [NTD data web page](#).

While this document does not explore local impacts of the emergency, data users are encouraged to evaluate trends online using the [Monthly Time Series](#) data publications, which present data by NTD reporter, mode, and type of service. Monthly service data has been important to the Federal Transit Administration (FTA) throughout the COVID-19 public health emergency to assess national impacts and has remained a requirement throughout the emergency. Monthly trends are summarized further beginning on page 5.

Finally, time series exhibits in this document present actual data, unless estimates or transformations are indicated.

Introduction

General Information

FTA is pleased to publish the 2021 National Transit Summaries and Trends (NTST). This annual data publication summarizes data reported to the NTD. The NTST provides an overview of public transit in the United States (U.S.) according to the most recently completed NTD report year in an easy-to-read format.

This 2021 NTST discusses data from Report Years (RY) 2012 to 2021. Except for the exhibits in the “Rural Service” section and where explicitly noted, all data included in the NTST are from agencies operating within an Urbanized Area (UZA) and reporting to the urban module of the NTD. Throughout this document we will refer to such entities as “urban operators,” “urban services,” or “urban agencies.”

What Is the National Transit Database?

The NTD is the primary source for information and statistics on transit systems in the U.S. Congress requires FTA to collect financial and service information annually from public transportation agencies that benefit from FTA grants. Each year, FTA uses NTD data to apportion funding through funding programs such as Urbanized Area Formula Grants (49 U.S.C. §5307), Formula Grants for Rural Areas (49 U.S.C. §5311), Transit Safety & Oversight Grants (49 U.S.C. §5329), and State of Good Repair Grants (49 U.S.C. §5337).

Please see the [NTD Glossary](#) for definitions of the terms used in this document. For more information on the program in general, visit the [NTD website](#).

Who Reports Data to the National Transit Database?

§5307 Program Recipients

Recipients or beneficiaries of FTA's Urbanized Area Formula Program (§5307) must file annual reports, monthly ridership reports, and safety and security reports with the NTD. The recipients or beneficiaries reporting this data are also called **Urban Reporters**.

Beginning in FY 2011, urban transit agencies with 30 vehicles or less became eligible to report using reduced reporting requirements. The reduced reporting requirements exclude the following:

- Passenger miles

- Mode-specific capital and operations costs
- Employee counts
- Maintenance performance
- Energy consumption
- Monthly ridership
- Safety data

Some agencies that do not operate transit service report to the NTD. **Build Reporters** are agencies that benefit from Federal funding and are in the process of building transit infrastructure but do not yet operate service. **Plan Reporters** do not operate transit service but instead use the Federal funding for planning and programming transit projects.

§5311 Program Recipients

Recipients or beneficiaries of FTA's Formula Grants for Rural Areas Program (§5311) must file annual reports to the rural module of the NTD. These agencies are known as **Rural Reporters**. States and Indian Tribes submit rural reports directly to the NTD. States file reports on behalf of their subrecipient rural transit agencies, who do not report directly to the NTD.

Reduced Asset Reporters

Recipients or beneficiaries of FTA's Chapter 53 funding other than §5307 or §5311 (e.g., Enhanced Mobility of Seniors and Individuals with Disabilities [§5310]) that own, manage, or operate capital assets used in to provide public transportation services must file limited annual reports for the asset data. These agencies are known as **Reduced Asset Reporters**.

Voluntary NTD Reporters

FTA accepts voluntary NTD reports from other transit systems, both public and private, that serve both UZAs and non-UZAs. **Voluntary Reporters** must provide public transportation services and meet the same reporting obligations as mandatory reporters.

What Are the Modes of Transit?

Public transit includes buses, trains, ferryboats, paratransit services, and much more. Certain transportation services are specifically excluded, such as Intercity Bus service, Intercity Rail service, intra-facility transport (e.g., airport people movers), and sightseeing rides. Different types of vehicles, technologies, and operational characteristics distinguish

the modes of transit. Public transit modes are defined in a table in the “Introduction” section of the [NTD Reporting Policy Manual](#).

What Is an Urbanized Area?

The U.S. Census Bureau defines UZAs based on incorporated places (e.g., cities, towns, and villages) and their adjacent areas. For more information, visit the [U.S. Census website](#).

In the NTD, transit providers indicate the UZA in which they operate most service as their “primary UZA.” For analysis purposes, the NTST groups UZAs into the following categories:

- **Small UZAs:** population of 50,000 to 200,000
- **Medium UZAs:** population of 200,000 to 1 million
- **Large UZAs:** population over 1 million

Of all Urban Reporters, approximately 35 percent of agencies primarily serve a small UZA, 27 percent serve a medium UZA, and 38 percent serve a large UZA.

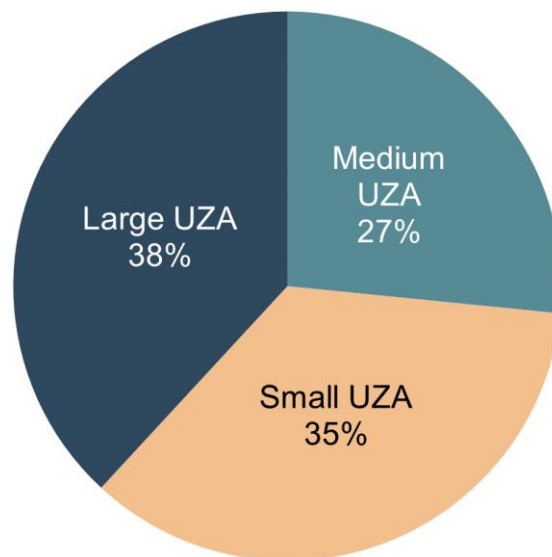


Exhibit 1. Agencies' Primary UZA by UZA Size

Transit Service Providers

Types of Organizations Providing Public Transit

Transit providers report their organization type in the NTD Annual Report.

City and county organizations are departments of local government. They make up 53 percent of urban transit providers.

Transit authorities are independent public agencies led by boards, focused on providing public transit. Transit authorities make up 29 percent of urban transit providers. City/county organizations and transit authorities comprise approximately 82 percent of urban transit providers.

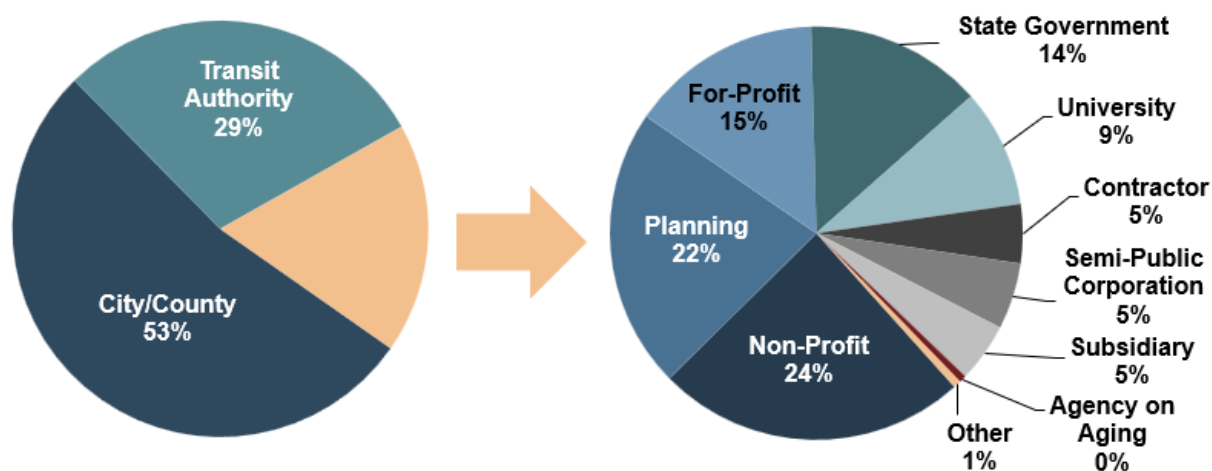


Exhibit 2. Transit Provider Organization Types

Employees of Public Transit Organizations

At the end of Calendar Year 2021, there were over 370,000 employees, either contracted or directly employed by transit agencies involved in the operation, administration, and maintenance of public transit in the United States. Please see details on the geographic location of these workers in the table below.¹

Total Workers Employed by NTD Reporting Module	
Urban	339,067
Rural	29,750
Tribe	1,269
Total	370,086

Exhibit 3. Total Workers Employed by Transit Agencies

¹ Data in this table is sourced from FTA's COVID-19 Information Collection Tool. FTA used this separate, online application to collect data from FTA recipients and subrecipients on the impact of the COVID-19 Public Health Emergency each month.

Monthly Reporting During the COVID-19 Public Health Emergency

What Is Monthly Ridership Reporting?

All NTD reporters operating more than 30 Vehicles in Maximum Service report service data totals by mode and type of service monthly on the Monthly Ridership (MR-20) form. The service data collected monthly includes Vehicles Operated in Maximum Service (VOMS), Vehicle Revenue Miles (VRM), Vehicle Revenue Hours (VRH), and Unlinked Passenger Trips (UPT) for the given month. In 2021, Annual UPT reported by Reduced Reporters operating in UZAs accounted for only 0.99 percent of the national total UPT. Reduced Reporters are therefore excluded from this analysis.

According to the NTD, April 2020 is the lowest month on record (dating to 2002) for national urban public transportation ridership, with 158.5 million UPT taken. For a comparison, 835.1 million UPT were taken in April 1919. This represents an 81 percent decrease in the year-over-year ridership measure. The change in ridership was driven primarily by two modes, Heavy Rail and Bus, which account for most of the national ridership (see Exhibit 3). The year-over-year decrease from December 2019 to December 2020 was 62 percent across all modes for UPT, 18.5 percent for VRM. There was a 48 percent increase across all modes for UPT from December 2020 to December 2021 and a 5 percent increase for VRM.

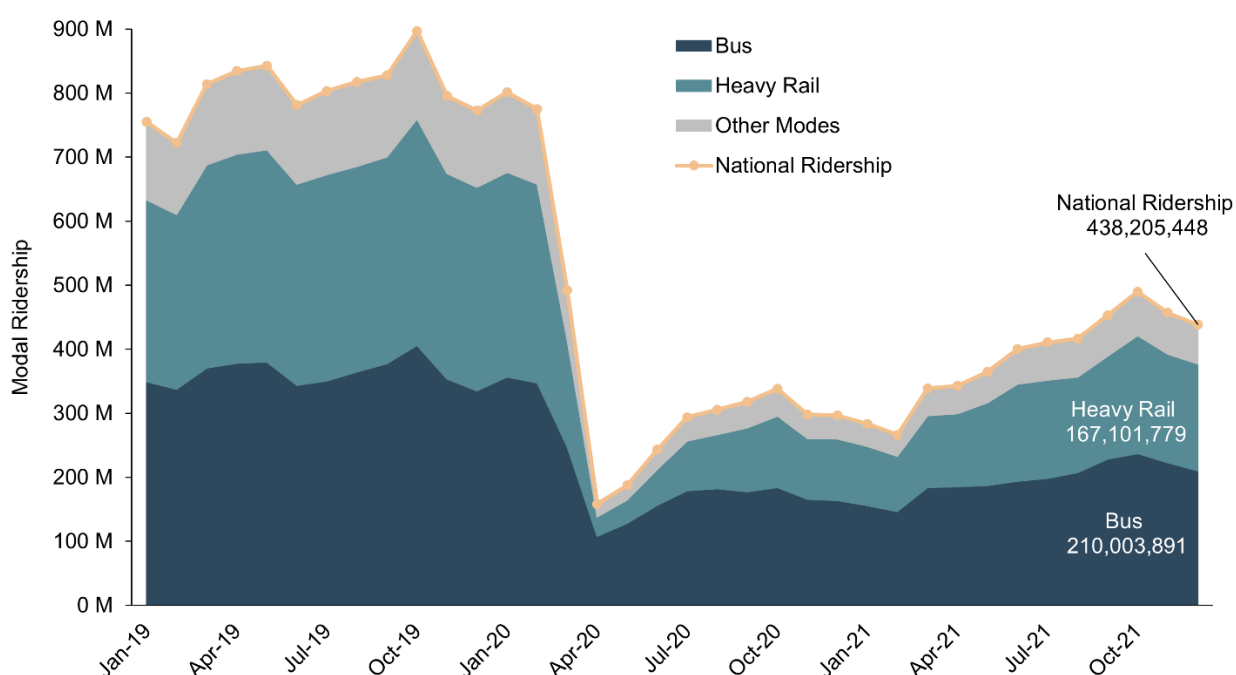


Exhibit 4. National Monthly Ridership for Heavy Rail vs. Bus (2020–2021)

Other modes also demonstrated large ridership decreases, especially at the onset of the COVID-19 public health emergency. Exhibit 4 shows that from December 2020 to December 2021, monthly Commuter Rail and Light Rail ridership increased 109.6 percent and 67.8 percent, respectively. Ferryboat and Demand Response modes increased 50.6 percent and 34.1 percent, respectively.

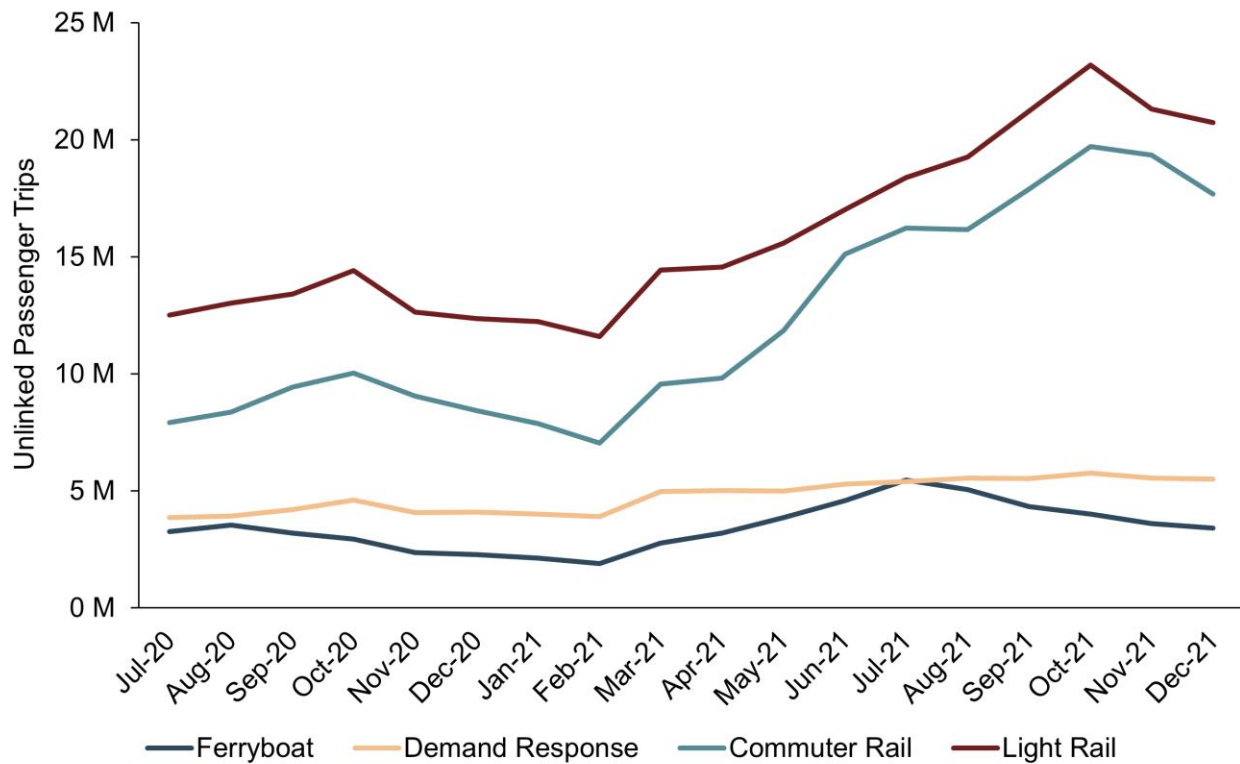


Exhibit 5. 2021 Monthly Ridership for Selected Modes

Spotlight: Demand Response Mode

The Demand Response mode operates on roadways in response to requests to the transit operator from passengers or their agents. Rides are grouped together, when possible, and the transit operator dispatches a vehicle to provide the rides. Vehicles do not operate over a fixed route or on a fixed schedule unless temporarily satisfying a special transit need. Many transit systems operate Demand Response service to meet the requirements of the Americans with Disabilities Act (ADA).

All exhibits in this section will spotlight the Demand Response mode and include data from both urban and rural public transportation operators. Demand Response service provided by Transportation Network Companies is excluded from this section as only eight agencies nationwide reported this type of service in FY 2021. The breakdown of reports was as follows:

- Demand Response Directly Operated services: 1,422 reports
- Demand Response Purchased Transportation service: 477
- Demand Response Taxi providers: 86
- Transportation Network Companies: 8

Demand Response is nearly as prevalent as other modes that report to the NTD, as indicated by Exhibit 6.

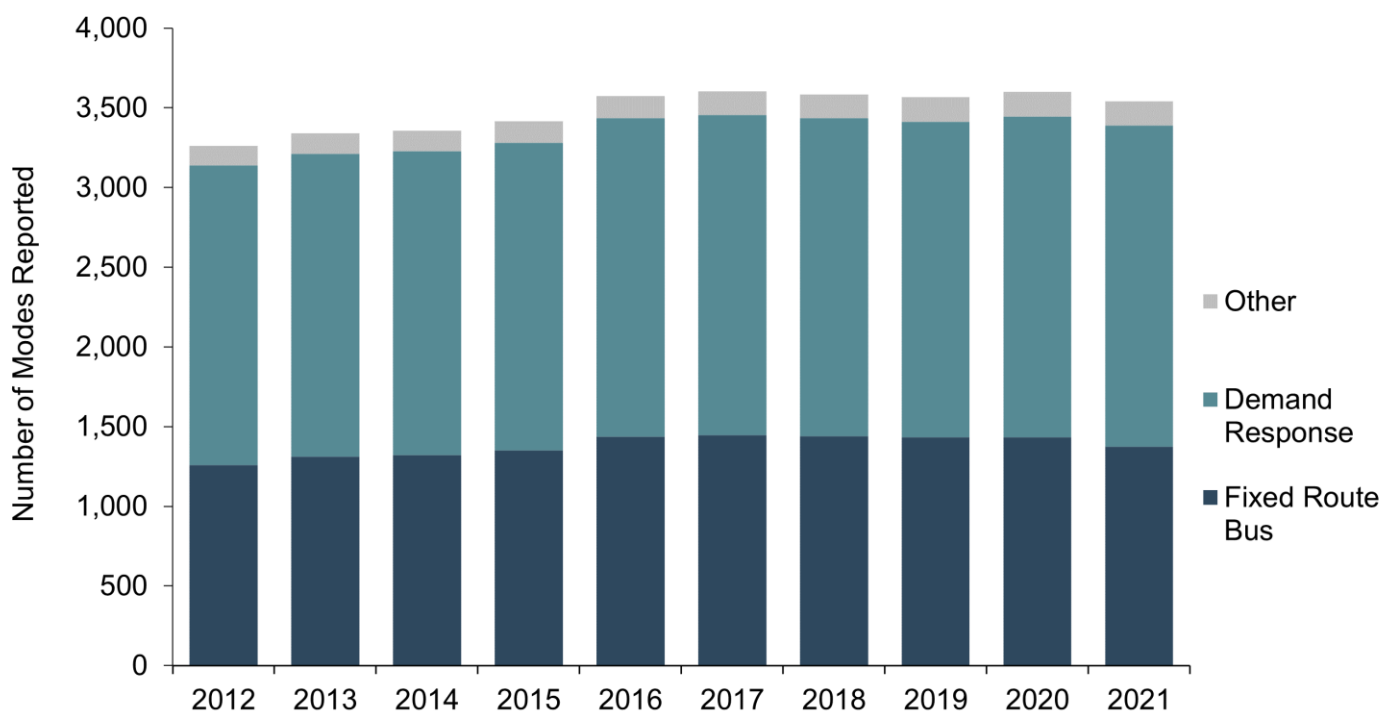


Exhibit 6. Demand Response Among the Most Prevalent Modes (2012–2021)

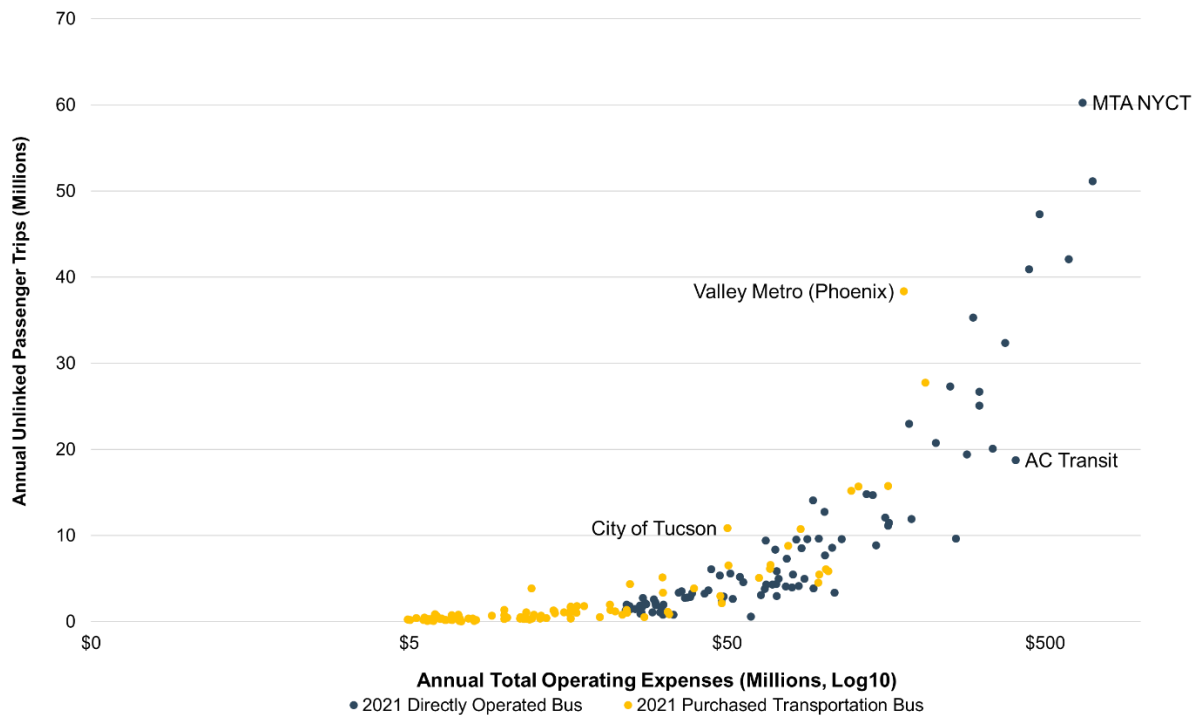


Exhibit 7. 2021 Bus Ridership per Operating Expenses for Select Agencies

Exhibit 7 and 8 contrast Bus operations cost and Demand Response cost for large urban transit agencies which operate both modes (formats) of service. The exhibits show that Demand Response generates lower ridership on average than Bus mode per dollar (note y axis). The average Demand Response cost per trip across all urban and rural NTD reporters for FY 2021 was \$54.66 (standard deviation \$57.32). For Bus (MB), the average cost per trip was \$31.83 (standard deviation \$62.98).

The Exhibits also highlight that Demand Response services are smaller scale than Bus services. Additionally, for Demand Response mode cost per trip appears to depend less on whether the service is directly operated by the transit system or purchased from a contractor.

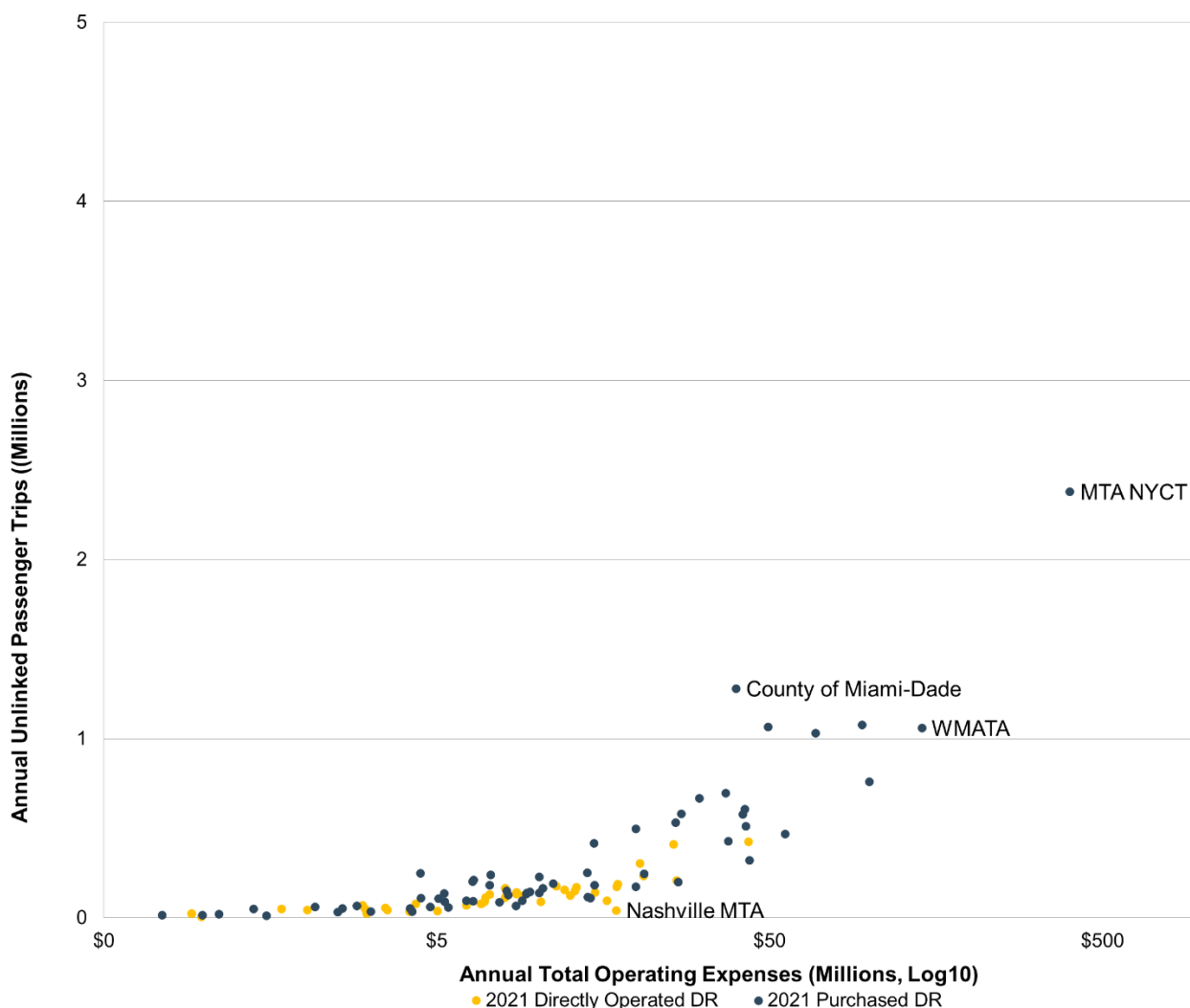


Exhibit 8. 2021 Demand Response Ridership per Operating Expenses for Select Large Demand Response Agencies

Exhibit 9 highlights that the cost per UPT is lower for Demand Response Taxi service compared to Directly Operated service. Purchased Transportation service costs were higher in 2021. Shared-ride taxi services appear to be the most cost-effective form of Demand Response service. However, these services operate with lower seating capacity vehicles, such as sedans or minivans. Traditional Demand Response services generally use cutaways or buses with higher seating capacity.

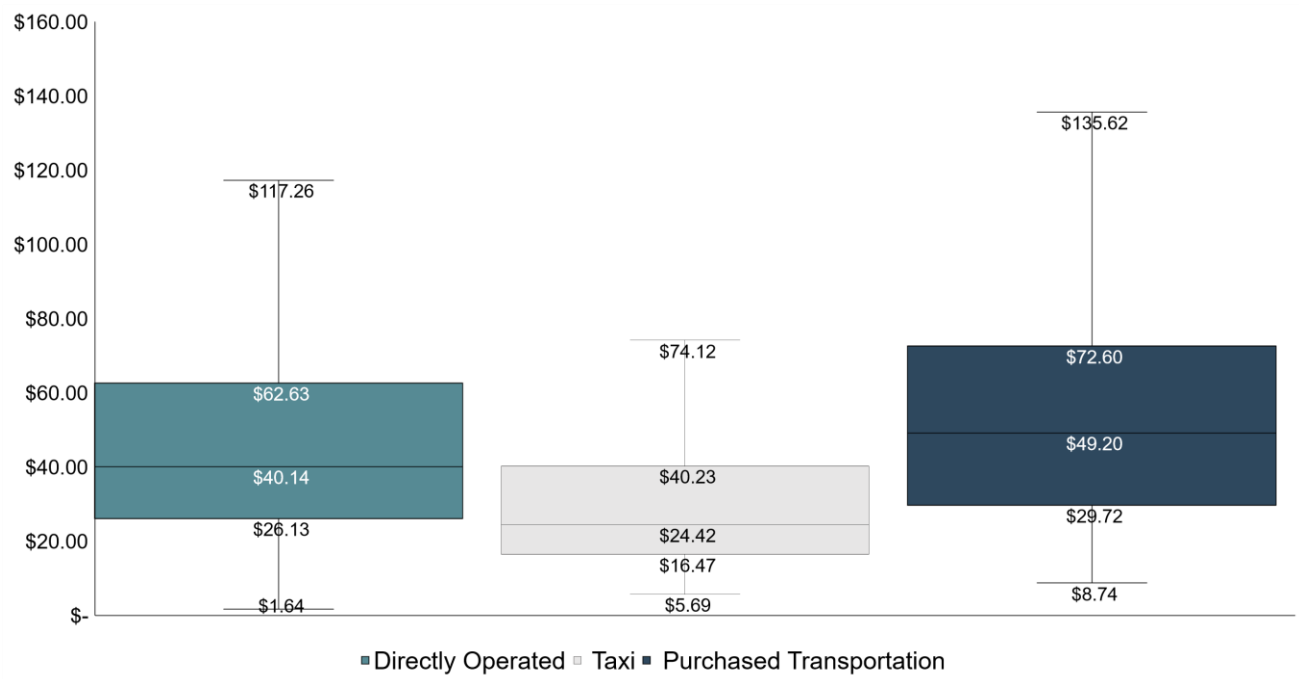


Exhibit 9. 2021 Cost per UPT for Demand Response Service Type

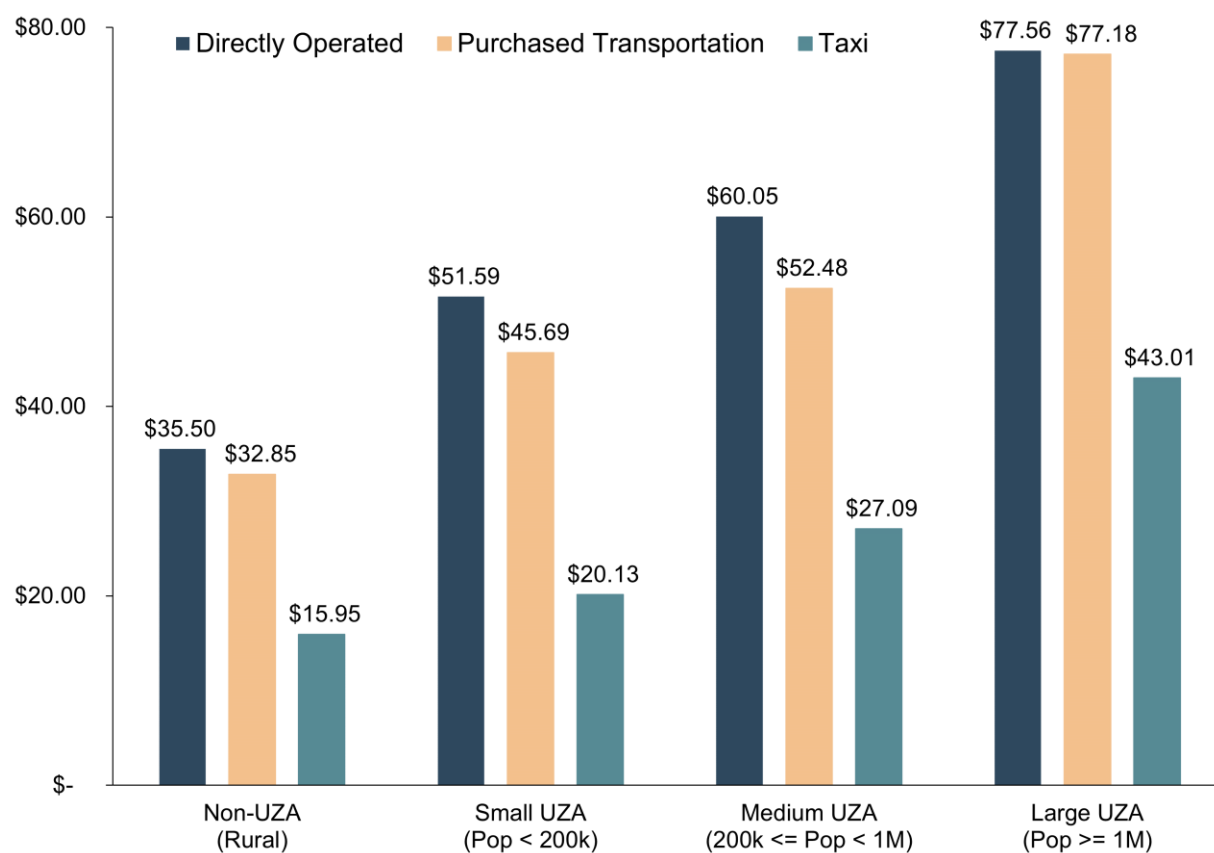


Exhibit 10. 2021 Cost per UPT by UZA Size and Type of Service

Exhibit 10 shows that the Operating Expense per Passenger Trip is higher for Directly Operated service in small, medium, and large UZAs. The trend is the same for rural areas as well (\$27.52 for Directly Operated to \$25.15 for Purchased Transportation).

Urban Transit Funding and Expenses

Rounding and Inflation

Rounding may lead to minor variations in total values from one exhibit to another within this analysis or may lead to instances where percentages do not add up to 100. Due to rounding, percent changes may not exactly match the values calculated using the formatted figures shown in the exhibits.

The NTD has adjusted all exhibits involving dollar amounts to 2021 constant dollar values, or dollar amounts adjusted in terms of constant purchasing power using the Consumer Price Index.

Operating Expense Funding Sources

Due to the COVID-19 public health emergency, Federal funding was the predominant funding source in 2021. Exhibit 13 displays the differences in funding sources between 2020 and 2021. On average, directly generated revenues, including passenger fares, fund 17.4 percent of public transit operating expenses for urban agencies in the U.S. Local and State sources together fund less than 50 percent of operating expenses, at 25.6 percent and 20.8 percent respectively. Federal Government sources fund the remaining 36.2 percent of total operating expenses.

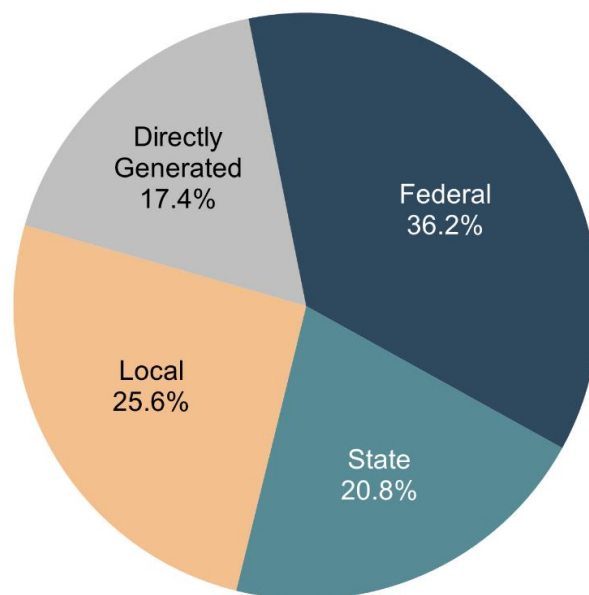


Exhibit 11. Funding Sources for Transit Operating Expenses

Public Health Emergency Funding and Transit

Beginning in RY 2020, transit agencies received funding from Federal programs such as the Coronavirus Aid, Relief and Economic Security Act (CARES), Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA), and the American Rescue Plan (ARP). In RY 2021, 852 transit agencies spent over 13.1 billion dollars from these programs, mostly on operating expenses. This represents a 95% increase in the amount of Federal funding expended from the three programs collectively compared to NTD Report Year 2020.

Expenditure Type	CARES	CRRSA	ARP	Extraordinary & Special Funds	Other Federal Funds	Public Health Emergency Funds % of Total
Expended on Operations	\$8,216 M	\$3,816 M	\$1,106 M	\$268 M	\$4,957 M	73.0%
Expended on Capital	\$128 M	\$13 M	\$93 M	\$625 M	\$7,100 M	10.8%

Exhibit 12. Public Health Emergency Federal Funding Sources as a Percentage of Total Federal Funds

Operating Expenses

Operating funds are the funds transit agencies receive from Federal, State, local, and directly generated sources that are applied to operating expenditures. Transit agencies report these funds in the year that they earn them, according to accrual accounting principles.

Transit agencies use Federal funds to cover some of the operating costs of providing transit service.

Operating funding sources are mostly made up of Federal, State, and local sources, as well as fare revenues.

Other sources include:

- Non-transportation funds,
- Subsidies from other sectors of operations, and
- Auxiliary funds such as advertising and concessions, charter service, freight tariffs.

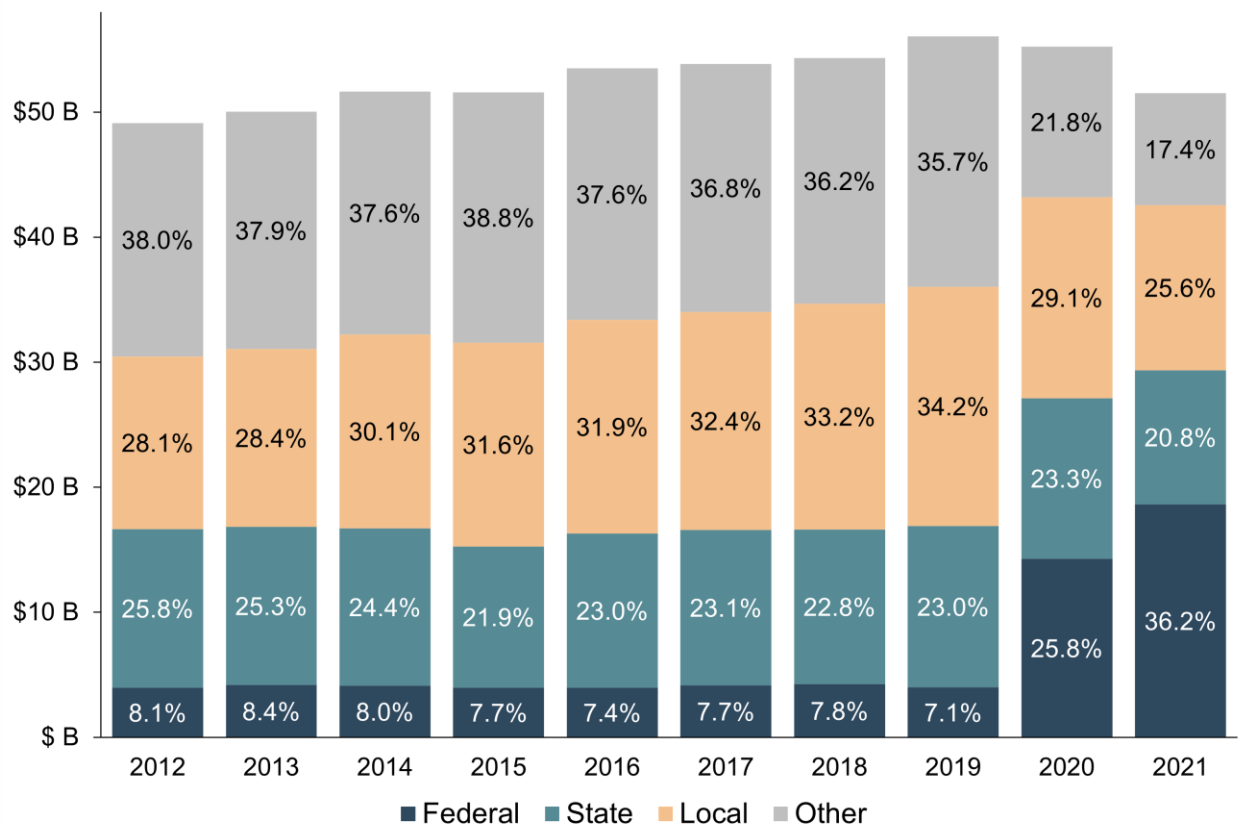


Exhibit 13. Total Operating Funding by Source

The total amount of operating funds applied to transit operations (using 2021 constant dollars) increased 5.6 percent over the past 10 years. The availability of these pandemic-related funding sources from CARES, CRRSA, and ARP has resulted in an increase of total Federal funding applied to transit operations of 371.6 percent in that period.

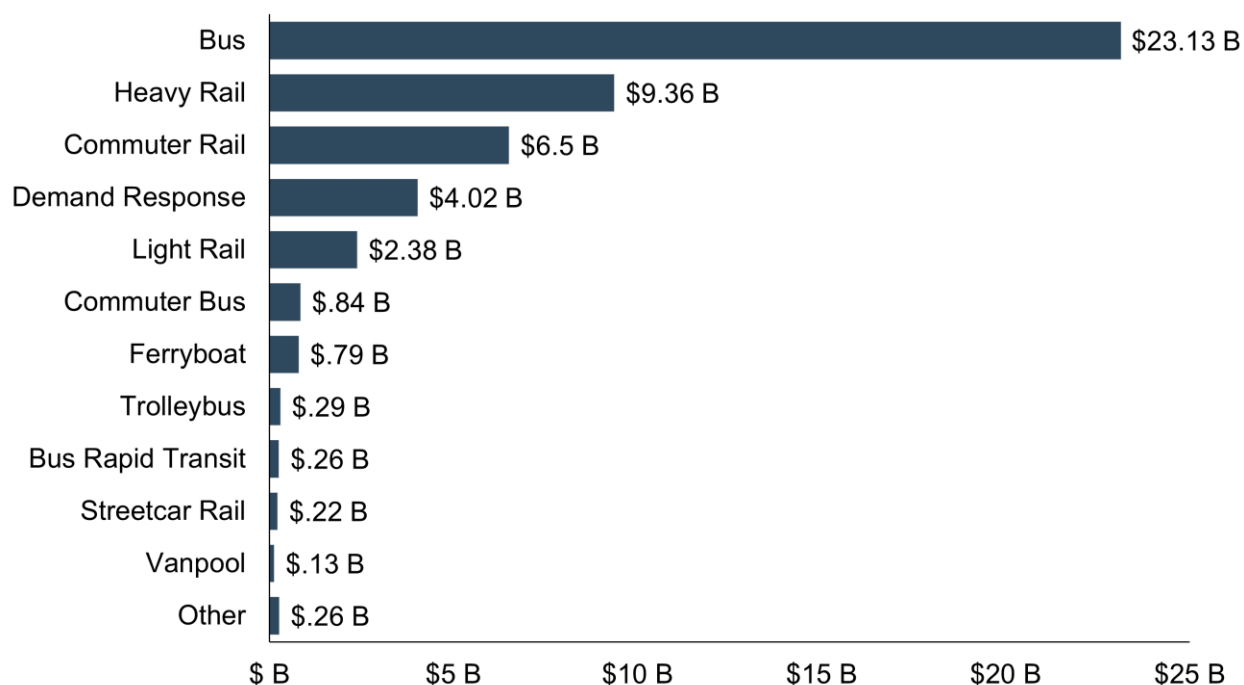


Exhibit 14. Total Operating Expenses by Mode (Billions)

Bus modes used the most significant portion of the industry's total operating expenses, with \$23.1 billion expended. Heavy Rail and Commuter Rail also expended large portions of the operating expenditures, \$9.4 billion and \$6.5 billion respectively.

Operating Expenses by Function and Object Class

Agencies must report finances according to the Uniform System of Accounts (USOA). The USOA contains the basic accounting structure required by Federal transit laws. Agencies must report operating expense data by mode, function, and object class. Functions refer to the activity performed, while object classes refer to the type of goods or services purchased.

Agencies reporting as Reduced Reporters are not required to classify their operating expenses by function and object; therefore, data from agencies reporting as Reduced Reporters are not included in Exhibits 14, 15, and 16.

Full Reporting agencies group their operating expenses in the four functions listed below:

- Vehicle Operations,
- Vehicle Maintenance,
- Facility Maintenance, and

- General Administration.

Funds used for Vehicle Operations account for 48.41 percent of all operating expenses.

Transit agencies are required to report operating expenses data into specific object classes. The NTD uses the following object classes for Full Reporters:

- Labor
 - Operators' Salaries and Wages
 - Operators' Paid Absences
 - Other Salaries and Wages
 - Other Paid Absences
 - Fringe Benefits
- Services
- Materials and Supplies
 - Fuel and Lubricants
 - Tires and Tubes
 - Other Materials and Supplies
- Utilities
- Casualty and Liability Costs
- Taxes
- Miscellaneous Expenses

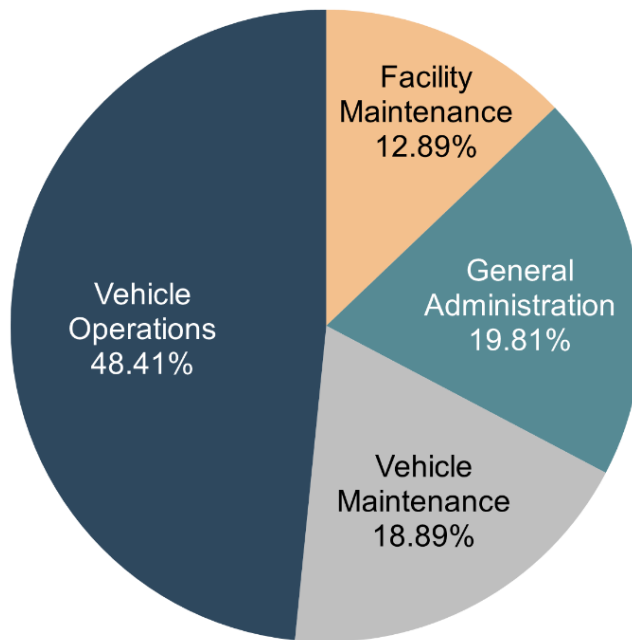
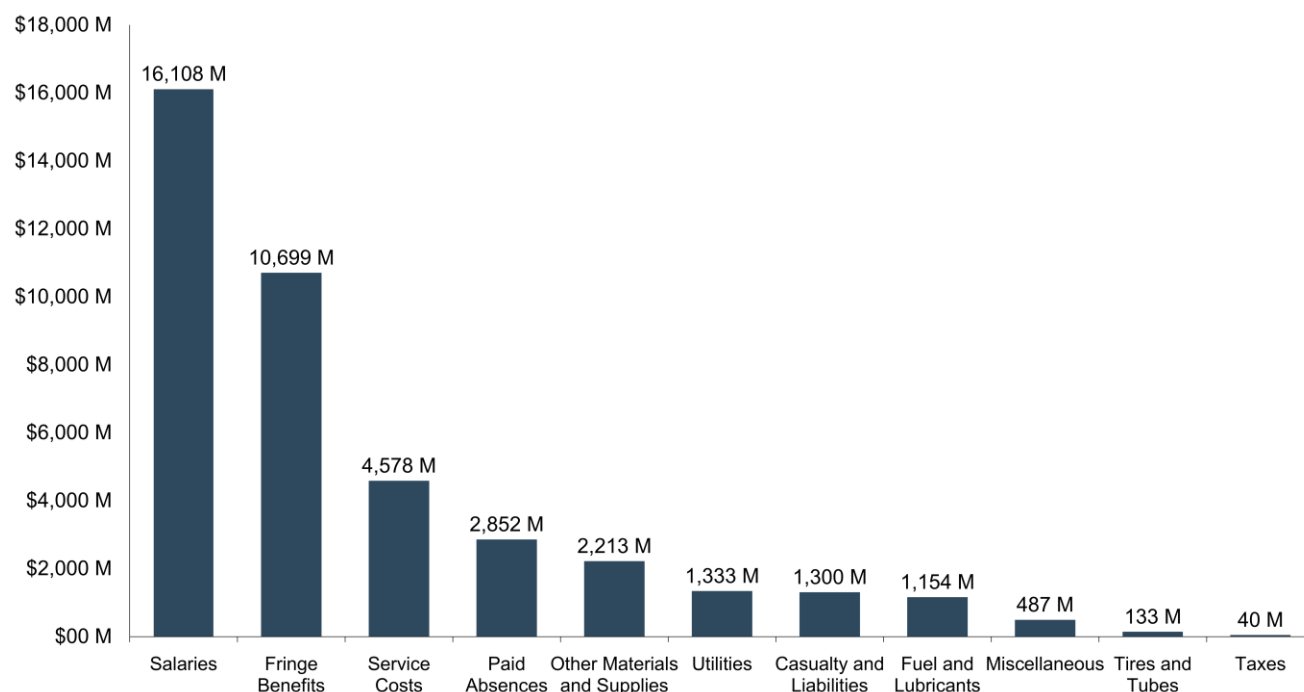


Exhibit 15. Operating Expenses by Function (Percentage)

Cost Function	Operating Expenses (Millions)
Vehicle Operations	\$ 22,944 M
Vehicle Maintenance	\$ 8,954 M
Facility Maintenance	\$ 6,108 M
General Administration	\$ 9,390 M
Total	\$ 47,396 M

Exhibit 16. Operating Expenses by Function

Salaries increased 2.9 percent in RY 2021 to \$16.1 billion, up from \$15.7 billion in RY 2020. During that same time, paid absences decreased less than one percent to \$2.85 billion, compared with \$2.88 billion in RY 2020. Please note that the data in Exhibit 17 only includes operating expenses reported for directly operated services.

Exhibit 17. Operating Expenses by Object Class

Capital Expense Funding Sources

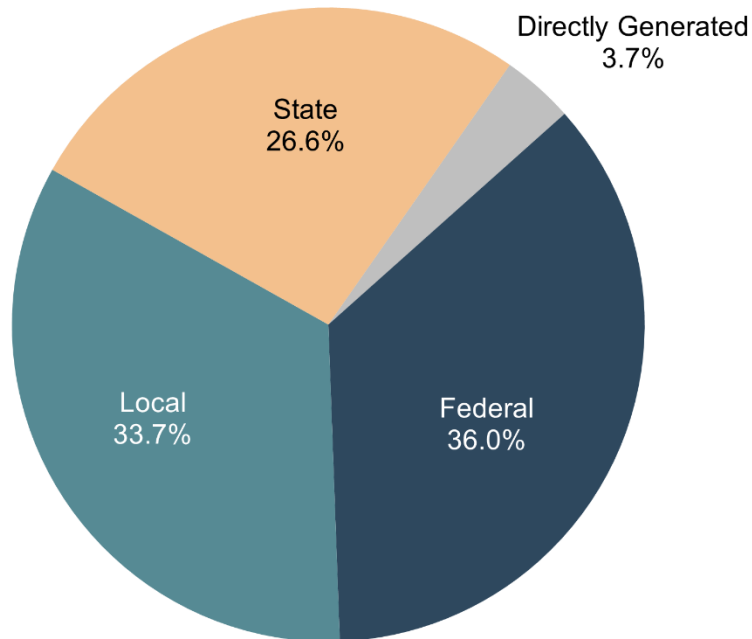


Exhibit 18. Funding Sources for Capital Expenses

Transit operators spend resources not only on operations but also on constructing, acquiring, and improving the systems and equipment used to operate transit service. These improvements are called Capital Expenses.

The funding support for Capital Expenses differs from operational expenditures. In 2021, about 36 percent of all capital funds came from Federal sources. Directly generated funds from transit agencies, including fares, account for about 3.7 percent of funds for capital expenditures. Local and State governments provide 60 percent of capital funding.

Capital Expenses

Transit agencies report Capital Expenses by project category. Agencies group their capital expenses into the categories listed below:

- Guideway
- Passenger stations
- Administrative buildings

- Maintenance facilities
- Revenue vehicles
- Service (non-revenue) vehicles
- Fare-revenue collection equipment
- Communication and information systems
- Other

Using 2021 constant dollars, the total capital funds applied to transit operations increased 20.9 percent over the past ten years.

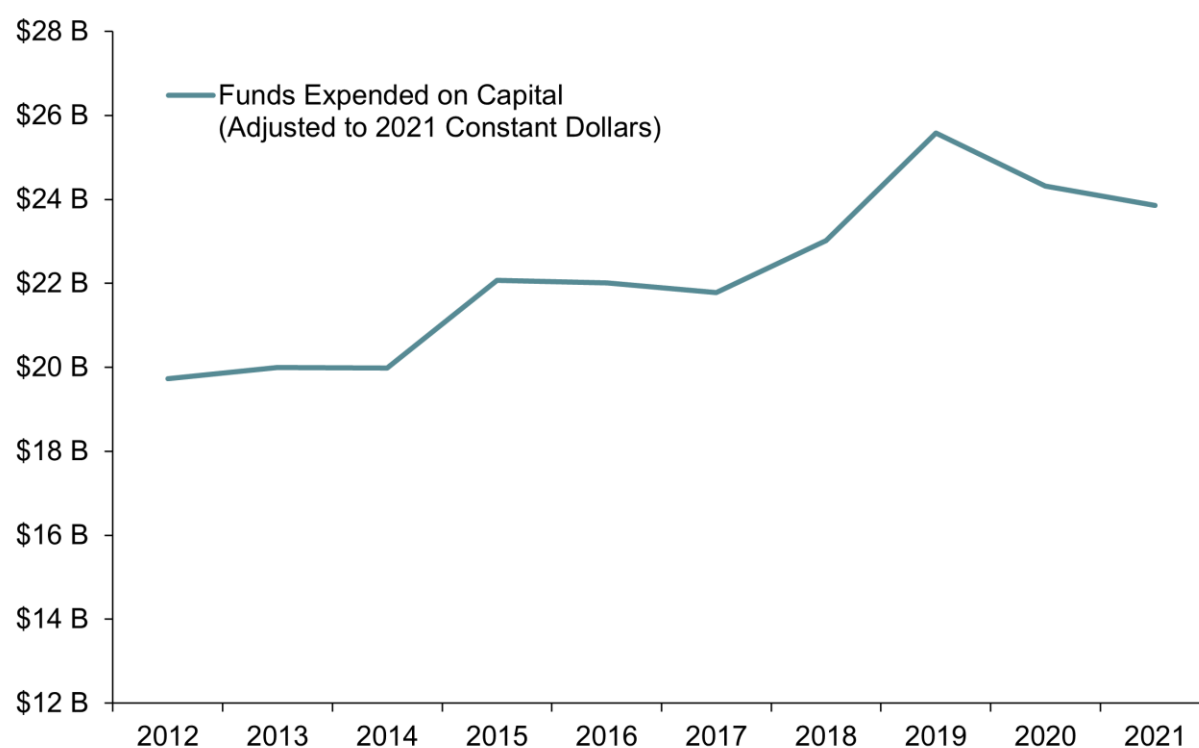


Exhibit 19. Total Capital Expenditures

Farebox Recovery

Transit agencies do not set passenger fares based on the cost of each trip. In 2021, for each dollar spent on operating costs per trip across all modes and all transit systems, 12.8 cents are recovered through fares. This is a 30 percent decrease from the 2020 fare recovery ratio of 18.4 cents per dollar spent on operating expenses, resulting from the COVID-19 public health emergency.

The fare box recovery ratio is the percentage of a trip's operating costs recovered through passenger fares. This ratio varies by mode. The low recovery ratios on Demand Response services are due to a lower average passengers per hour compared to other modes. The low ratios are also due to the ADA fare regulations, which prohibit ADA fares from being more than twice the cost of regular transit fares.

Commuter services such as Commuter Rail, Commuter Bus, and Vanpool have relatively high farebox recovery ratios. These services are often scheduled based on passenger demand and limited service or no service is scheduled during off-peak, low-passenger-demand periods. Vanpool transit also has a high ratio because the drivers are not paid (usually one of the passengers drives), and because Vanpool service has traditionally been funded by rider fees, with limited or no government subsidies.

In contrast, other fixed-route non-rail modes, light rail, and streetcar modes typically schedule service based on passenger demand during commuting hours and on policy guidelines during off-peak periods (midday, evenings, and weekends). The resulting farebox recovery ratios are, therefore, lower than other modes. Heavy Rail typically serves high-density travel corridors with passenger demand throughout the day, which yields relatively high farebox recovery ratios.

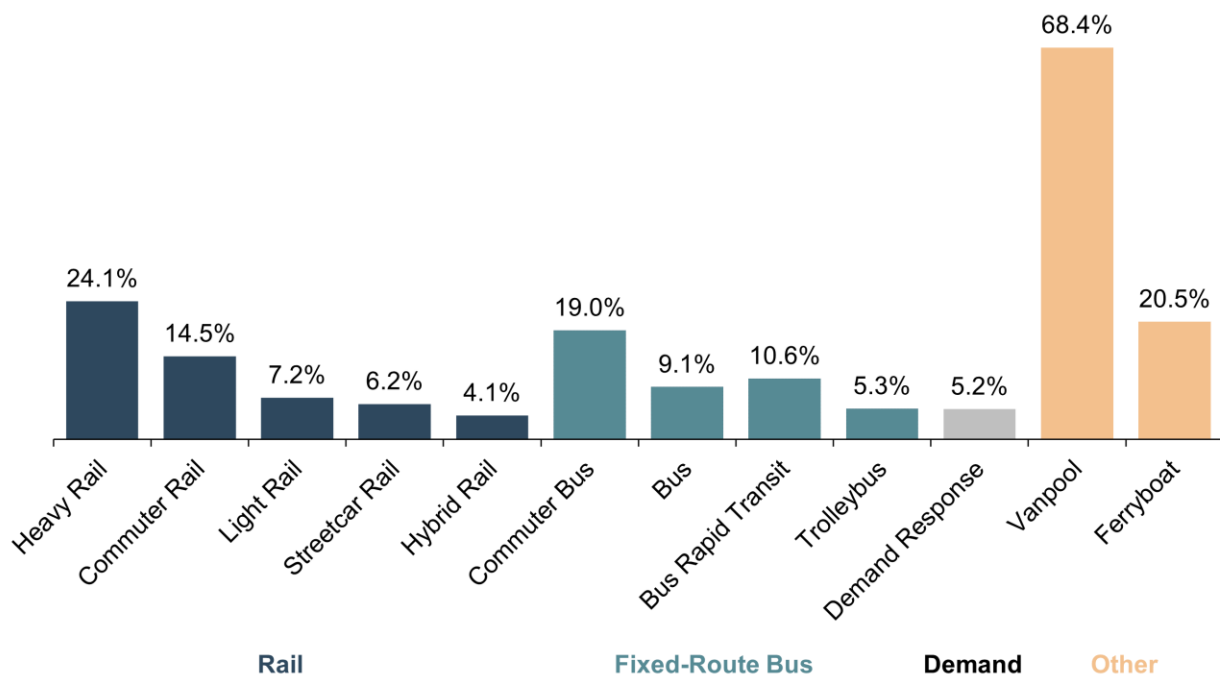


Exhibit 20. Fares as a Proportion of Operating Expenses

Total Federal Assistance Applied to Transit and Unlinked Passenger Trips

FTA uses Federal funds to offset operating, capital, and planning costs for agencies. Due to the COVID-19 public health emergency, ridership decreased 24.7 percent from 2020 and Federal assistance for transit (2021 constant dollars) increased 18.2 percent. Report Year 2021 fare revenues decreased by 30.4 percent due to the COVID-19 public health emergency. Federal funding increased 4.2 billion dollars to fill the funding deficit.

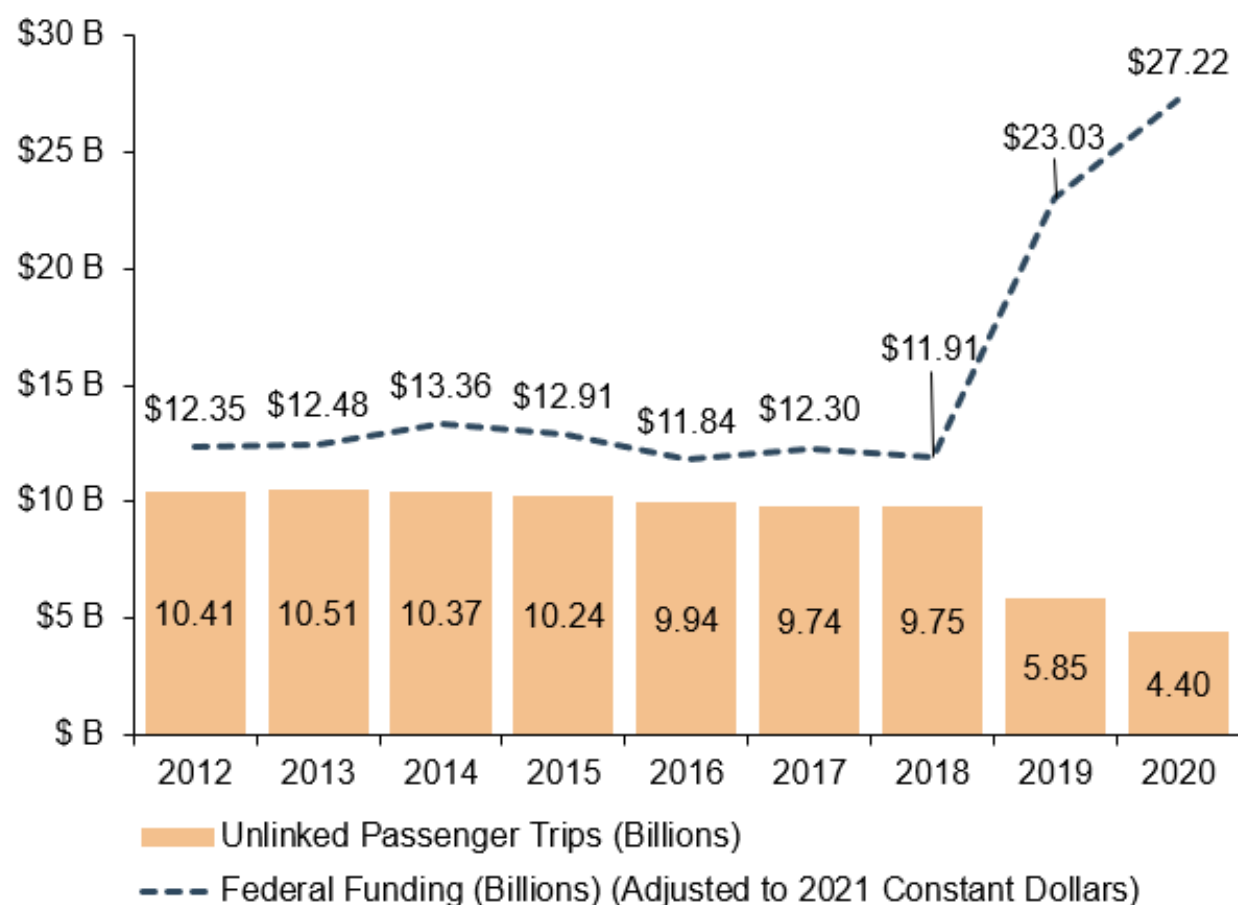


Exhibit 21. UPT and Funds Applied to Transit (2012–2021)

Small UZAs received the highest amount of Federal operating assistance per trip, an average of \$8.40 of Federal funding for every passenger carried.

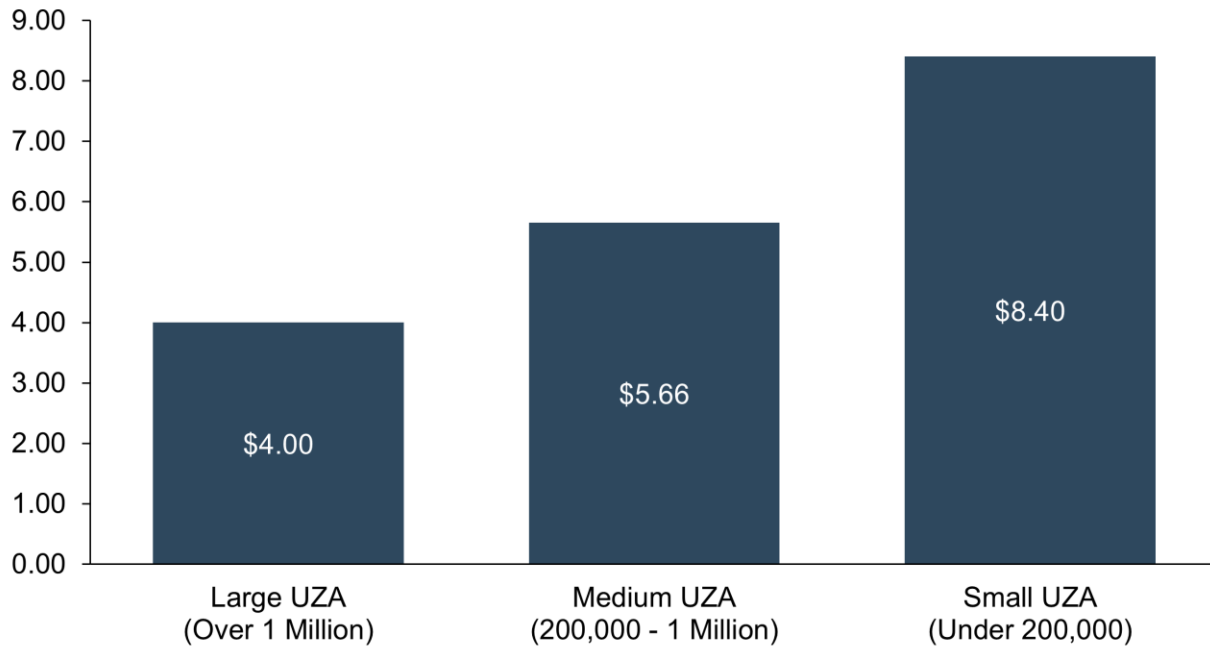


Exhibit 22. Federal Operating Assistance per Trip by UZA Size

Urban Transit Service Provided and Consumed

Service is provided and consumed differently for every transit mode. Service factors and expenses depend on the operating costs, travel demands, and passenger-carrying capacities of the different modes. These factors greatly affect the relative cost-effectiveness of the different modes. The exhibits in the following section reflect transit operating statistics across the most common modes of service.

Service Consumption

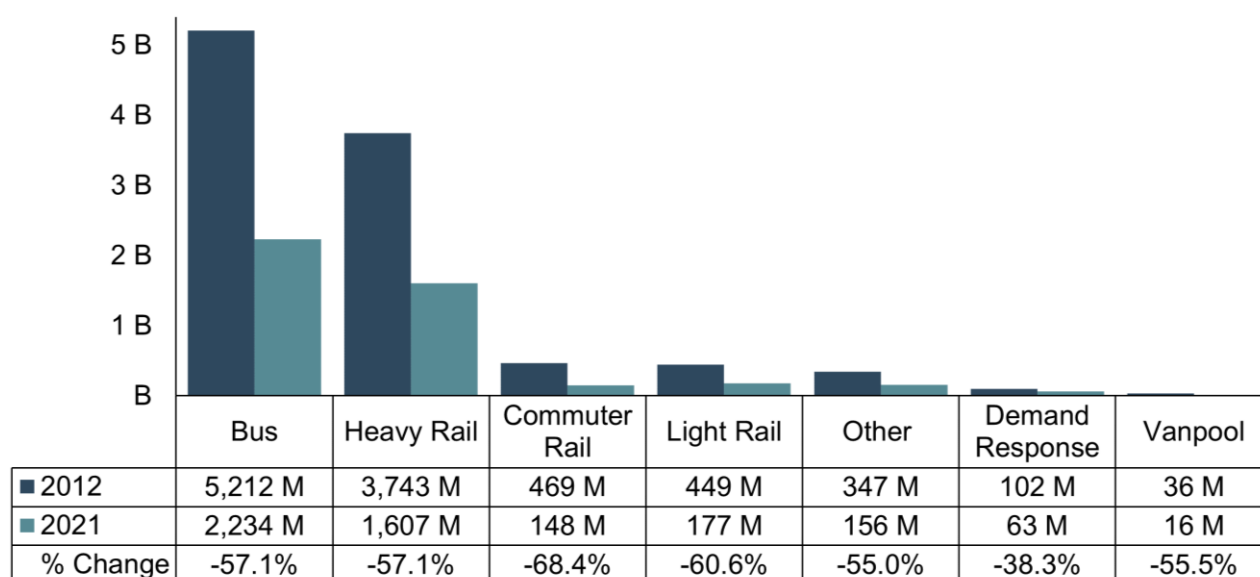


Exhibit 23. UPT, 10-Year Snapshot

Approximately 87.3 percent of urban agency public transit ridership occurs on Bus and Heavy Rail services. Total urban transit ridership across all modes decreased 57.5 percent over the 10-year period.

At the mode level, the ridership trends were more dramatic. Bus ridership for Urban Reporters declined 57.1 percent, while ridership on other modes also decreased. Over that 10-year period, the following modes experienced decreases in ridership:

- Bus: 57.1 percent
- Heavy Rail: 57.1 percent
- Commuter Rail: 68.4 percent
- Light Rail: 60.6 percent
- Other: 55.0 percent

- Demand Response: 38.3 percent
- Vanpool: 55.5 percent

Total urban transit ridership has decreased significantly from 2012 to 2021, going from about 10.36 billion passengers to 4.40 billion passengers. However, there were differences in the ridership trends between rail and non-rail services. Rail ridership decreased from 4.75 billion to 1.96 billion UPT. Non-rail ridership had a less dramatic decrease, from 5.61 billion to 2.44 billion UPT.

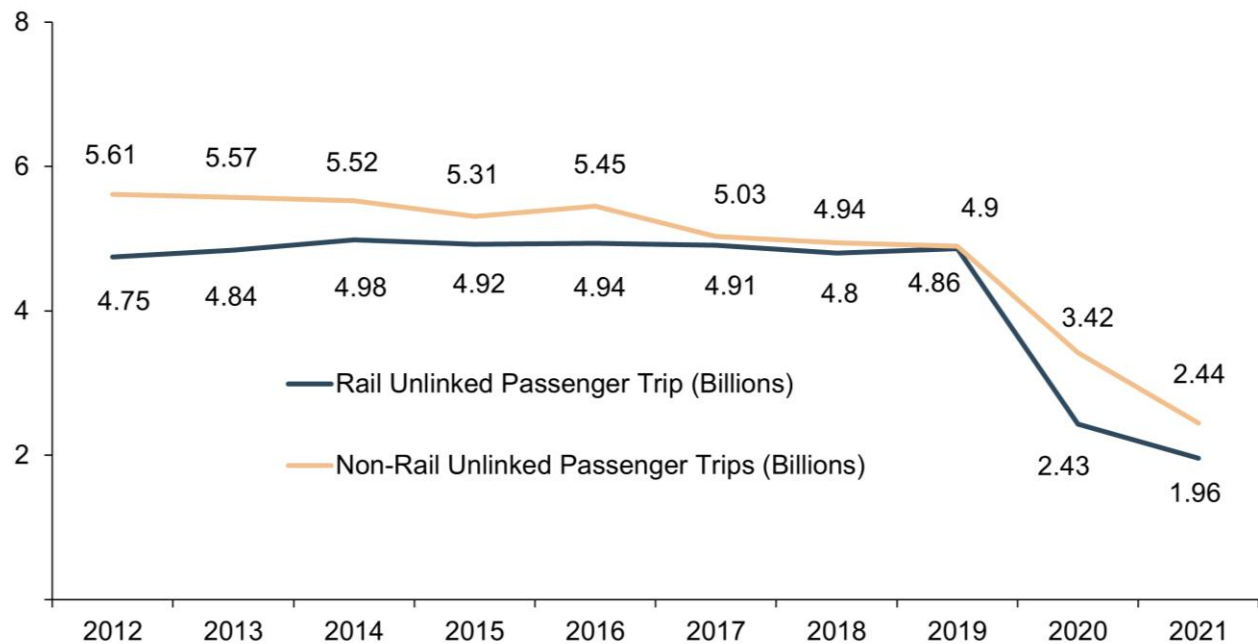


Exhibit 24. UPT, Time Series

Passenger Miles Traveled (PMT) is the total number of miles traveled by all passengers on a service. The total PMT in 2021 is 22.3 billion. Compared to 2012, there were about 32.5 billion fewer PMT, consistent with the trend for ridership (UPT). The average trip length decreased slightly from 5.34 miles to 5.13 miles for passengers using public transit. Please note that the data in Exhibit 25 only includes Full Reporters, as they are the only reporters that submit PMT data.

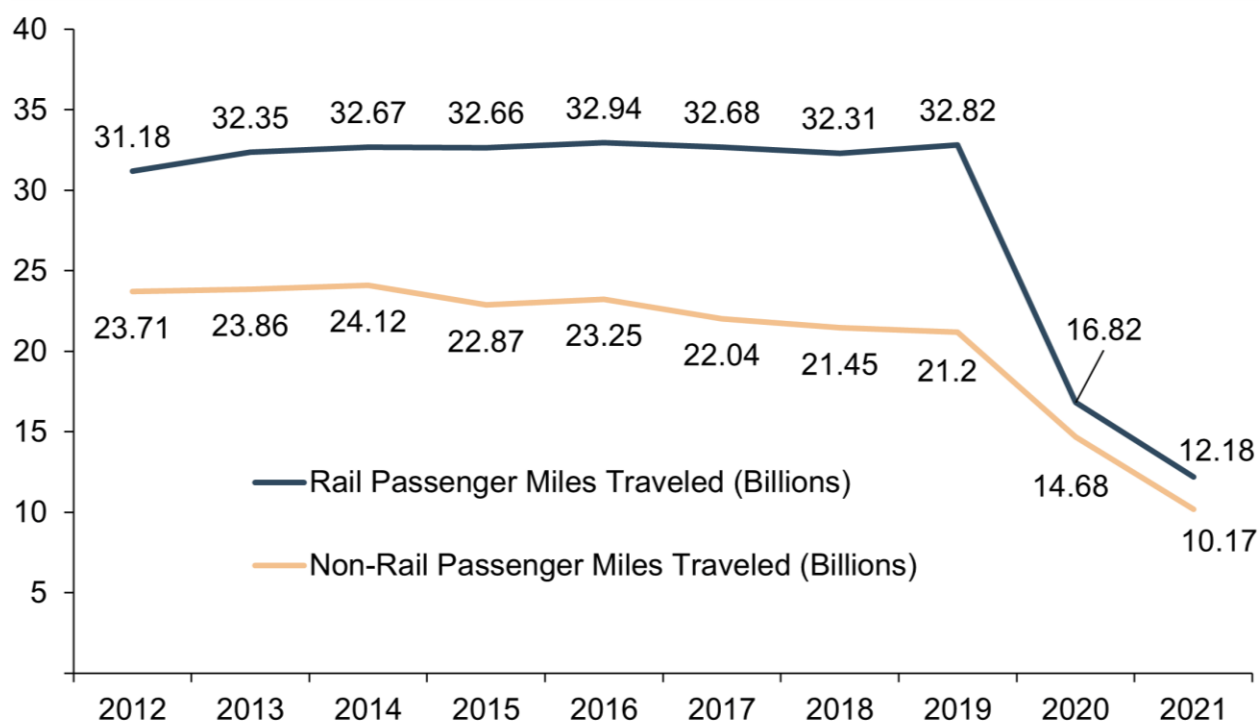


Exhibit 25. PMT, Time Series

Like UPT, most transit passenger miles occur on Bus and Heavy Rail modes. Over 69 percent of urban passenger miles are on Bus (36.4 percent) and Heavy Rail (33.1 percent) services. We also see that over 16.5 percent of total passenger miles are consumed on Commuter Rail services.

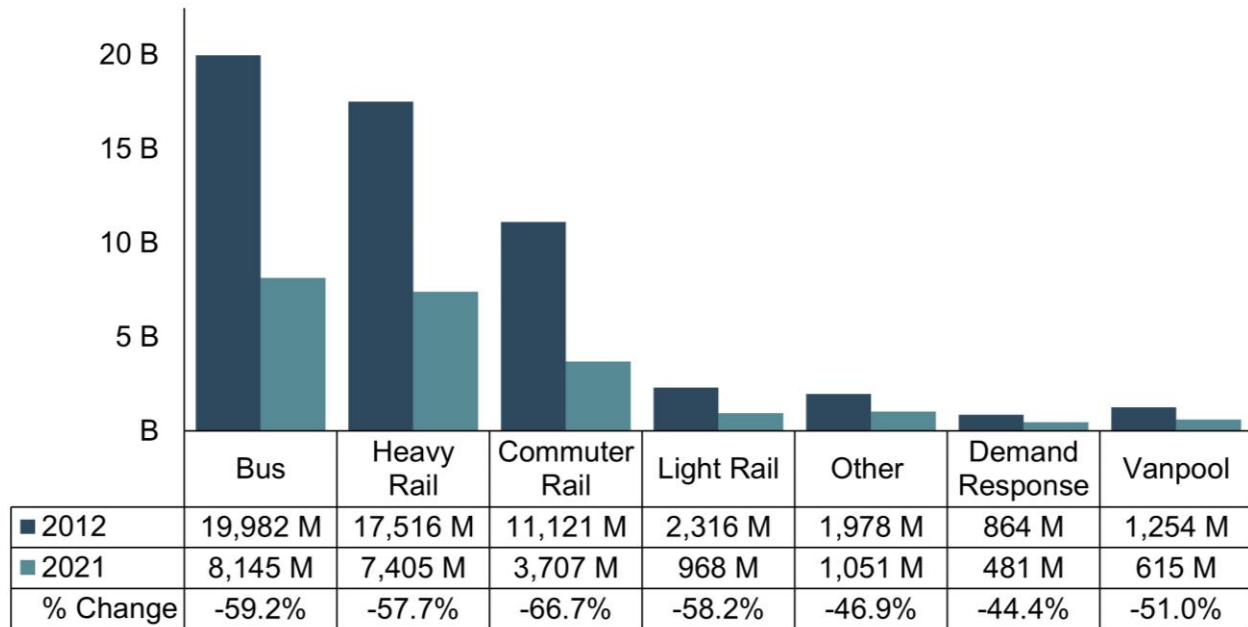


Exhibit 26. PMT, 10-Year Snapshot

There was a similar decrease in both urban transit ridership and PMT across this 10-year period, as PMT reflects a 59.3 percent decrease from 2012 to 2021. Demand Response was the mode with the smallest decline in PMT of 44.4 percent.

Service Consumed on Common Transit Modes (2012–2021)

The total number of UPT (individual boardings on public transit vehicles) in 2021 is 10.47 billion. Compared to 2012, the total number of UPT decreased by 6 billion trips, as shown in Exhibit 24. (Please note that Exhibit 27 includes data reported to both the urban and rural modules of the NTD.)

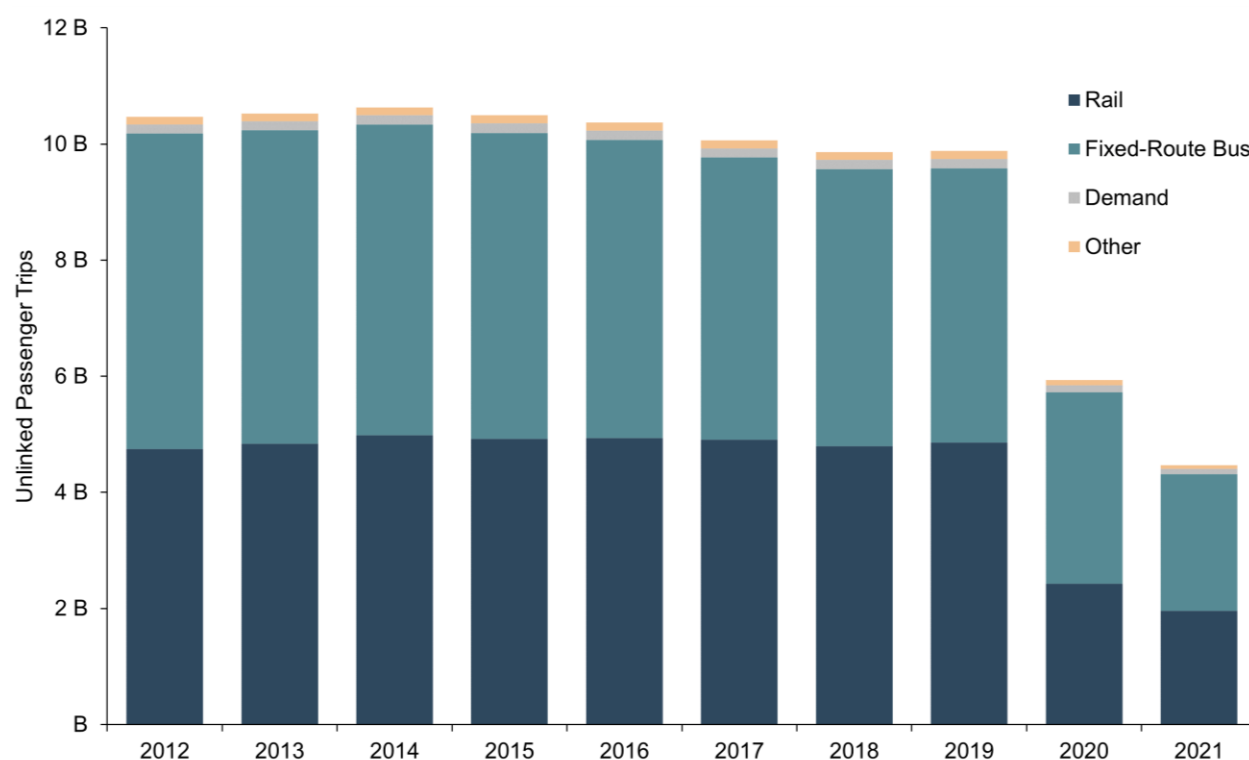


Exhibit 27. Annual National Ridership

Bus and Other Non-Rail Modes

The Bus and Demand Response modes carry the most non-rail passengers. Non-rail modes are usually street running but also include unique modes such as Aerial Tramway and Ferryboat. Some of these unique modes are discussed at the end of this document.

Bus Ridership

The Bus mode accounts for the most service consumed by passengers of any mode. This mode uses rubber-tired passenger vehicles operating on fixed routes and schedules over roadways. Vehicles are powered by a motor and fuel or electricity stored onboard the vehicle. Other fixed-route bus modes include Commuter Bus, Bus Rapid Transit, and Trolleybus. These modes are grouped together as “Fixed-Route Bus” in Exhibit 28, which captures UPT reported by urban reporters. Fixed-route bus modes account for 2.3 billion UPT, down from 5.3 billion in 2012.

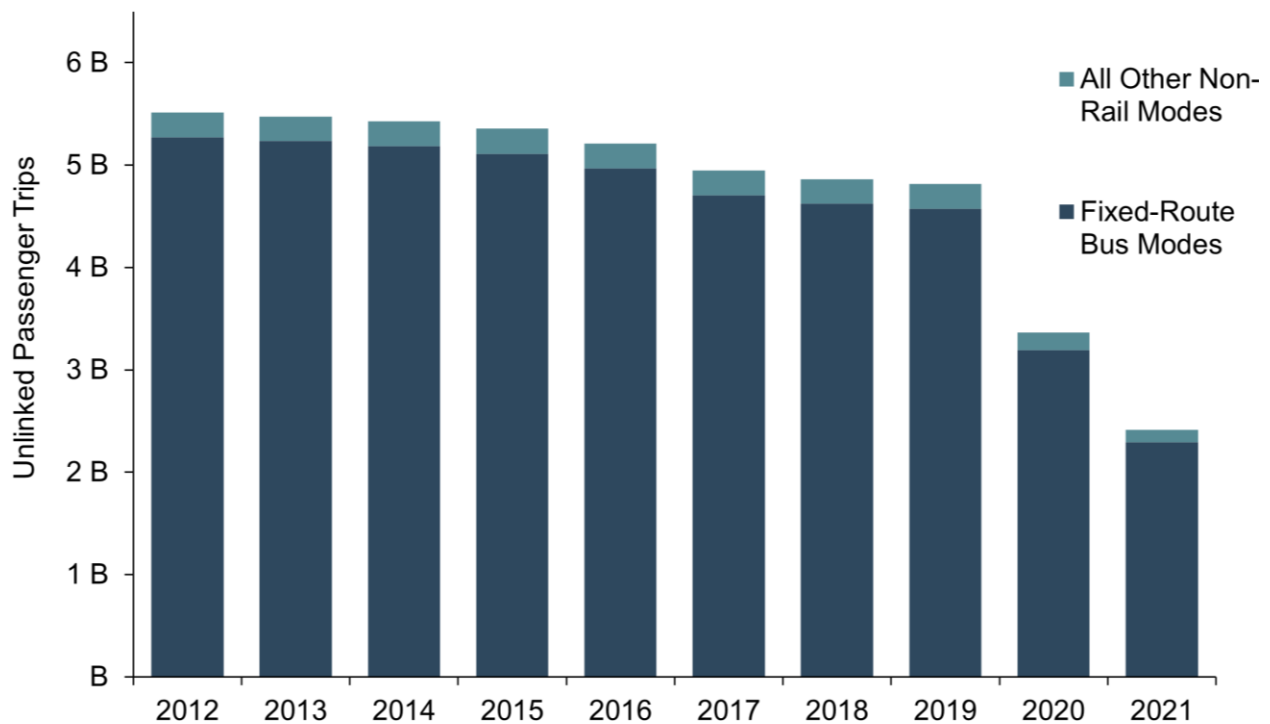


Exhibit 28. Decrease in Fixed-Route Bus Ridership (2012–2021)

Rail Modes

Exhibit 29 shows that, as of FY 2021, rail modes account for 1.96 billion UPT — down from 4.75 billion in 2012. Rail's share of national ridership decreased from 45.3 percent in 2012 to 43.8 percent in 2021.

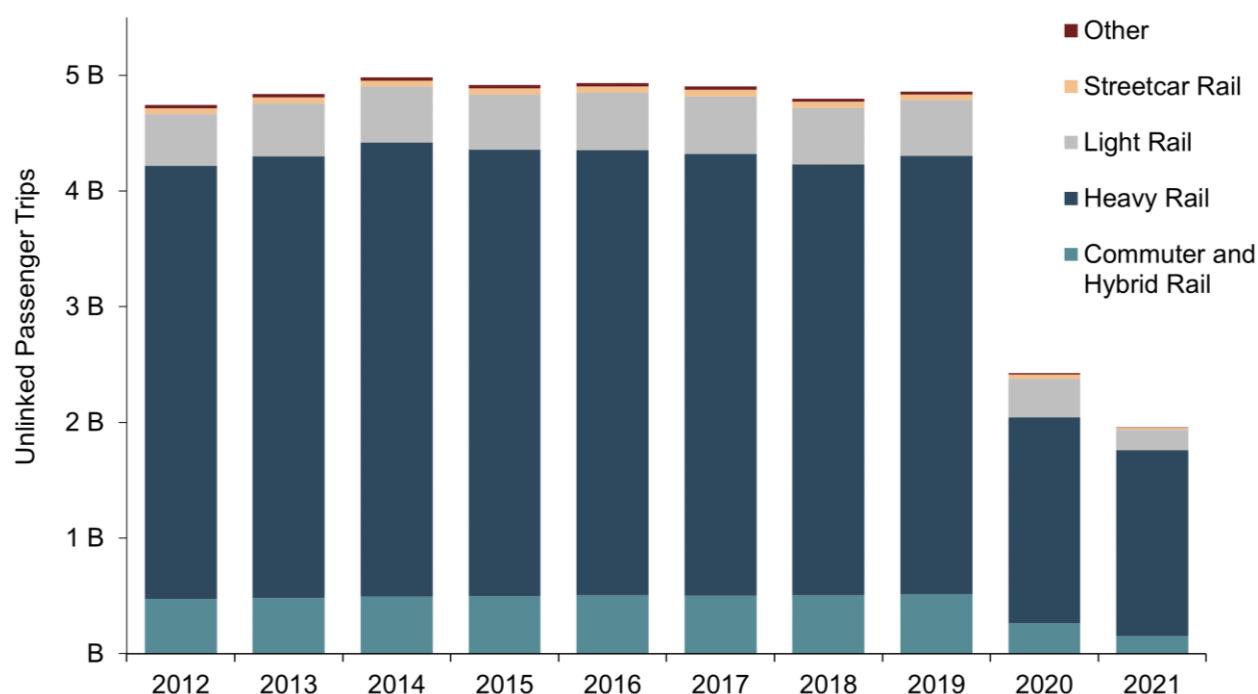


Exhibit 29. National Total Rail Ridership Annual Variation Driven by Heavy Rail (2012–2021)

The year-to-year variation in rail ridership is driven by the Heavy Rail mode. While Light Rail and Commuter Rail modes rarely exceeded +/-1 percent annual variation in UPT (2020 and 2021 being the exception), Heavy Rail exhibited consistent increases from 2012–2014 of over 2 percent. The annual total Heavy Rail UPT in 2020 decreased 51.3 percent (or around 2.012 billion UPT). Heavy Rail UPT continued to decrease in 2021 another 9.6 percent (or 171.7 million UPT).

Heavy Rail

Heavy Rail mode — such as subway systems — is an electric railway with the capacity for a heavy volume of traffic. Heavy Rail is characterized by:

- High-speed and rapid-acceleration passenger railcars typically operating multi-car trains,
- Separate rights-of-way (ROW) from which all other vehicular and foot traffic are excluded,
- Sophisticated signaling, and
- High platform loading.

Heavy Rail mode makes up about 78.5 percent of all rail mode ridership reported to the NTD from 2011–2019. In 2021, Heavy Rail still accounted for 82.1 percent of total rail ridership, and it remains the primary mode of passenger conveyance by rail.

Light Rail

Light Rail mode operates via electric railway with a light volume traffic capacity compared to Heavy Rail. It is characterized by:

- Passenger railcars operating singly (or in short, usually two-car, trains) on fixed rails in shared or exclusive ROW,
- Low or high platform loading, and
- Vehicle power drawn from an overhead electric line via a trolley or a pantograph.

Light Rail makes up about 9 percent of national rail ridership as of FY 2021. There are more Light Rail modes in operation in the U.S. than Heavy Rail modes, as depicted in Exhibit 30. In recent years there has also been an increase in use of the Streetcar mode, a variant of the Light Rail mode. Streetcar mode usually operates with one- or two-car passenger trains and may use antique railcars or replicas, or modern vehicles.

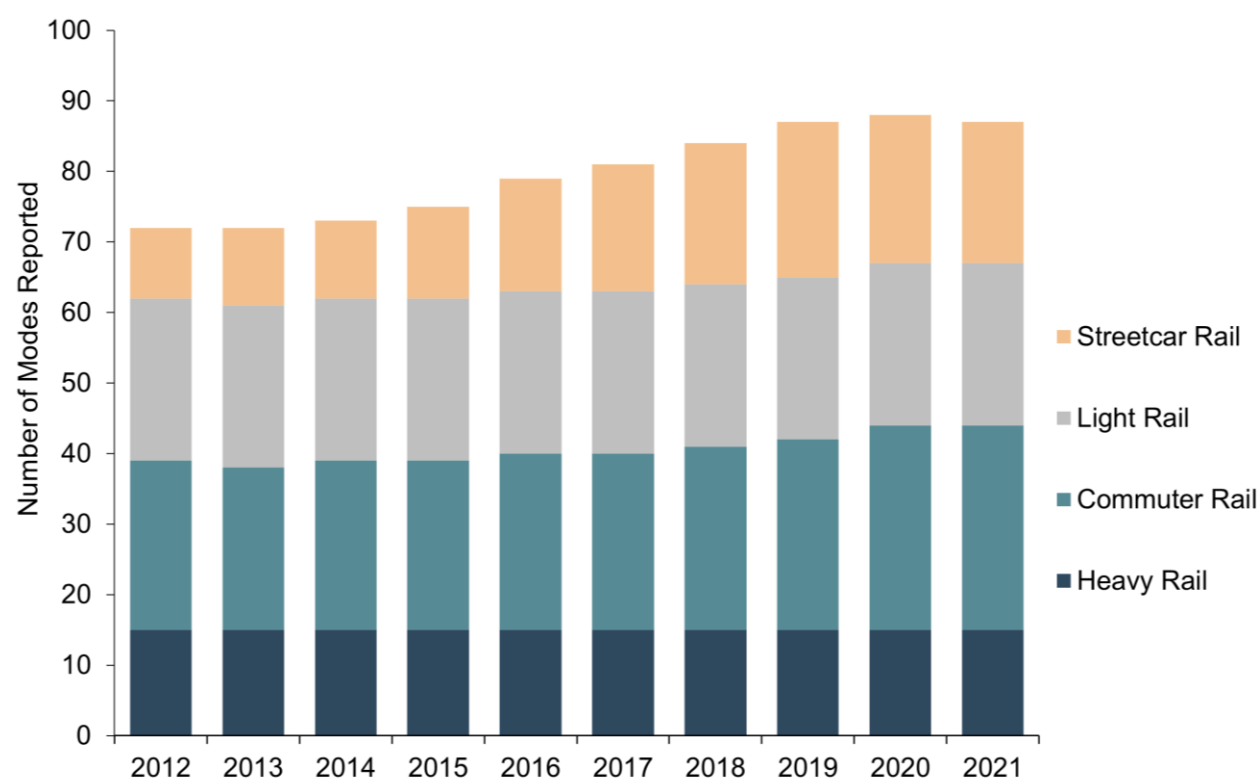


Exhibit 30. Light Rail and Streetcars Are More Prevalent Over Time

Commuter Rail

Commuter Rail makes up 7.6 percent of the national rail ridership. Commuter Rail connects outlying areas to central areas of a city. On average, in 2021 a Commuter Rail rider traveled 25.0 miles, while a Heavy Rail mode rider traveled 4.6 miles. Exhibits 30 and 31 compare the two modes in terms of passengers served and miles traveled.

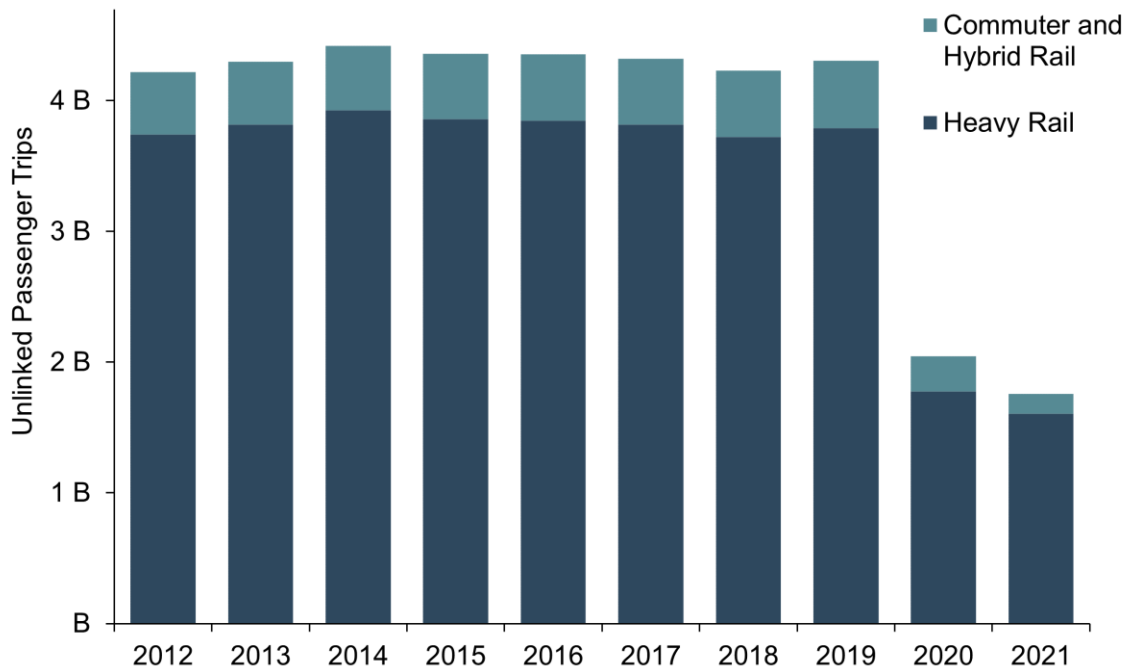


Exhibit 31. Heavy Rail Has Much Higher Annual Ridership than Commuter Rail (2012–2021)

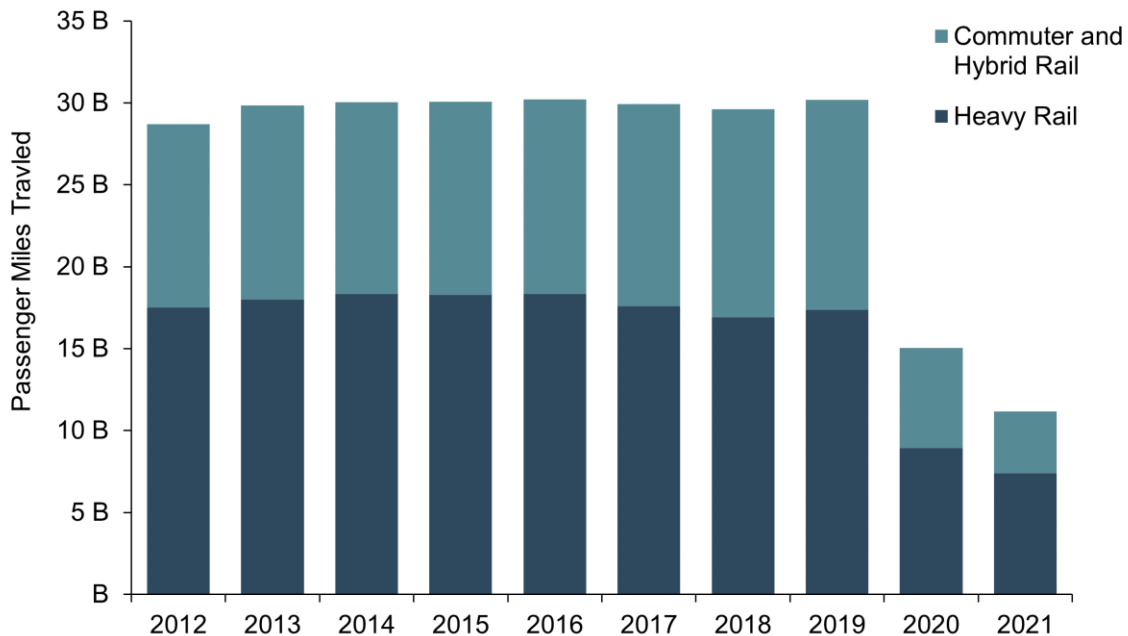


Exhibit 32. Heavy Rail Contributes More PMT than Commuter Rail and Hybrid Rail Combined (2012–2021)

Service Characteristics

Average Revenue Speed

Average Revenue Speed reflects the average speed at which vehicles are traveling while in revenue service carrying passengers. This is calculated by dividing Total Actual VRM by Total Actual VRH.

The exhibit below shows that the two modes with the highest average revenue speed are Vanpool (41.7) and Commuter Rail (29.6). These high speeds reflect long-distance travel with widely spaced stops. The lower speeds on modes such as Streetcar Rail, Bus, Bus Rapid Transit, and Trolleybus reflect closely spaced stops on city streets.

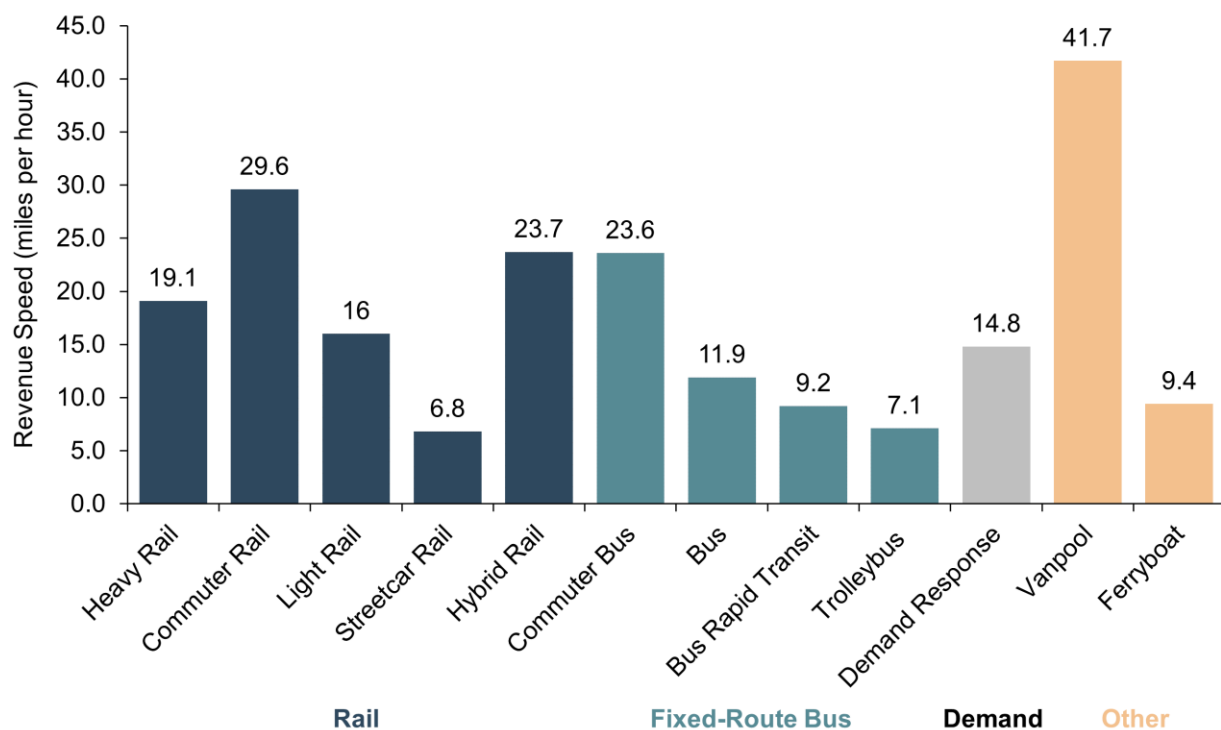


Exhibit 33. 2021 Average Revenue Speed

Average Trip Length

Average Trip Length is the average distance traveled per trip by a single passenger. This average is calculated by dividing the total PMT by the total UPT.

The exhibit below shows that the three urban transit modes with the longest average trip length are Vanpool (39.0 miles), Commuter Rail (25.0 miles), and Commuter Bus (24.6 miles). All three of these services focus on daily commuting over long distances from suburban areas to central cities. In contrast, the fixed-route bus and rail modes typically serving travel within central cities have much shorter average trip lengths.

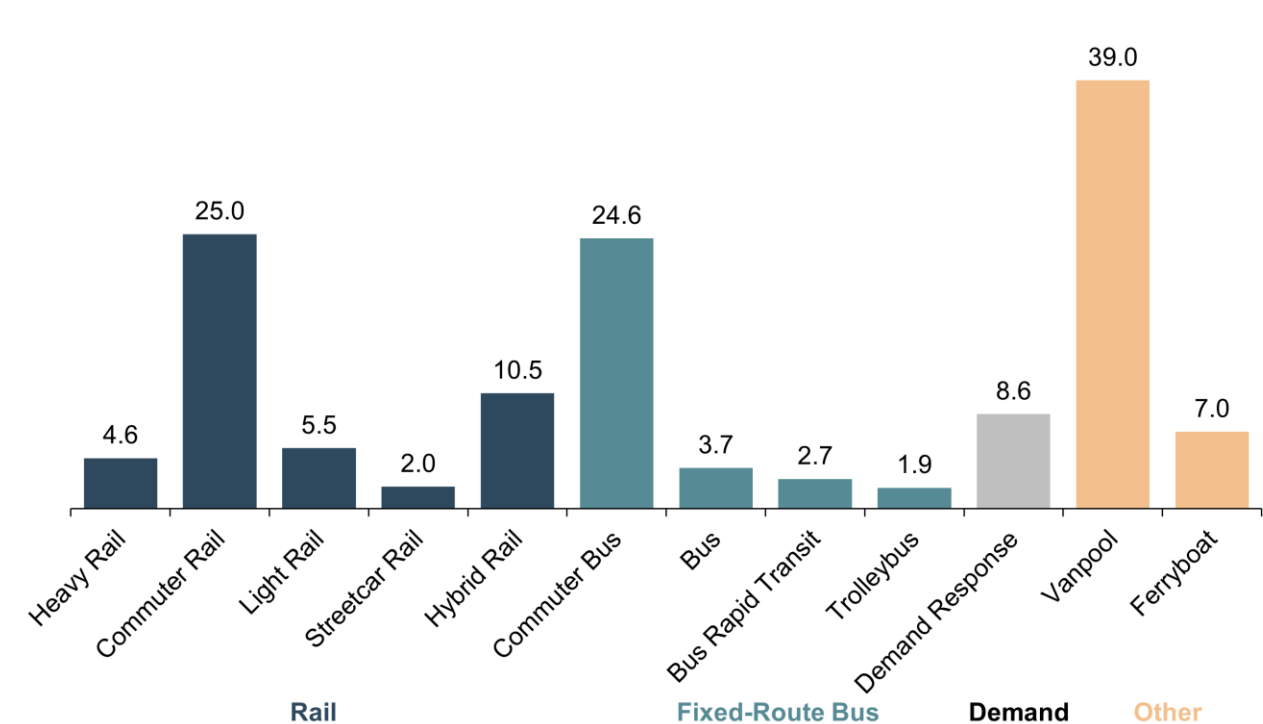


Exhibit 34. 2021 Average Trip Length

Average Vehicle Capacity

Average Vehicle Capacity is the number of passengers an average transit vehicle could potentially carry at one time. This figure includes both seating and standing capacity. The NTD calculates this figure by adding the seating and standing capacity numbers together and dividing that total by the number of active vehicles.

The exhibit below illustrates that the Ferryboat mode has a much larger capacity than other modes (628.3 passengers). Rail modes have the next largest vehicle capacity and are typically used on high-density travel corridors (rail vehicle capacity is shown as capacity per passenger car, not per train). Fixed-route bus modes have moderate vehicle capacities and typically serve moderate-density travel markets. The demand response and vanpool modes have relatively low vehicle capacities and typically serve point-to-point travel markets with low ridership.

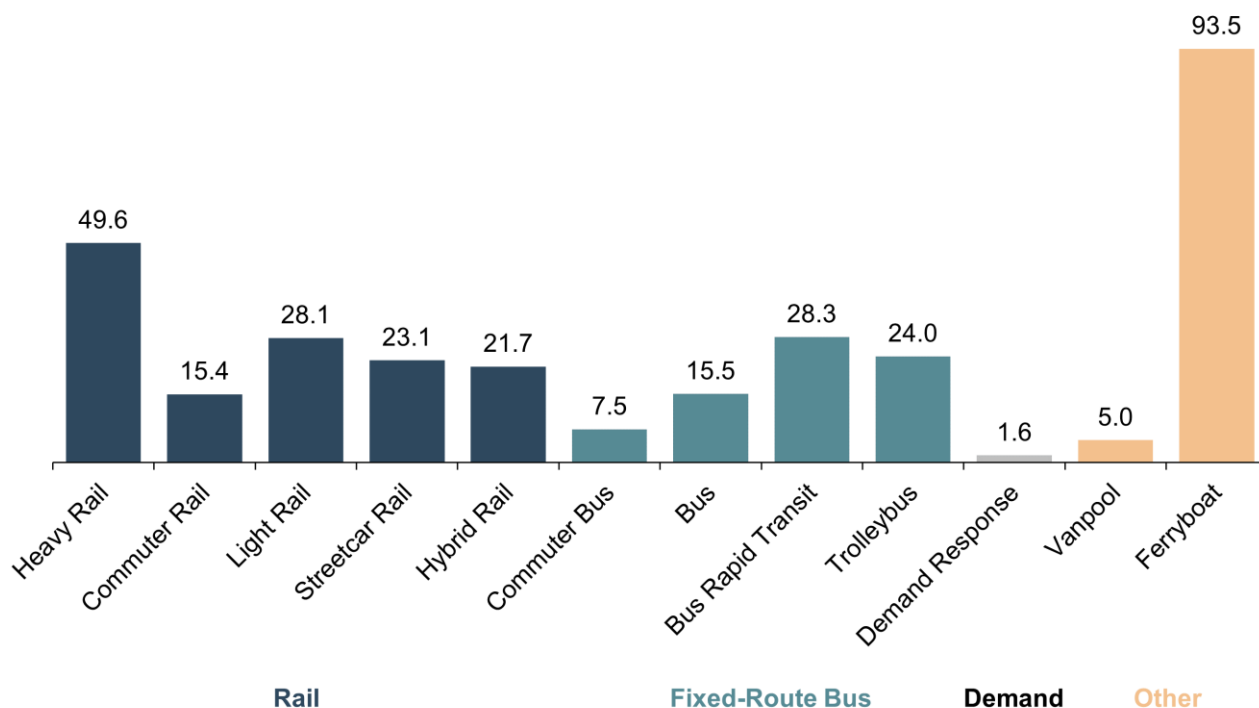


Exhibit 35. 2021 Average Vehicle Capacity

Service Effectiveness

One way to look at service effectiveness is to calculate Passengers per Hour (PPH). This reflects how many passengers per vehicle are riding during a single hour of revenue service. PPH is calculated by dividing UPT by VRH.

The exhibit below shows that urban Ferryboat services report the highest number of PPH (93.5 PPH), followed by Heavy Rail (49.6 PPH). Demand Response services reported significantly lower passengers per hour (1.6 PPH). These results are consistent with vehicle capacities of the different modes shown in the exhibit above.

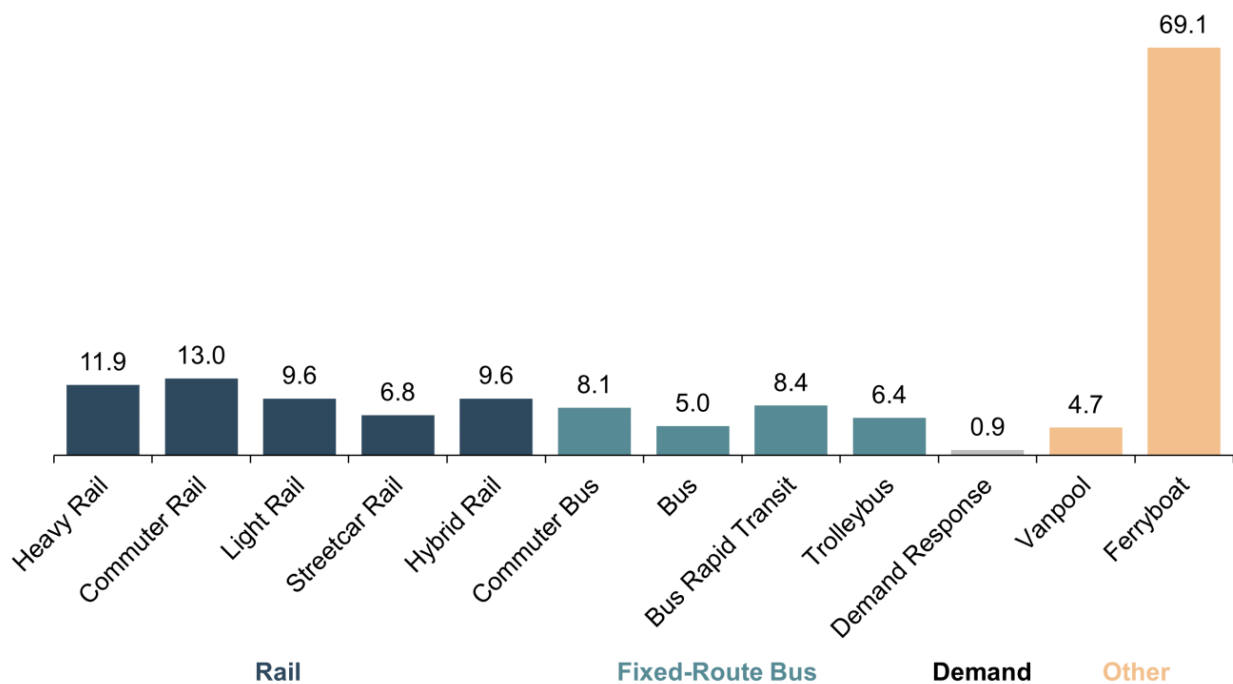


Exhibit 36. 2021 Passengers per Hour

Another way to compare service effectiveness is to examine the average number of passengers on board (this is commonly referred to in the NTD as Load Factor). **Average passengers on board** are calculated by dividing PMT by VRM.

Rail modes typically carry more passengers than fixed-route Bus modes because rail modes have higher vehicle capacities and typically serve high-density travel corridors. Likewise, fixed-route Bus modes carry more passengers than Demand Response and Vanpool modes because of their higher vehicle capacities and because they typically serve medium-density travel markets. Ferryboat services carried far more passengers at one time (69.1 passengers) than any of the other modes.

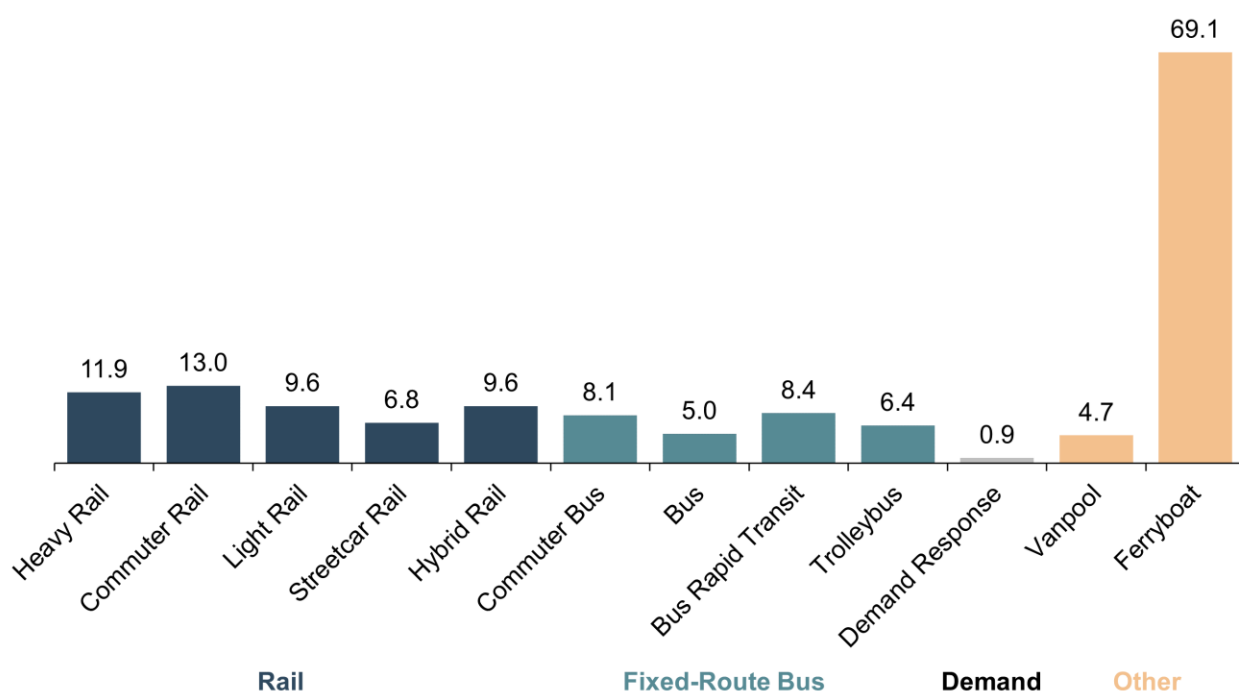


Exhibit 37. 2021 Average Passengers on Board

Vanpool services fill the highest percentage of the seating capacity (50.5 percent), mainly because they typically operate only one round trip per day. Streetcar Rail also has a high percentage of seating capacity, primarily because many railcars are designed to maximize standing capacity.

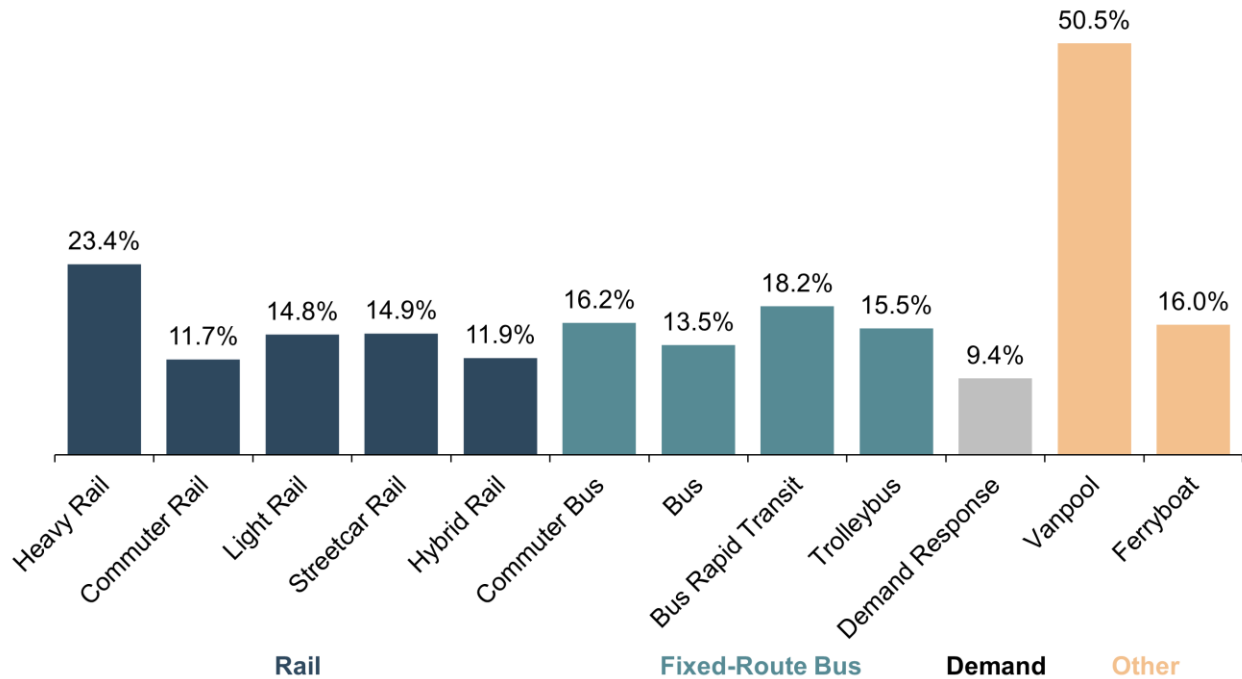


Exhibit 38. Average Passengers on Board as a Percent of Vehicle Seating Capacity

Cost Effectiveness

UPT is one way to measure service consumed by the riding public. It gives equal weight to passengers making short and long trips. PMT, however, gives more weight to longer trips than shorter trips.

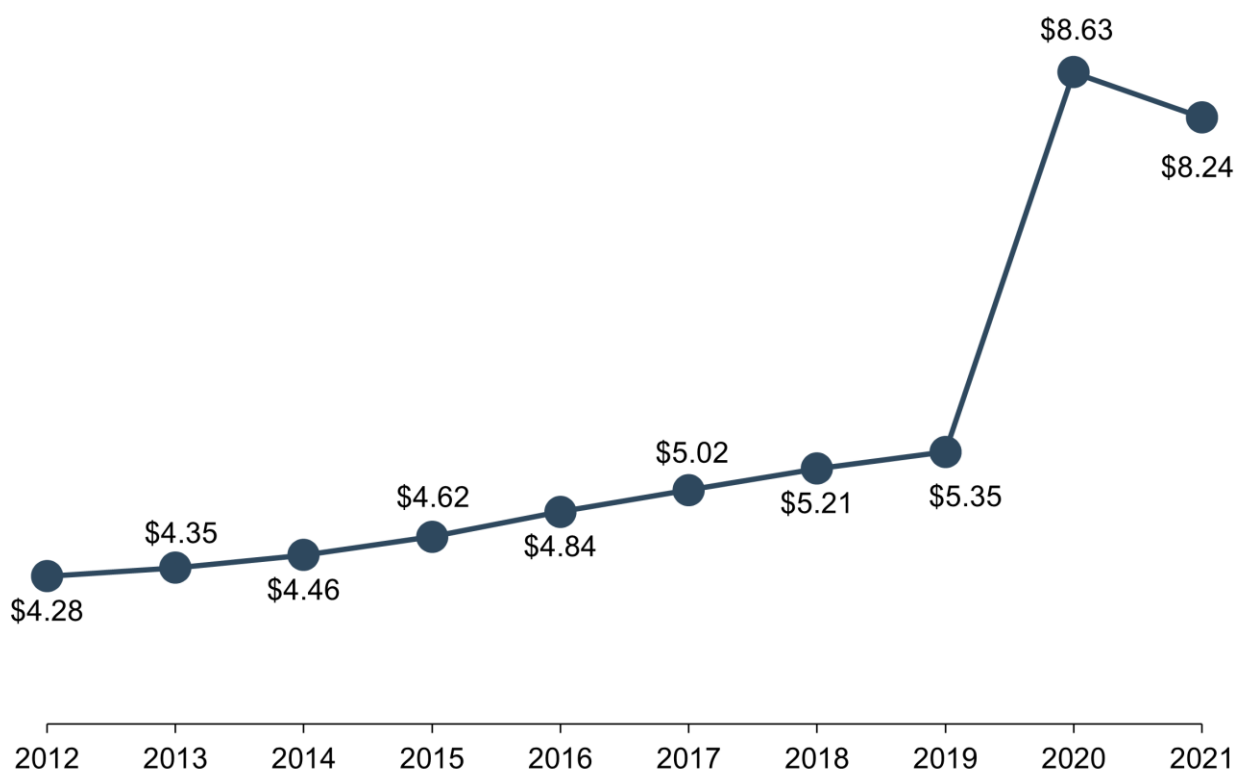


Exhibit 39. Total Operating Expenses per UPT

When you consider these two different measures of service consumption, the respective average operating cost by mode is sometimes markedly different. The cost per UPT on Commuter Rail service (\$43.90), for example, is one of highest rates among the fixed-route bus and rail modes. However, the average trip length of 25 miles for Commuter Rail is high compared to the other fixed-route bus and rail modes (Exhibit 34). Therefore, the cost per PMT (\$1.75) is one of lowest rates among the fixed-route bus and rail modes.

The opposite is true of Bus, which had relatively low cost per UPT (\$10.36). However, it has a relatively low average trip length (3.7 miles) and thus a relatively higher cost per PMT (\$2.84).

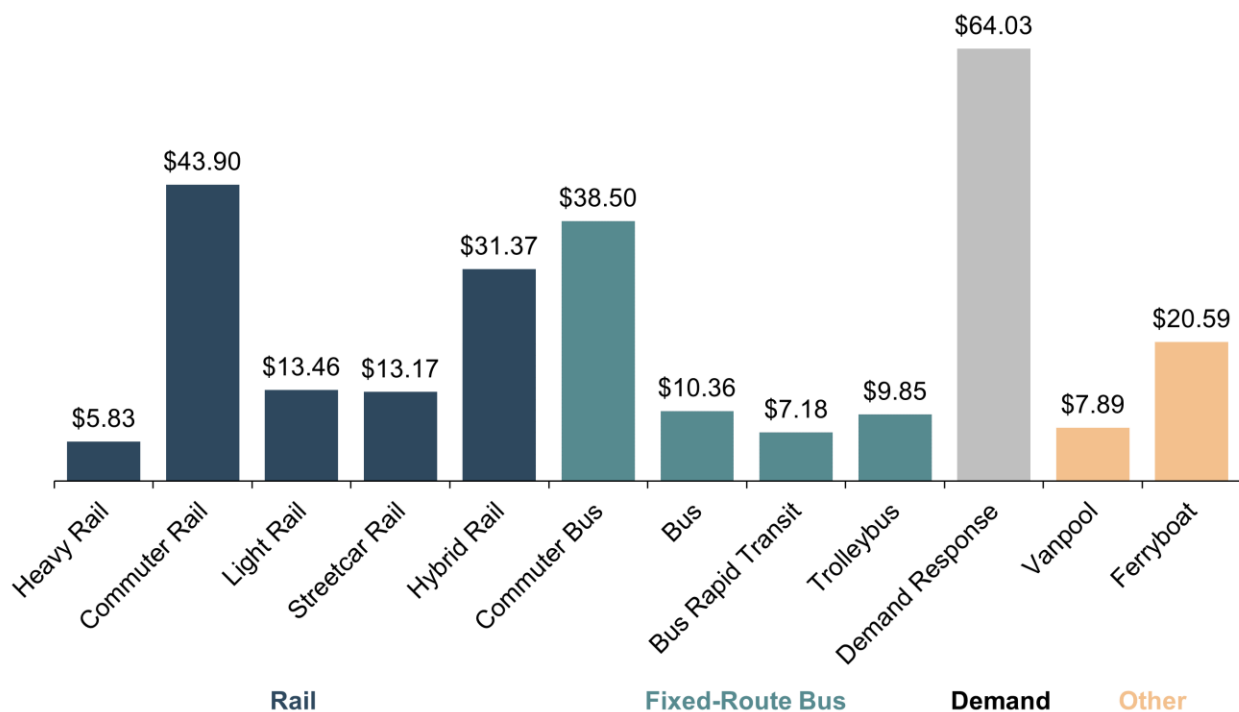


Exhibit 40. Operating Expenses per UPT by Mode

Service Efficiency

One way to look at service efficiency is to calculate the cost per hour for each mode. Cost per hour is calculated by dividing Total Operating Expenses by VRH. The cost per hour represents the cost of operating one vehicle for one single hour.



Exhibit 41. Total Operating Expenses per Vehicle Revenue Hour

The exhibit below shows that Ferryboat service cost the most to operate per hour (\$1,925.68), while Vanpool cost the least to operate per hour (\$39.49). Vanpool services operate with passengers driving the vehicles as opposed to paid drivers, which is a major reason for the low Vanpool costs compared to the other modes.

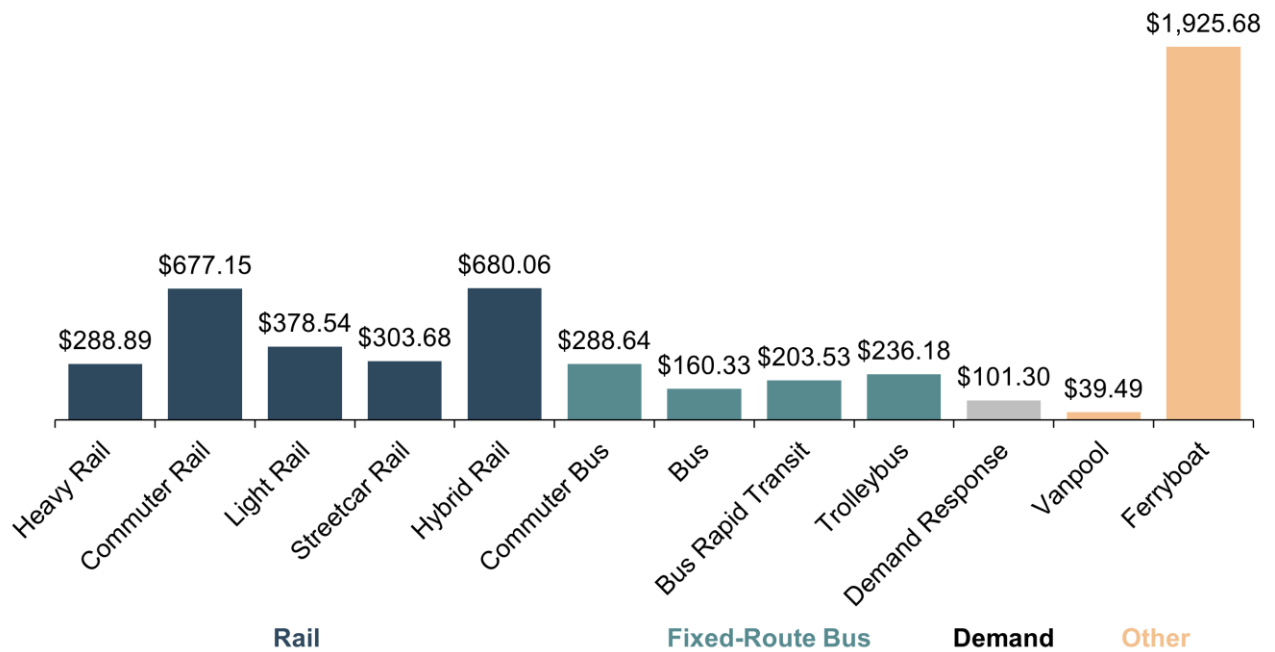


Exhibit 42. 2021 Cost per Hour

Fixed Guideway and High Intensity Busway

Public transit often operates on restricted guideway. FTA separates restricted guideway into two categories: Fixed Guideway (FG) and High Intensity Busway (HIB).

FG is a facility that uses separate ROW or rail exclusively for public transportation. FG may be a fixed catenary system useable by multiple forms of public transit (e.g., trolleybus, light rail, etc.). All rail, catenary, and Ferryboat systems operate over FG.

HIB can be two types of roadways. HIB can either be: 1) exclusive to transit vehicles at some times and open to the general public at other times, or 2) restricted to high occupancy vehicles (HOV) at least part of the time.

Fixed-route bus systems may operate over FG, HIB, or publicly available roadway (mixed-traffic ROW).

The NTD collects Directional Route Miles (DRM) for FG, HIB, and mixed traffic. DRM are the total miles in each direction on a public transportation route. For example, if a transit provider operates revenue service on one mile of guideway in two directions, the NTD counts this as two DRM.

Fixed Guideway and High Intensity Busway Route Miles

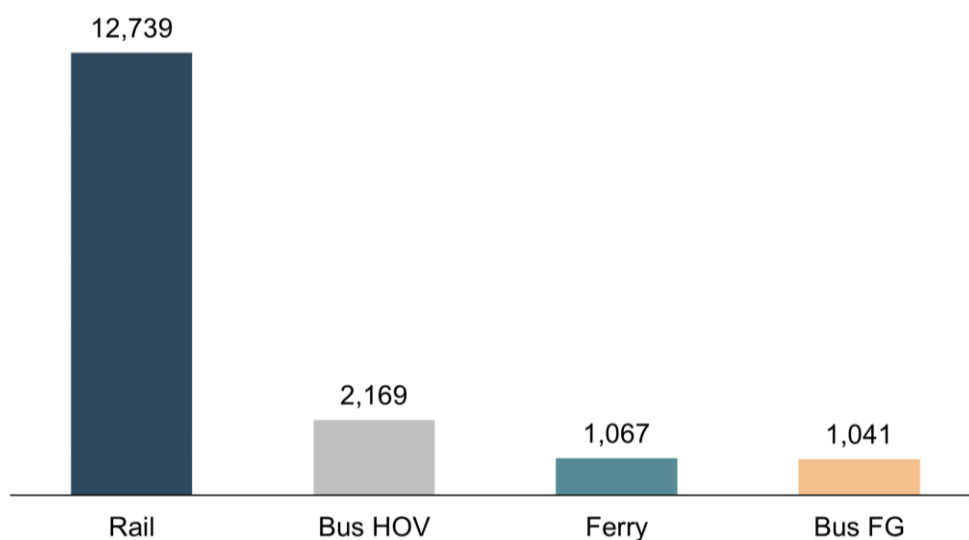


Exhibit 43. 2021 Fixed Guideway Directional Route Miles

Rail transit modes operate 74.9 percent of the total FG and HIB DRM. Fixed-route bus HIB and FG now collectively account for 18.9 percent of all DRM. Ferryboat FG comprises 6.3 percent of total FG DRM.

Fixed Guideway Concentration

Building separate infrastructures for public transit is costly. Dedicated rail transit only makes sense in high-density areas with congested transportation and a high demand for travel alternatives.

The most populous cities in the U.S. operate a large proportion of FG transit. In 2021, seven UZAs accounted for over 46.9 percent (8,251.9 miles) of all FG route miles, an average of 1,179 FG miles per UZA. These UZAs (shown in the exhibit below) have all been among the top 15 in population in each census since 1860.

There are 101 other UZAs that have FG, which (along with rural Alaska) account for 9,345.78 miles of FG, or about 53.1 percent of all FG route miles. These UZAs have an average of 92.5 FG miles, 8 percent that of the average seven largest UZAs.

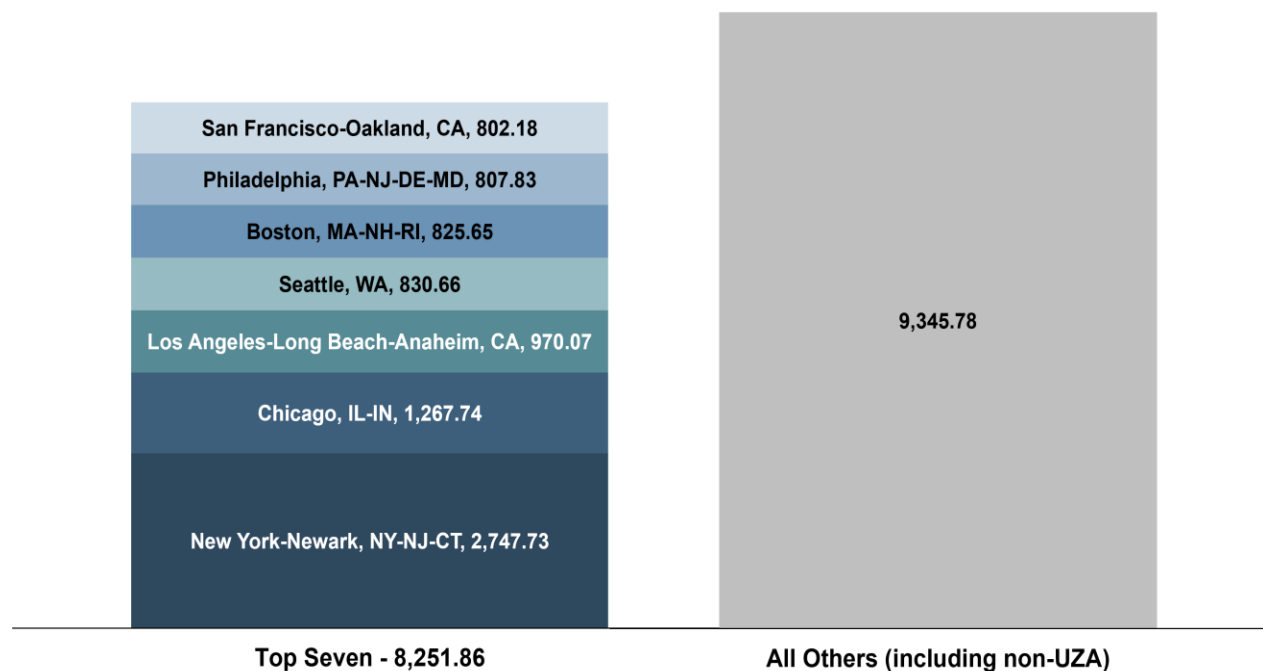


Exhibit 44. UZAs with Most Fixed Guideway Directional Route Miles

Urban Transit Assets

Managing capital assets is a fundamental part of providing public transit. Starting in 2018, the NTD collected more detail on such assets, most notably because of the Transit Asset Management final rule that took effect in July 2016.

Average Fleet Age

The weighted average fleet age reflects the design and useful life of the vehicles used in each mode. Vanpool has a lower average fleet age of 3.56 years, which is consistent with a typical service life of four to five years. Bus has an average fleet age of 7.48 years, which is consistent with typical useful service life ranging from 10 to 12 years. Finally, rail vehicles are designed to have a service life ranging from 25 to 35 years, which explains their higher average fleet ages.

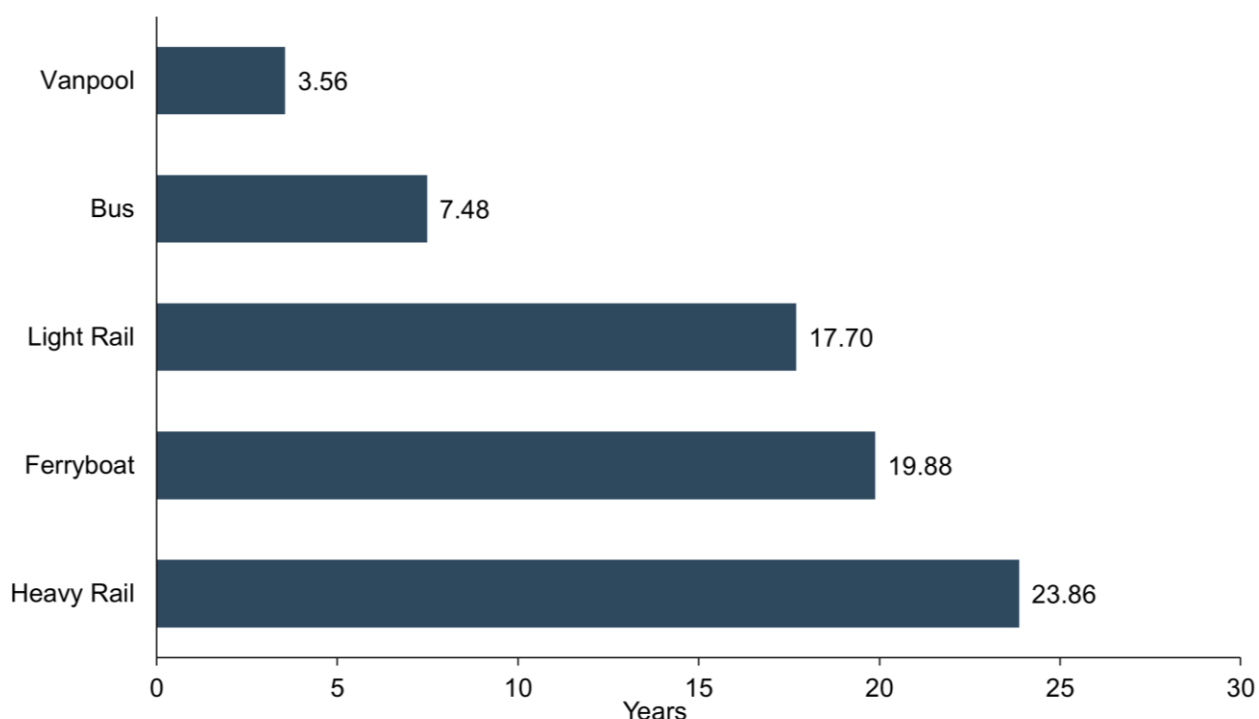


Exhibit 45. Weighted Average Fleet Age by Mode

Bus Alternative Fuel Usage

Diesel and gasoline are the traditional bus fuels. Alternative fuels have been introduced to address concerns about air quality and fuel efficiency. Alternative fuels include compressed natural gas, electric battery, ethanol, liquefied petroleum gas (propane), liquefied natural gas, kerosene, biodiesel, and other fuels. The charts below include fuel usage for buses fully dedicated to transit service.

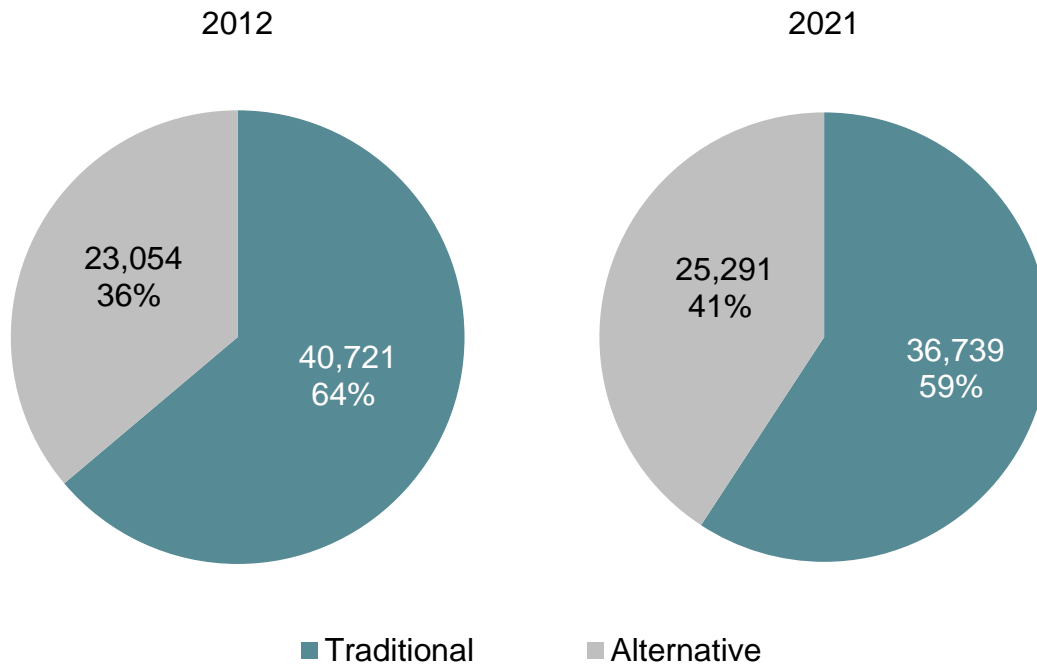


Exhibit 46. Percent of National Bus Fleets Using Alternative Fuels

The share of the national bus fleet using alternative fuels rose from 36 percent in 2012 to 41 percent in 2021. Alternative fuel consumption increased from 27 percent in 2012 to 35 percent in 2021. Exhibit 47 only includes fuel sources which are reported in gallons or gallons of gas equivalents and does not include the use of electricity (kilowatt hours).

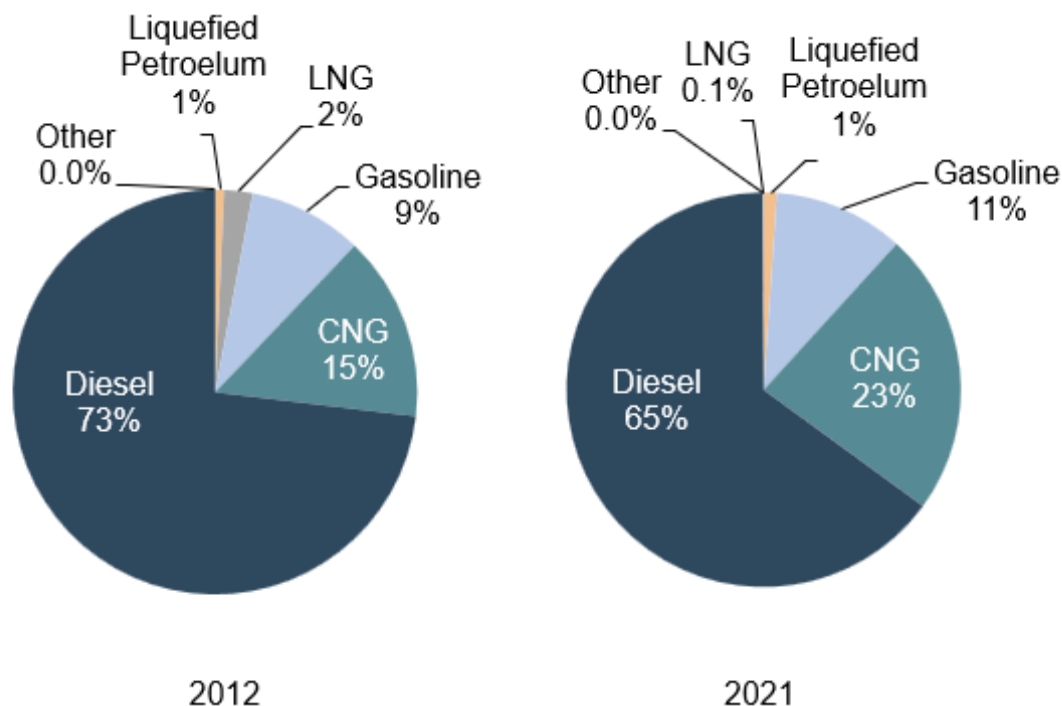


Exhibit 47. Percentage of Fuel Consumption for Non-Electric Modes

Americans with Disabilities Act Lift or Ramp-Equipped Buses

The ADA requires transit agencies to follow specific requirements. These requirements specify that vehicles do not restrict access, are usable, provide allocated space and/or priority seating for individuals who use wheelchairs, and have space or seating that is accessible using lifts or ramps. As shown in the exhibit below, 97.9 percent of all bus vehicles are ADA-compliant.

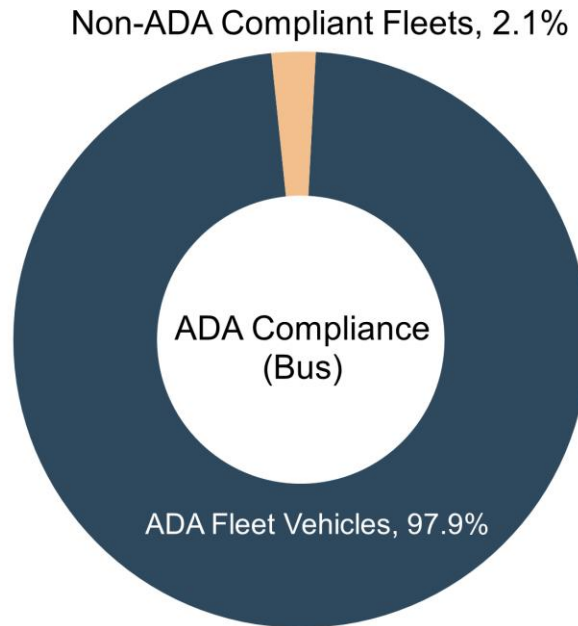


Exhibit 48. 2021 ADA Compliance (Bus)

Transit Asset Management Statistics

Facilities

The modes with the largest number of facilities supporting the operations are Bus, Commuter Rail, Heavy Rail, and Light Rail.

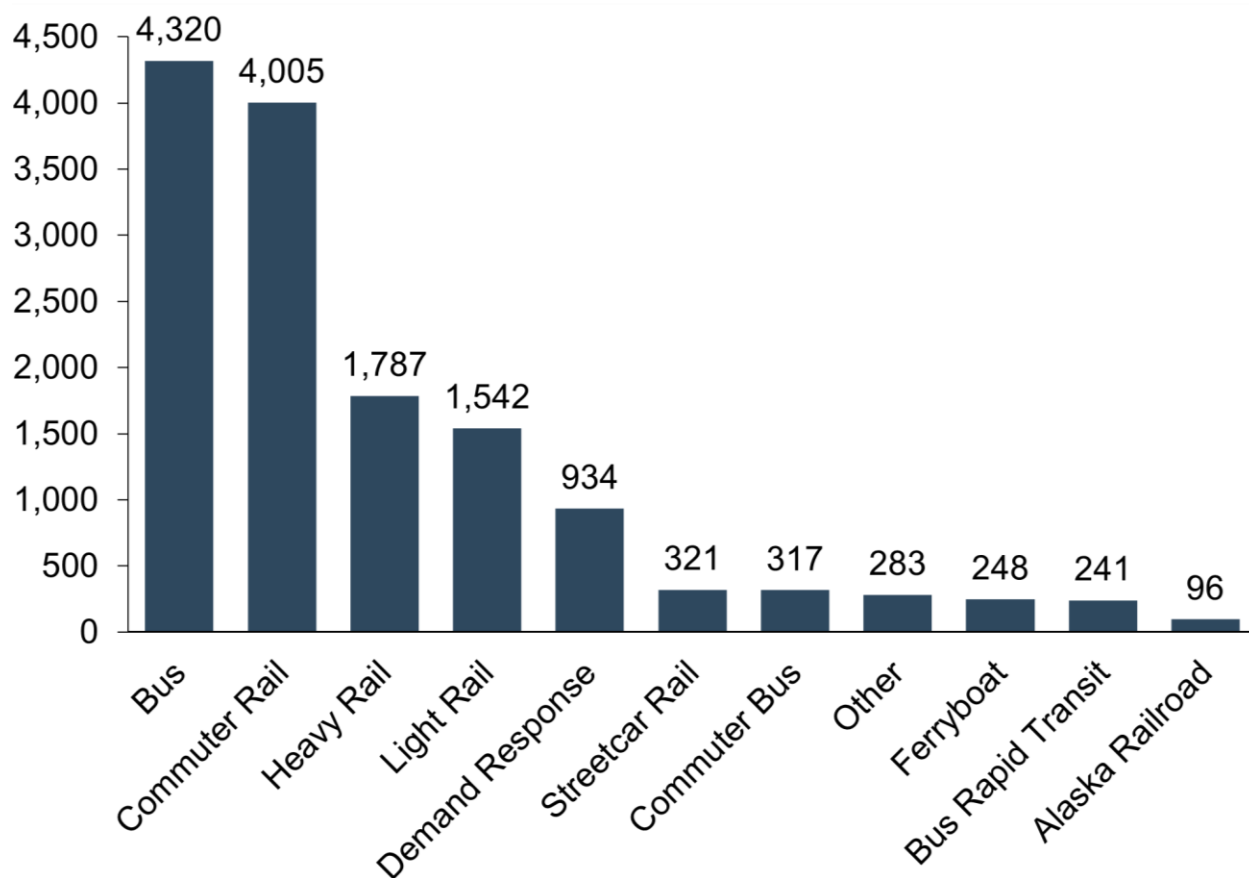


Exhibit 49. Total Facilities by Primary Mode Served

Of those four modes with the highest numbers of facilities, passenger facilities make up the majority for each mode. For Bus, the breakout between passenger facilities and administrative/maintenance facilities is almost equal, with slightly more passenger facilities than administrative/maintenance facilities. Since Bus is the largest mode at most transit agencies, if an agency has one administrative/maintenance facility serving all modes, Bus will usually be considered the “primary mode.”

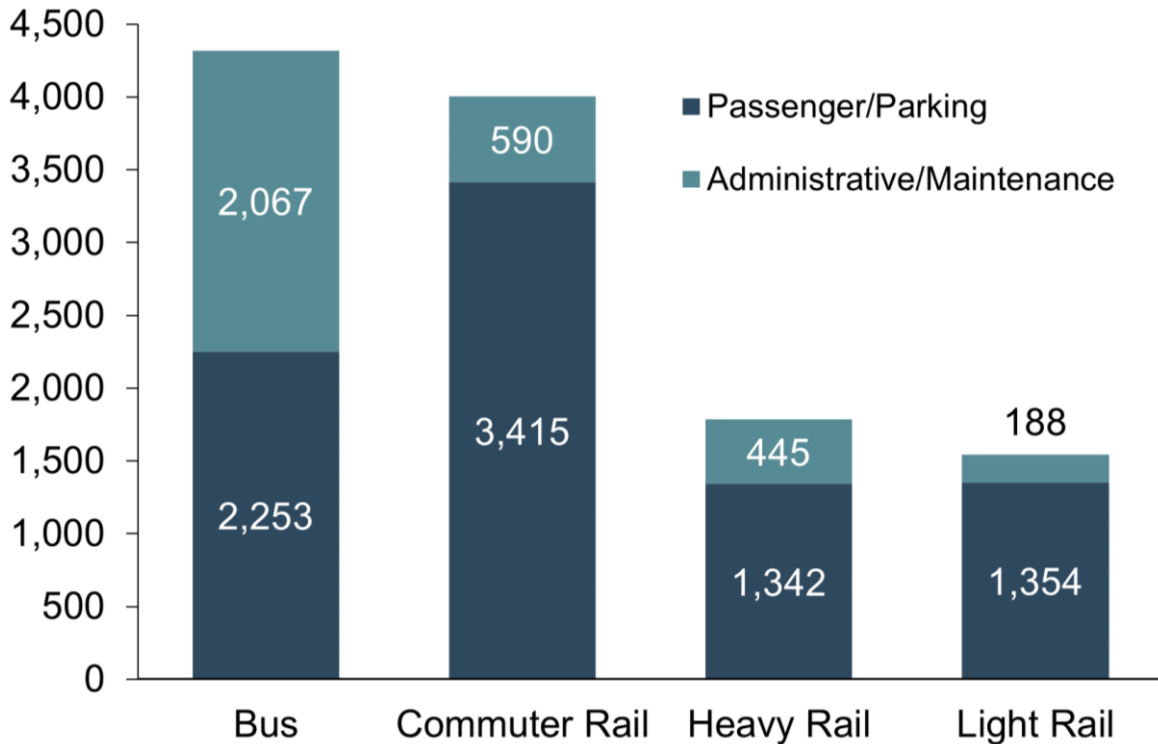


Exhibit 50. Type of Facilities Supporting Four Modes with Most Facilities

The most reportable facilities supporting transit are Passenger Facilities (37 percent). Administrative and maintenance facilities made up 34 percent of facilities and the remainder were parking facilities.

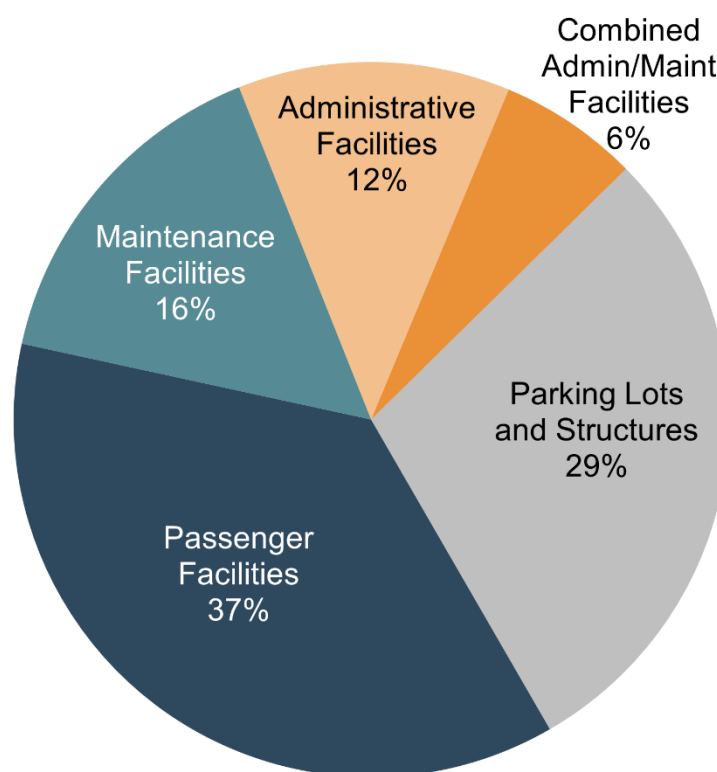


Exhibit 51. Facility Types System Wide

Agencies are required to report a condition assessment for all facilities for which they have capital replacement responsibility. The condition assessment uses FTA's Transit Economic Requirements Model scale, which is based on five values for assets:

- 5: Excellent
- 4: Good
- 3: Adequate
- 2: Marginal
- 1: Poor

FTA considers a facility in a state of good repair if it has a condition assessment of “3” or higher. Of the reported facilities with condition assessments, 90 percent are in a state of good repair, while 10 percent are not in a state of good repair. A small number (17 percent) of the reported facilities were not given a condition assessment, either because the agency did not have capital responsibility for that facility, or because the facility was not yet assessed.

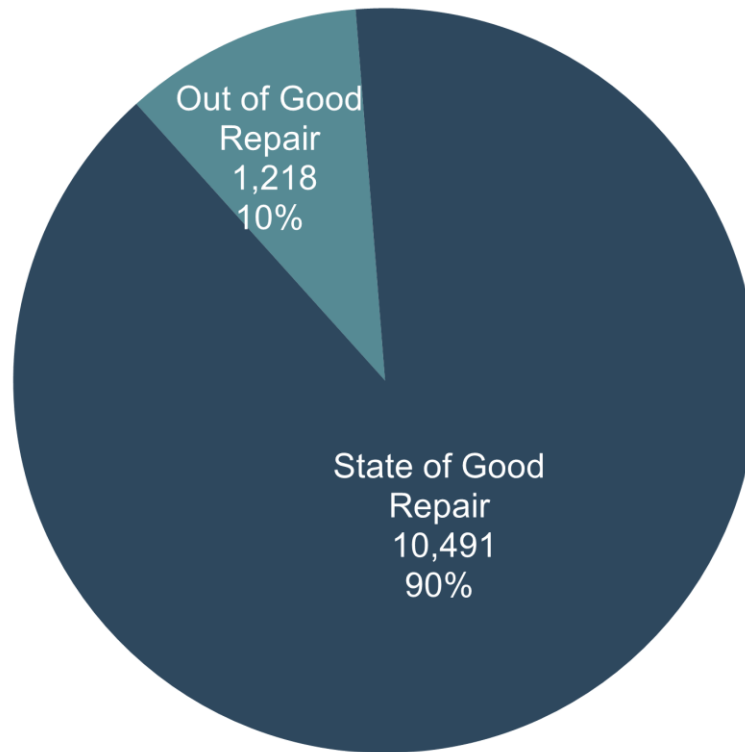


Exhibit 52. State of Good Repair — Facilities

Revenue Vehicles

A revenue vehicle is a vehicle used to carry passengers. A vehicle is considered to be in a state of good repair if it is within its useful life. For the passenger-carrying vehicles reporting a Useful Life Benchmark (ULB), 74 percent are within their useful life and 26 percent have met or exceeded their useful life. Of all passenger-carrying vehicles reported, 8.4 percent did not have a reported ULB. Only vehicles for which the agency has capital responsibility have a ULB recorded in the NTD. If the agency did not have capital responsibility for the vehicle, this typically means that the vehicle is leased or provided by a purchased transportation contractor.

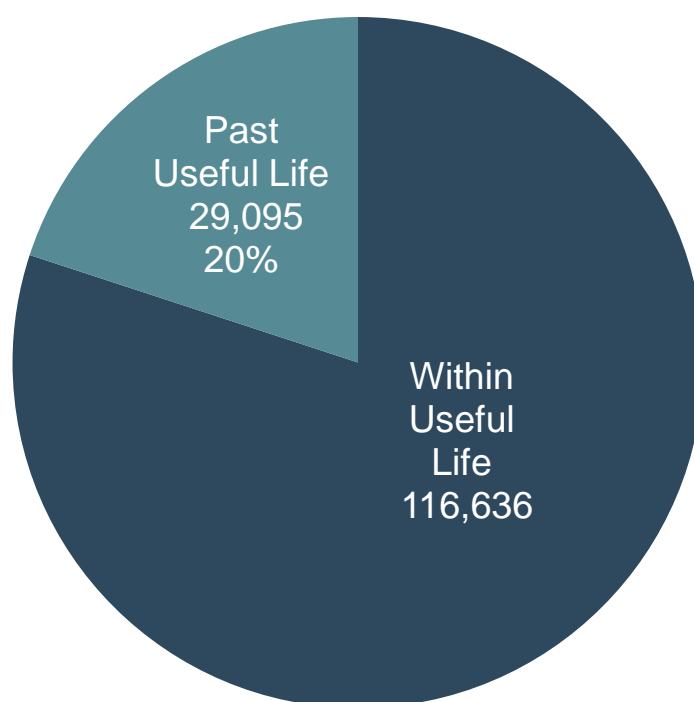


Exhibit 53. State of Good Repair — Revenue Vehicles

Service Vehicles

Service vehicles are vehicles used to indirectly deliver transit service, maintain revenue vehicles and infrastructure, and perform transit-oriented administrative activities. Agencies only report service vehicles for which they have capital responsibility.

Similar to revenue vehicles, most of the service vehicles (74 percent) reported are within a state of good repair, meaning they have not met or surpassed their useful life.

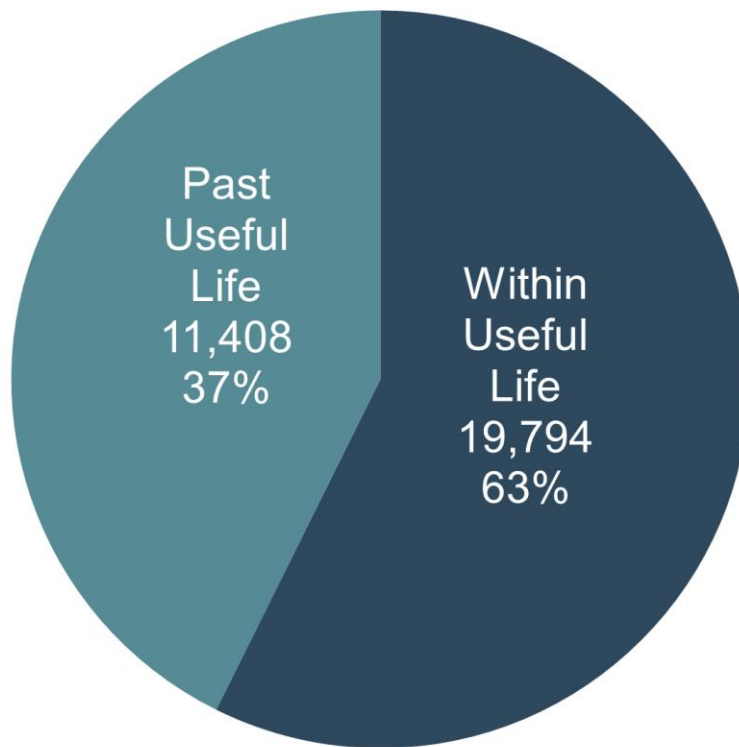


Exhibit 54. State of Good Repair — Service Vehicles

The average age of service vehicles across all reported fleets is 8.5 years. Of all reported service vehicles, 41 percent are between 0–5 years old. The vehicles older than 10 years only make up 30 percent of the total.

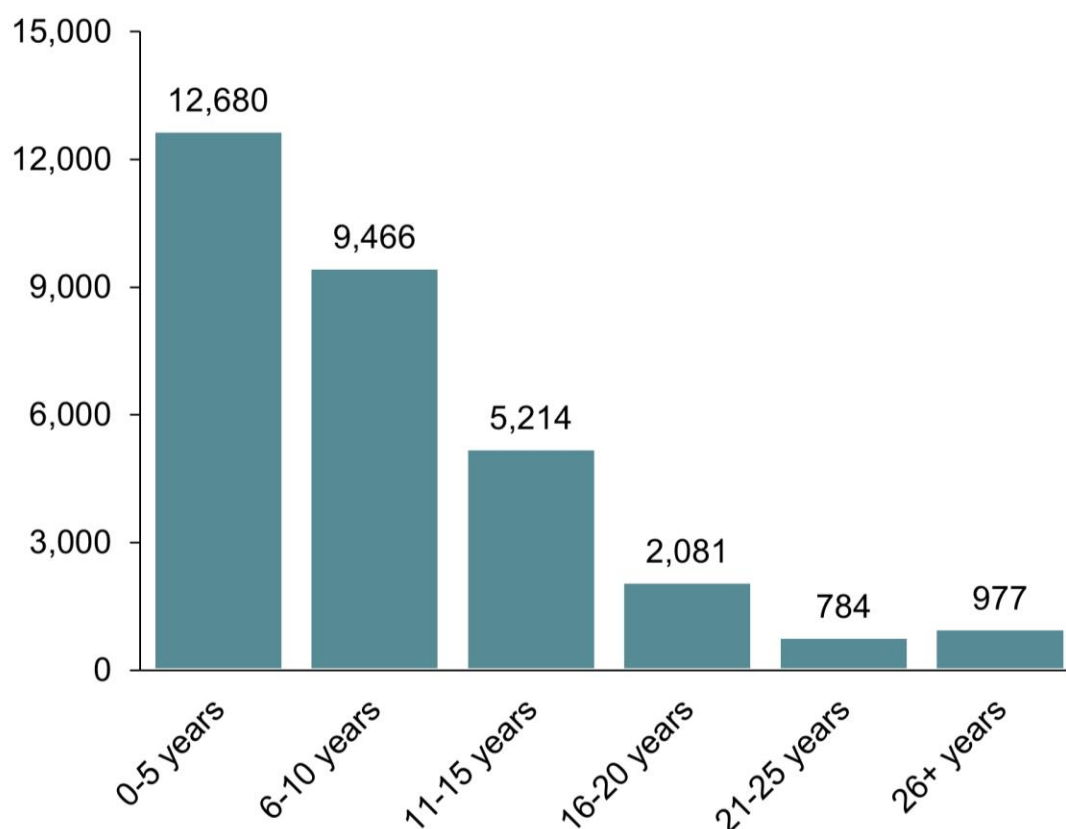


Exhibit 55. Average Age of Service Vehicles

There are three categories of service vehicles: Automobiles, Trucks and Other Rubber Tire Vehicles, and Steel Wheel Vehicles. The average cost to replace Steel Wheel Vehicles is significantly more than the other service (non-revenue) vehicle types, however, those vehicles tend to have a significantly longer useful life. For example, FTA's default ULB for Steel Wheel Vehicles is 25 years, whereas the default ULB for Automobiles and Trucks/Other Rubber Tire Vehicles is 8 and 14 years, respectively.

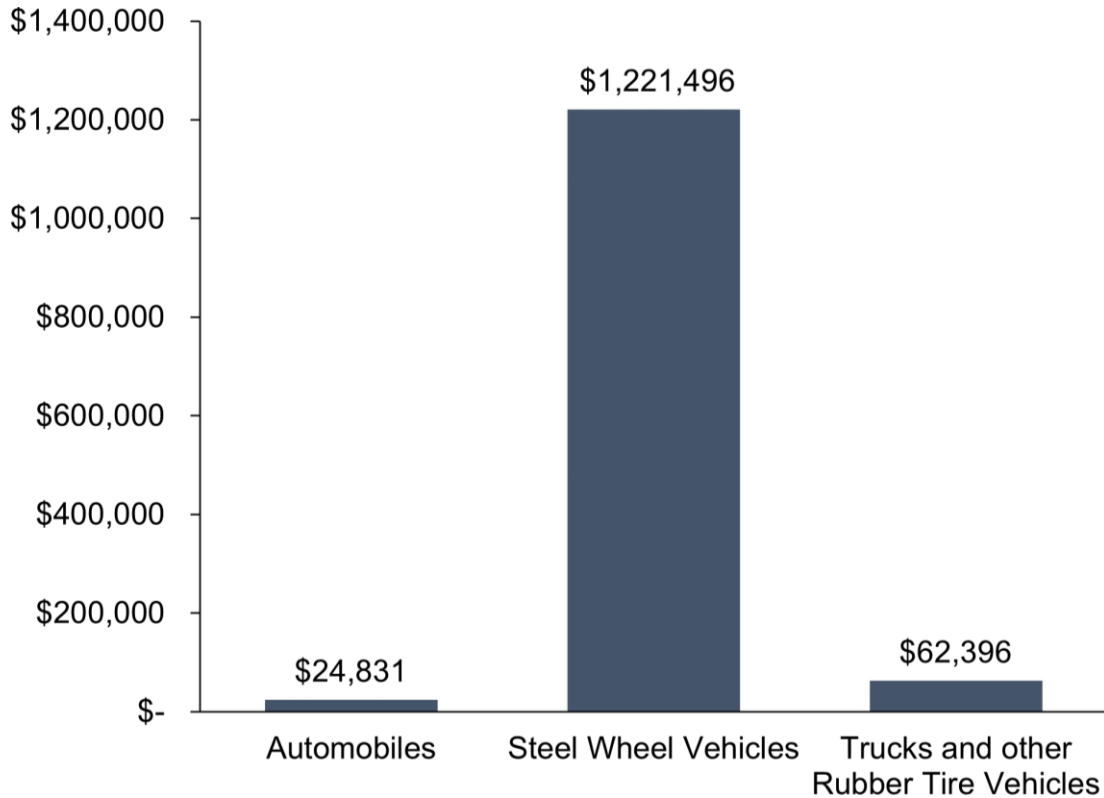


Exhibit 56. Average Replacement Cost by Vehicle Type

Urbanized Areas

In the NTD, transit providers indicate the primary UZA of service operations as their “primary UZA” along with any secondary UZAs they serve. For analysis purposes, the NTST groups UZAs into the following categories:

- Small UZAs: population of 50,000 to 200,000.
- Medium UZAs: population of 200,000 to 1 million.
- Large UZAs: population over 1 million.

Sources of Funding by Urbanized Area Size

For urban transit agencies in large UZAs, directly generated revenues made up 19.9 percent of operating funding in 2021. Small and medium UZAs are more dependent upon operating subsidies than large UZAs. Directly generated revenues accounted for only 11.1 percent and 12.4 percent, respectively, for these UZAs in 2021.

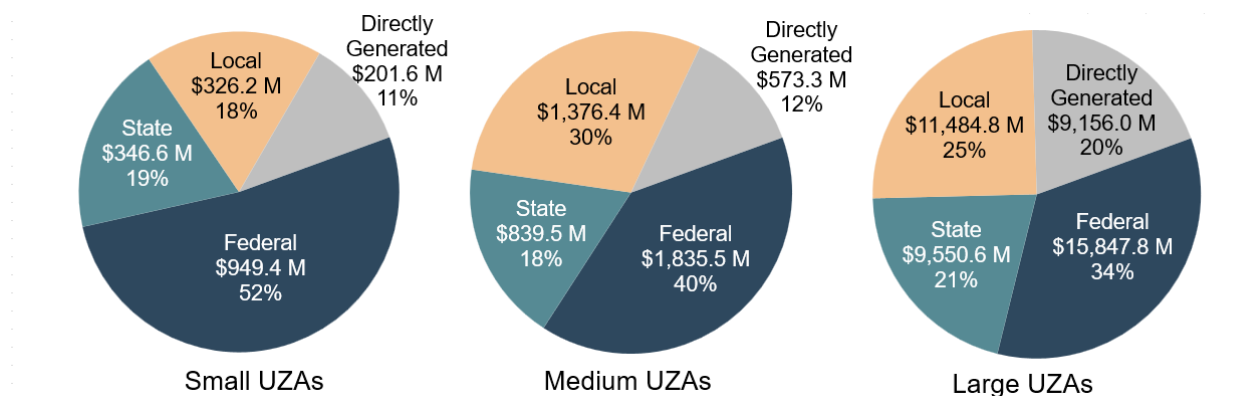


Exhibit 57. Operating Funding Sources by UZA Size

Capital funds are funds from Federal, State, and local governments, as well as directly generated sources that transit agencies apply to purchases such as equipment or other assets. Directly generated sources include any funds generated or donated directly to the transit agency. This includes passenger fares, advertising revenues, donations, and grants from private entities.

For urban transit agencies operating in small UZAs, Federal sources of funds accounted for 64.3 percent of the total capital expenditures. Medium UZAs reported that 38.8 percent of their capital funding sources were Federal, with another 34.4 percent being State funding sources. Large UZAs rely less on Federal funding than on other sources for capital expenditures.

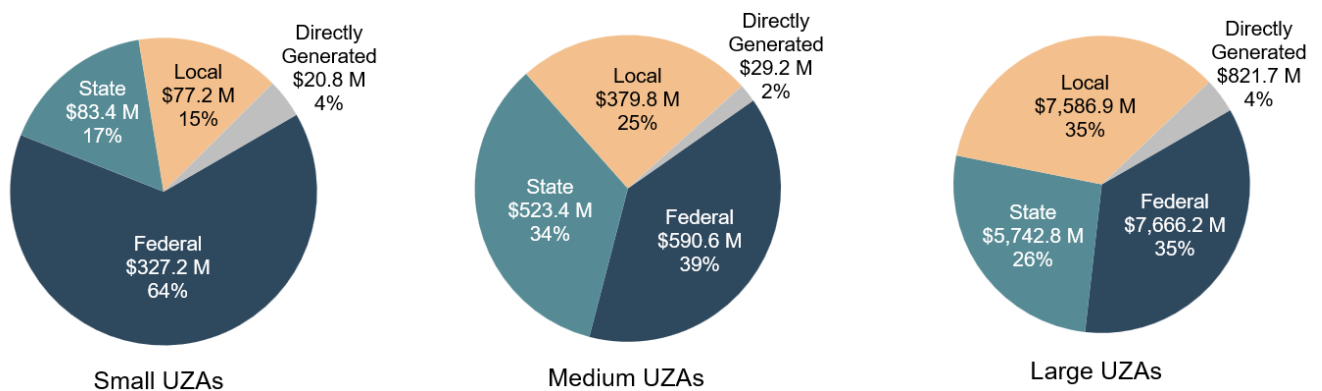


Exhibit 58. Capital Funding Sources by UZA Size

Service Performance

Large UZAs reported 78 percent of urban agency VRM. Only 15 percent of miles occurred in medium UZAs and 7 percent in small UZAs, respectively.

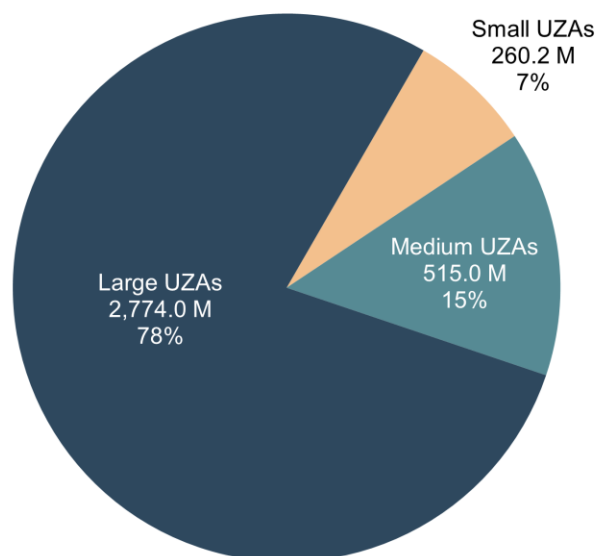


Exhibit 59. Vehicle Revenue Miles by UZA Size

Small UZAs provide less varied services, mostly made up of Bus and Demand Response service. In the charts below, you will see more modes listed by UZA size and the levels of VRM provided.

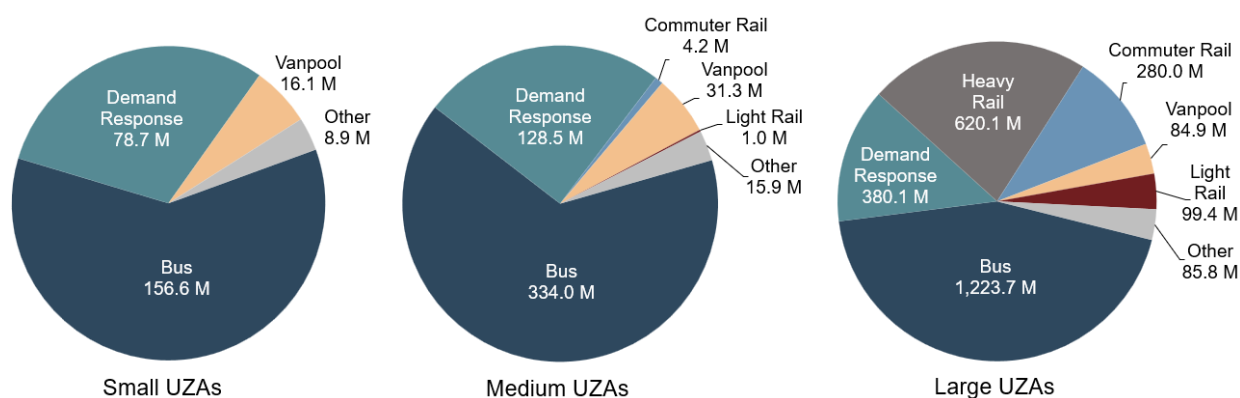


Exhibit 60. Vehicle Revenue Miles by Mode

Large UZAs operate about 85 percent of all FG DRM. Typically, each DRM is a mile of transit operation space where private transportation cannot operate. For example, the New York City Subway operates on rail track unavailable to Amtrak, CSX, and any other private trains. The Boston Silver Line is Bus Rapid Transit with dedicated ROW, meaning that it operates similarly to rail transit: car traffic cannot trespass on the roadway reserved exclusively for Boston's Silver Line.

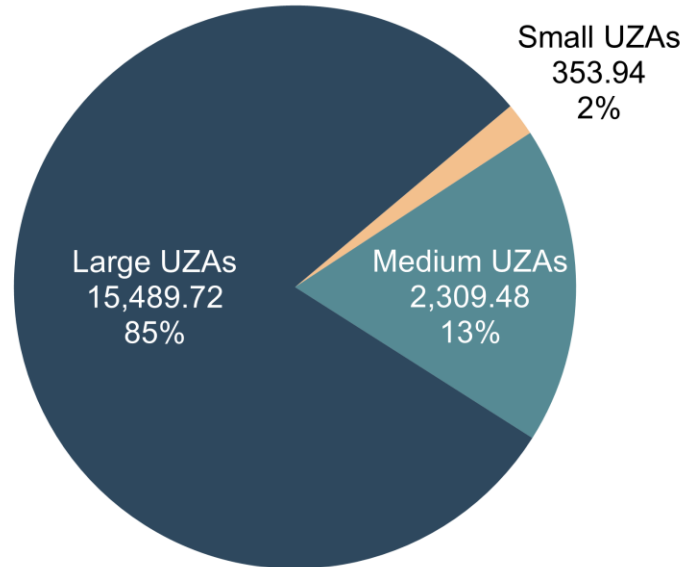


Exhibit 61. Fixed Guideway Directional Route Miles by UZA Size

Public transit service depends on population density to function efficiently. In the U.S. there are 42 UZAs with a population greater than 1 million. These 42 UZAs consume 91 percent of all public transit, as measured by PMT.

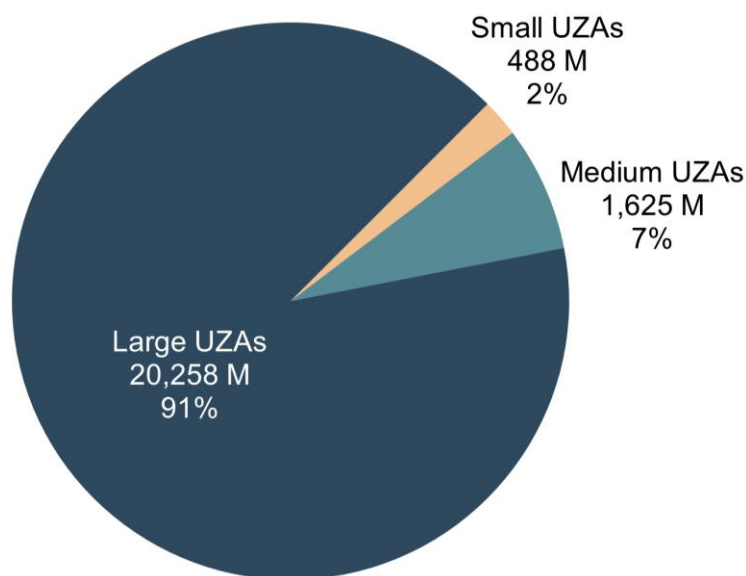


Exhibit 62. Total Passenger Miles Traveled by UZA Size

Large UZAs experience more trips on public transit per capita than other UZAs. The ridership density for large UZAs in 2021 was 28.8 trips per capita, whereas the ridership density for small and medium UZAs was 3.9 and 6.2, respectively.

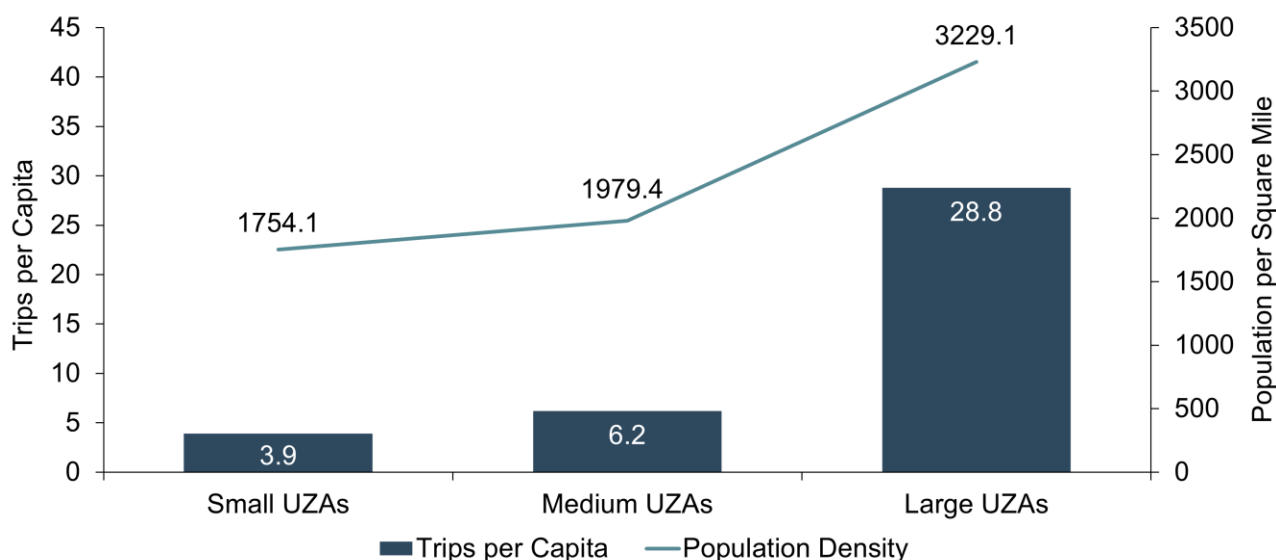


Exhibit 63. Passenger Trips per Capita by Population Density

Reduced Asset Reporters

For RY 2021, 556 asset subrecipients submitted data to the NTD in the urban and rural reporting modules. Agencies that receive Chapter 53 funding other than §5307 or §5311 (e.g., §5310) and own, manage, or operate capital assets used in providing public transportation services report data on their assets. These Reduced Asset Reporters are made up of mostly city/county government reporters (44 percent), or private non-profit reporters (51 percent). The remaining recipients are made up of independent authorities, private for-profit companies, metropolitan planning organizations, and many others.

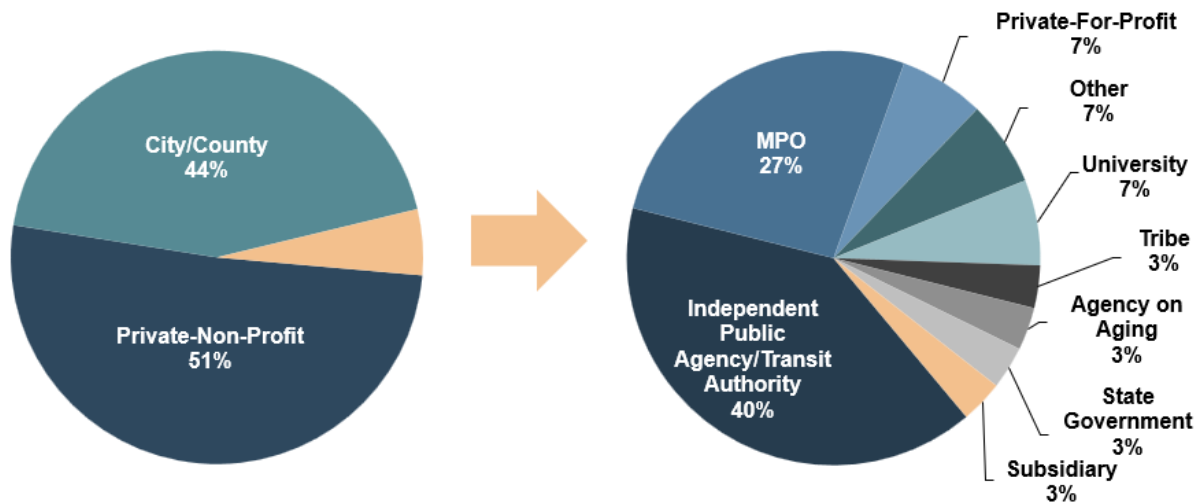


Exhibit 64. Reduced Asset Reporters by Organization Type

Exhibit 65 shows that most of the service provided using these assets reported by Reduced Asset Reporters is Demand Response (95 percent). The next largest service using these assets is Bus (5 percent).

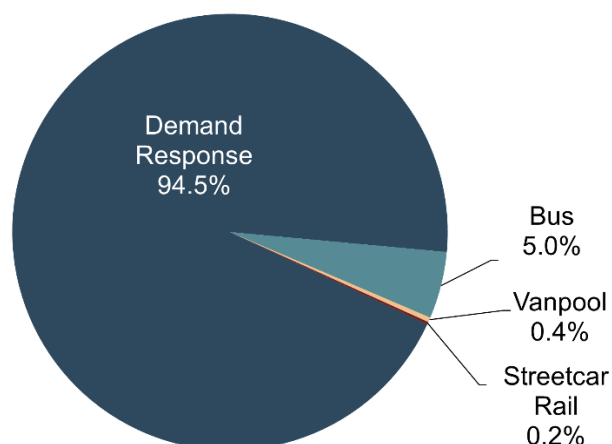


Exhibit 65. Reduced Asset Reporters by Mode

The NTD collects Revenue Vehicle Inventory data, Service Vehicle Inventory data, Facilities Inventory data, and Performance Measure Targets from Reduced Asset Reporters. Within this limited asset data, they report the revenue vehicle manufacture year. The vintage trolleys used in transit services are reported to have the oldest average fleet age of 30 years. On the other end of the spectrum, Sports Utility Vehicles used transit services have an average age of 4.5 years.

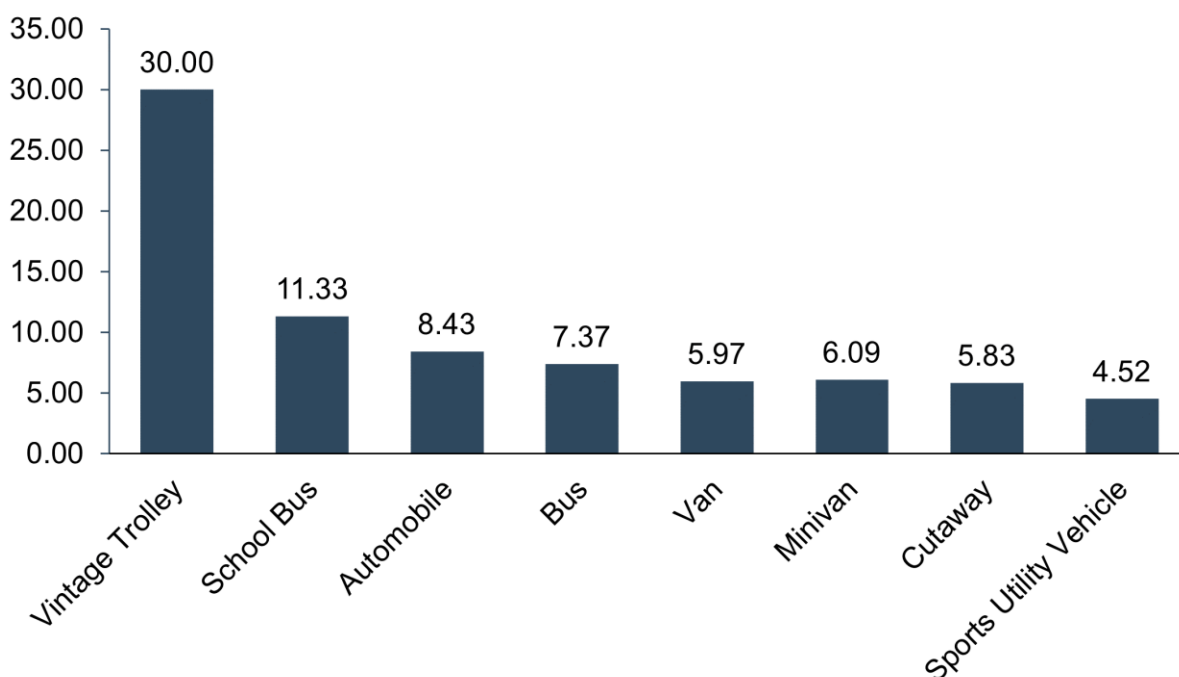


Exhibit 66. Average Fleet Age by Vehicle Type

Rural Transit

The U.S. Census defines rural areas as geographic areas with a population of less than 50,000. For RY 2021, 1,284 subrecipients and 54 States (the NTD treats Puerto Rico, American Samoa, Guam, and the Northern Mariana Islands as States for the purpose of rural data collection and funding) submitted data to the NTD in the rural reporting module.

Agencies report to the rural module if they receive §5311 funds but do not receive §5307 funds and do not operate exclusively urban trips. These Rural Reporters are made up of mostly city/county government reporters (46 percent), or private non-profit reporters (21 percent). The remaining recipients are made up of Tribes, independent authorities, private for-profit companies, and many others.

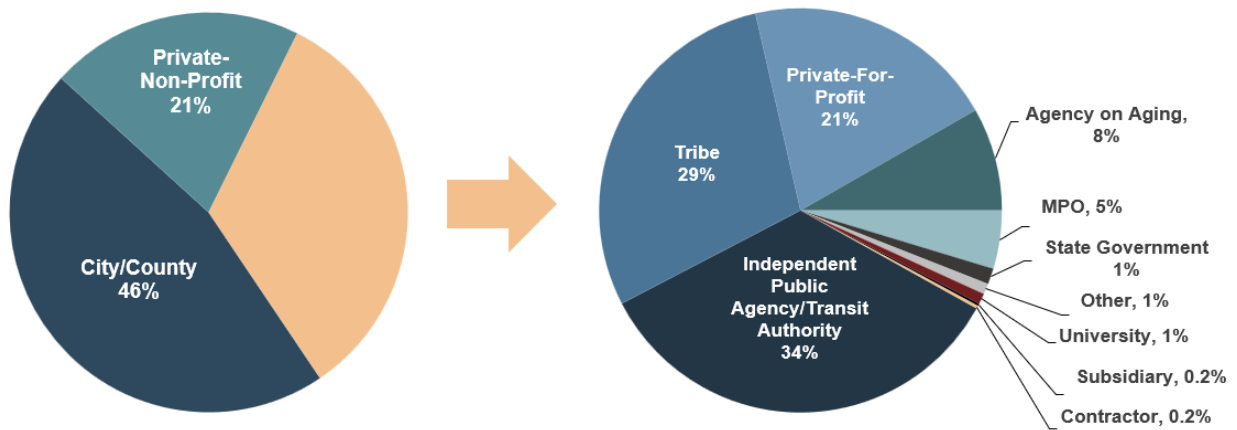


Exhibit 67. Rural Transit Service Providers by Organization Type

Exhibit 68 shows that most of the service provided by these Rural Reporters is Demand Response (69 percent) due to the low population density of rural areas. The next largest service represented in these rural areas is Bus (24 percent).

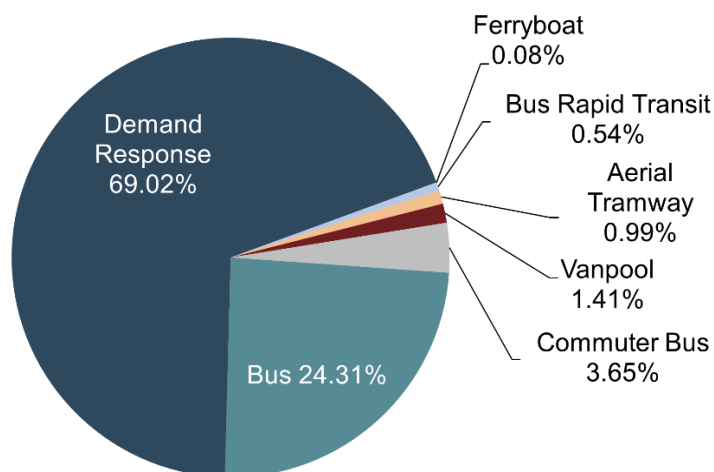


Exhibit 68. Rural Transit Service Providers by Mode

Rural Services Operated and Consumed

The exhibit below presents the trend in service provided and consumed, as well as the Operating Expenses from 2012 until 2021. Operating Expenses increased 5.9 percent from 2012 to 2020, then fell 0.9 percent between 2020 and 2021. VRM and UPT showed decreases of 7.5 percent and 25.0 percent, respectively, between 2020 and 2021.

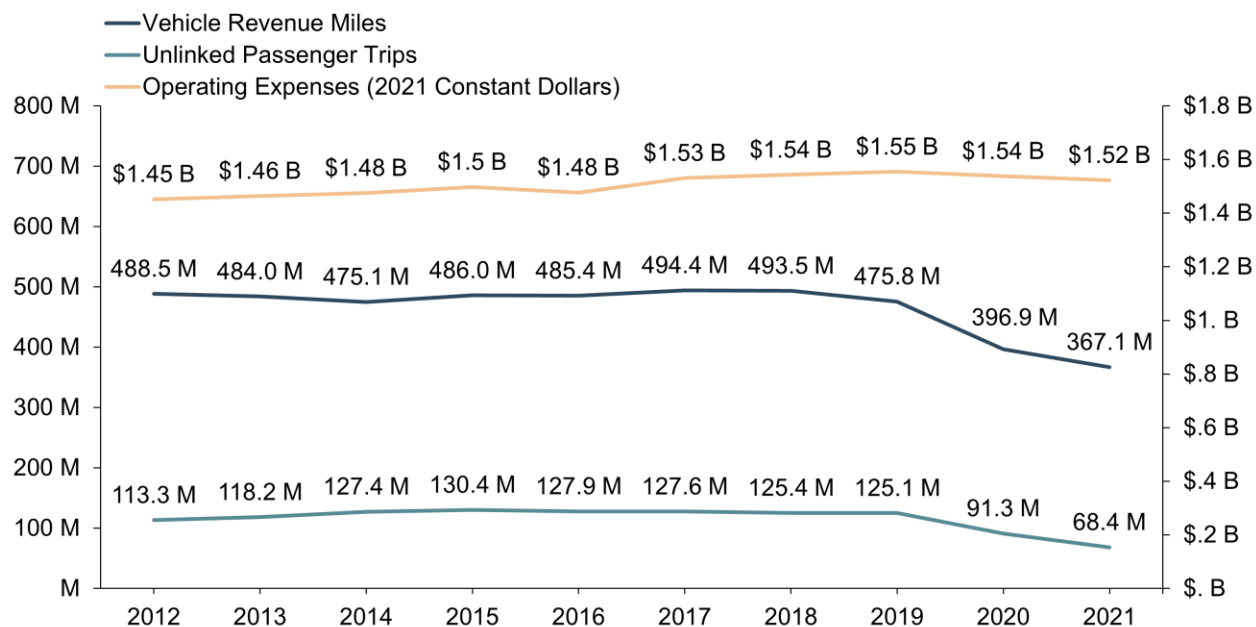


Exhibit 69. Service Operated, Consumed, and Operating Expenses

Most of the service provided and consumed comes from the Rural General Public Transit reporters. Rural General Public Transit reporters are entities who provide rural service and either receive or benefit from §5311 funding or report voluntarily. Coordination with Intercity Bus operators and service provided by Tribe's account for a smaller portion of overall rural service provided and consumed.

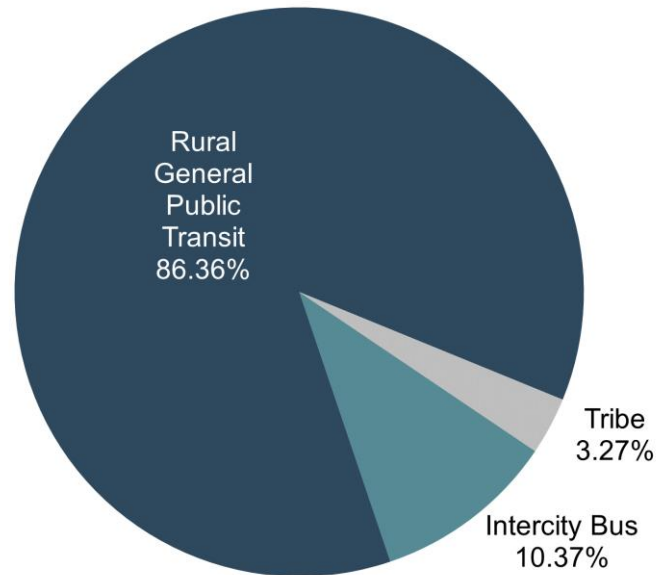


Exhibit 70. Service Provided: Vehicle Revenue Miles by Reporter Type

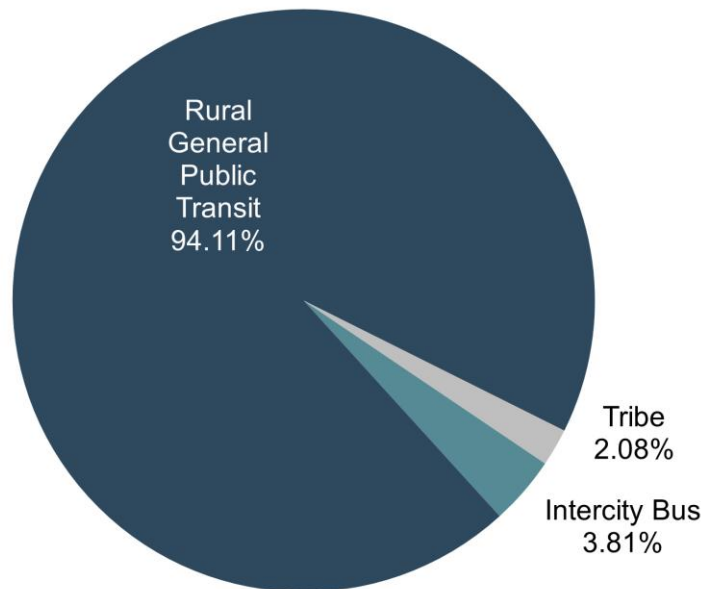


Exhibit 71. Service Consumed: Ridership by Reporter Type

Rural Operating and Capital Funding

The sources of funds for rural areas (operating and capital) include local, State, and Federal government as well as funds generated by service providers (fares and contract revenues).

FTA funding categories available for Rural Transit include:

- Section 5310 – Enhanced Mobility of Seniors & Individuals with Disabilities Program
- Section 5311 – FTA Formula Grants for Rural Areas Program

The Federal government provided 62.07 percent of the rural transit-operating budget. Fares and State and local funds made up another 33.69 percent of the budget, while the remaining 4.24 percent of funds came from contract revenue and other directly generated funds.

Source of Funding	Funds Expended on Operations	Percentage of Total
§5311 CARES, CRRSA, American Rescue Plan	\$765,946,625	44.90%
Local Funds	\$239,913,391	14.06%
§5311 Rural Area Formula Program	\$238,780,724	14.00%
State Funds	\$220,692,201	12.94%
Fares	\$114,218,960	6.69%
Other Funds	\$58,999,247	3.46%
§5311 Tribal Transit Funds	\$20,571,532	1.21%
§5310 Enhanced Mobility of Seniors and Individuals with Disabilities Formula Program	\$15,974,309	0.94%
Contract Revenue	\$13,293,903	0.78%
Other Federal Funds	\$11,839,178	0.69%
Other USDOT Funds	\$2,895,965	0.17%
Other FTA Funds	\$2,329,334	0.14%
§5307 Urbanized Area Formula Program	\$591,817	0.03%
Total	\$1,706,047,186	

Exhibit 72. Funding Sources: Operating Expenses

Rural transit capital budgets relied mostly on Federal assistance, accounting for 66.8 percent of all funds expended on capital.

Source of Funding	Funds Expended on Capital	Percentage of Total
§5339 Bus and Bus Facilities	\$91,897,715	28.00%
§5311 Rural Area Formula Program	\$69,834,244	21.28%
State Funds	\$53,969,580	16.45%
Local Funds	\$52,733,864	16.07%
§5311 Cares, CRRSA, American Rescue Plan	\$31,529,878	9.61%
§5310 Enhanced Mobility of Seniors and Individuals with Disabilities Formula Program	\$9,415,181	2.87%
§5309 Capital Investment Grants	\$8,083,443	2.46%
§5311 Tribal Transit Funds	\$4,747,147	1.45%
Other Federal Funds	\$2,336,023	0.71%
Other Funds	\$1,320,406	0.40%
Fares	\$814,044	0.25%
Other FTA Funds	\$774,081	0.24%
Other USDOT Funds	\$717,148	0.22%
Total	\$328,172,754	

Exhibit 73. Funding Sources: Capital Expenses

Rural Assets

While rural agencies report limited asset data, the NTD does collect revenue vehicle manufacture year from rural operators. The ferryboats used in transit services are reported to have the oldest average fleet age of 29 years. On the other end of the spectrum, the “Other” category used in rural public transit have an average age of 4.5 years.

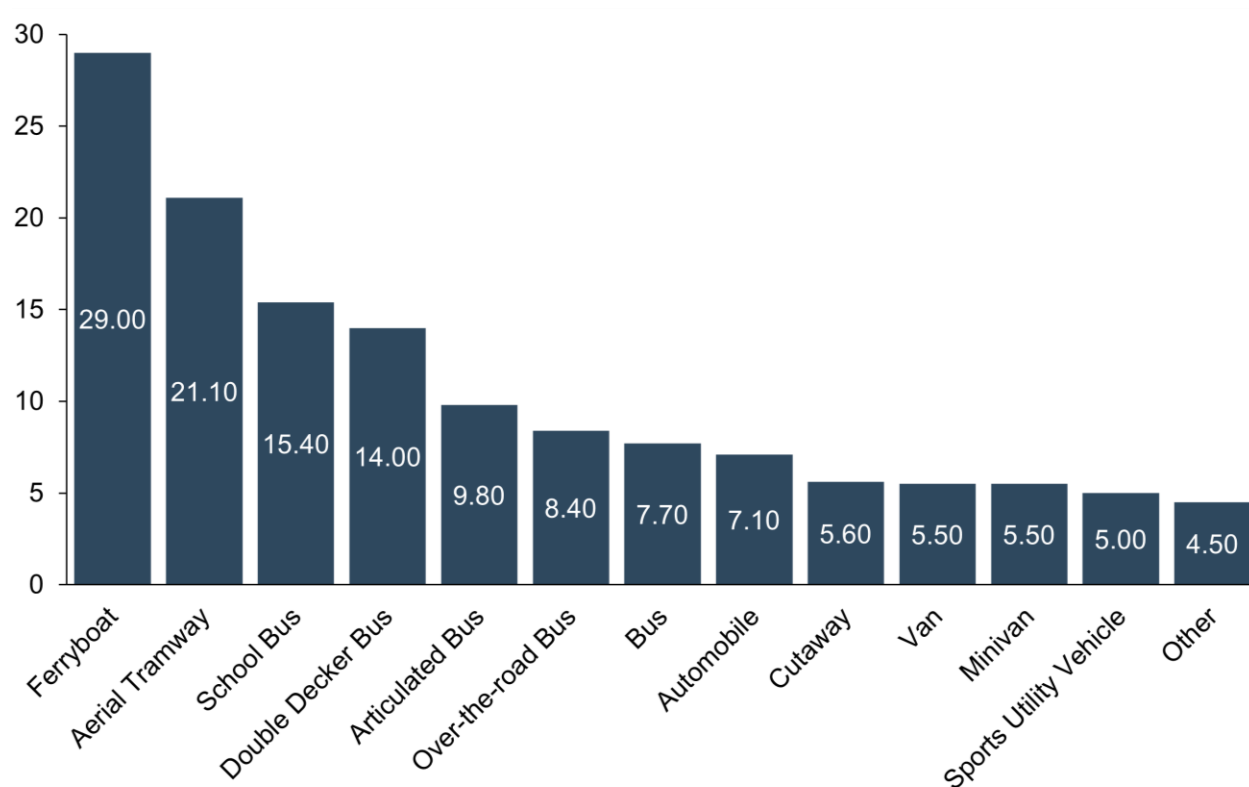


Exhibit 74. Average Fleet Age by Vehicle Type

Safety and Security

What Is Safety and Security Reporting?

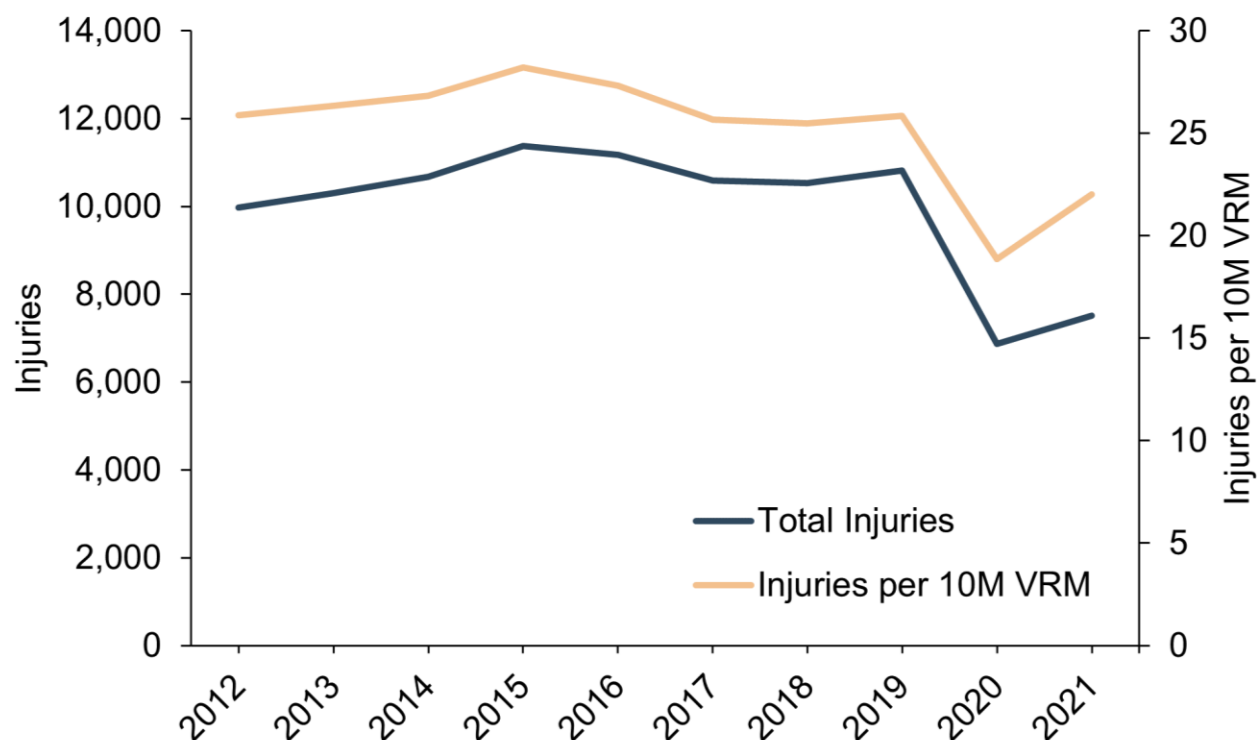
NTD Safety and Security reporting requires all reporters to provide the number of safety and security events that take place or involve transit system property and the resulting fatalities and injuries. (Only fatalities or injuries that meet any one of several criteria listed in the [NTD Safety & Security Policy Manual](#) need to be reported.)

Safety and Security for Urban Transit

Safety and Security reporting is a key element of NTD reporting. This reporting provides data that can measure service performance and identify areas for improvement. The following are important considerations regarding Safety and Security data reported to the NTD:

- All safety data presented are sourced from Calendar Year (CY) 2021 NTD major event reports. At the time of this document's publication, NTD reporters could still add, modify, and delete major event data for CY 2021. As such, these data are considered "preliminary," and numbers may change based on ongoing validation activity.
- The analyses in this document use CY service data to calculate safety rates. These data are sourced from the NTD's Monthly Ridership data collection.
- The Federal Railroad Administration oversees safety for Commuter Rail systems, the Alaska Railroad, and a select set of Hybrid Rail and Heavy Rail systems. These agencies do not report safety data to the NTD and are therefore excluded from any safety analyses in this document.

Injury Statistics

**Exhibit 75. Injuries (per 10 Million VRM)**

The exhibit above compares total injuries reported to the rate of injuries per 10 million VRM between 2012 and 2021. It is important to recognize that the reporting requirements for Safety Occurrences Not Otherwise Classified events changed in 2015. Injuries for many of these events are now reported as major events. This change caused an increase in the number of reported injuries in 2015 to 2021, compared to the number of reported injuries before the change (from 2011 to 2014).

The total number of injuries and injuries per 10 million VRM has remained stable between 2015 and 2019 but then dipped in 2020 due to lower ridership. There has been a slight increase in 2021 with ridership on the rise. If the total difference in reported injuries between 2014 and 2015 is related to the reporting change and if 2020 and 2021 are removed from the analysis, the number of reported injuries between 2012 and 2021 remains relatively stable.

The graph below shows the injuries per 10 million VRM by mode during 2021. Modes that operate in central cities, like Streetcar Rail, make more stops and have a higher chance of injury compared to modes that travel longer distances between stops, like Commuter Bus.

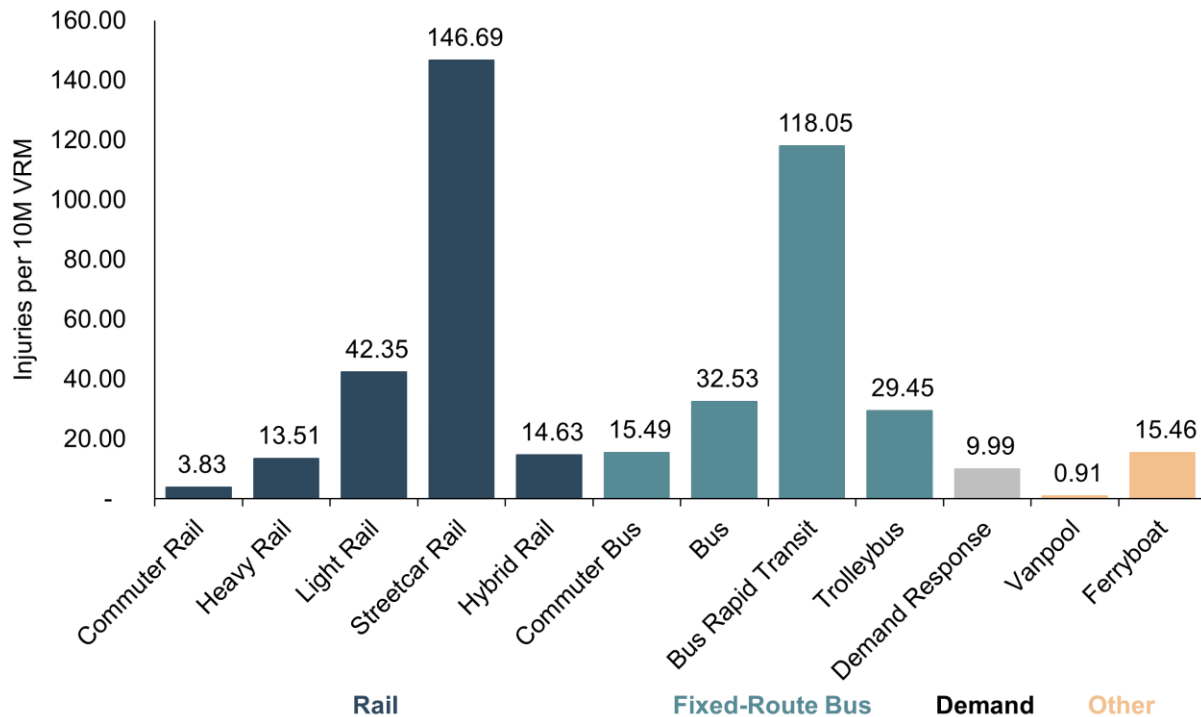


Exhibit 76. 2021 Injuries (per 10 Million VRM) by Mode

Fatality Statistics

The graph below compares the number of reported fatalities to the rate of fatalities per 10 million VRM between 2012 and 2021. The number of fatalities has been reasonably stable at about 322 annual fatalities. The year-to-year variation is less than 50 total fatalities. The fatality rate increased from about 0.79 fatalities per 10 million VRM in 2020 to about 0.94 fatalities per 10 million VRM in 2021.

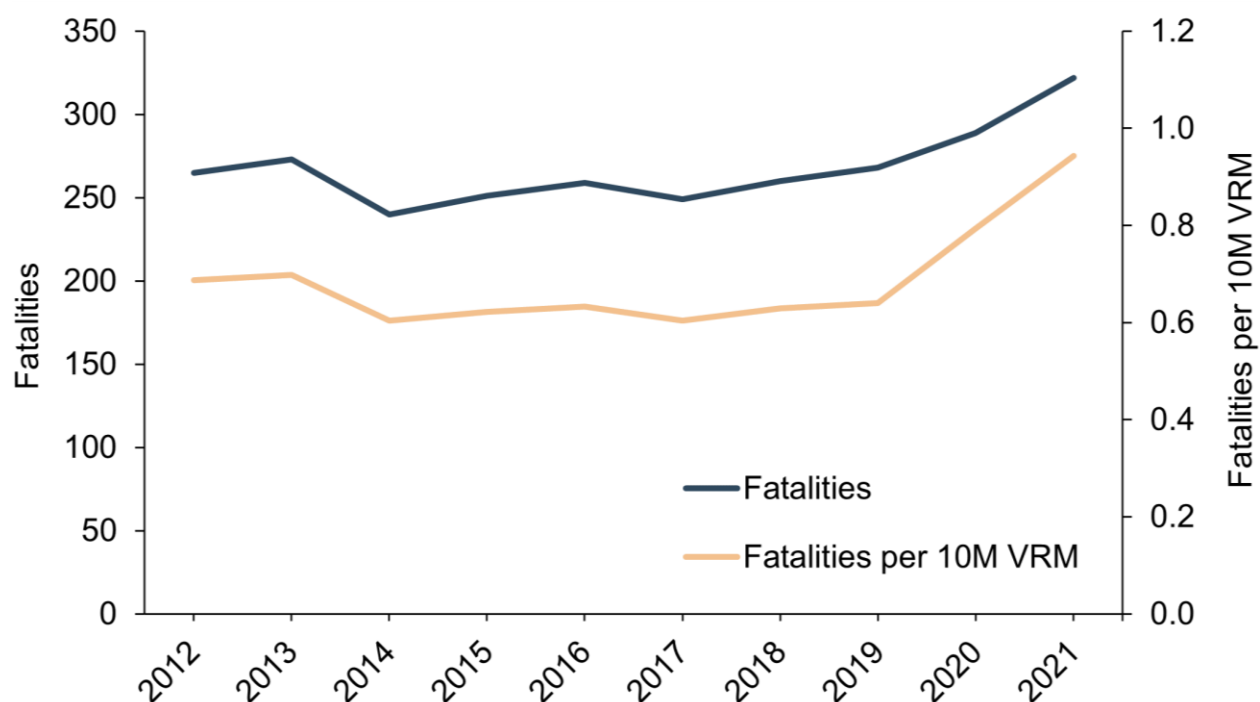


Exhibit 77. Fatalities (per 10 Million VRM)

The graph below reflects the rate of fatalities per VRM for 2021. It contains fewer modes than the 2021 injuries per VRM graph, as some modes did not report any fatalities for 2021. In 2021, rail modes had higher fatality rates, in part because suicides are much more common on rail modes than non-rail modes.

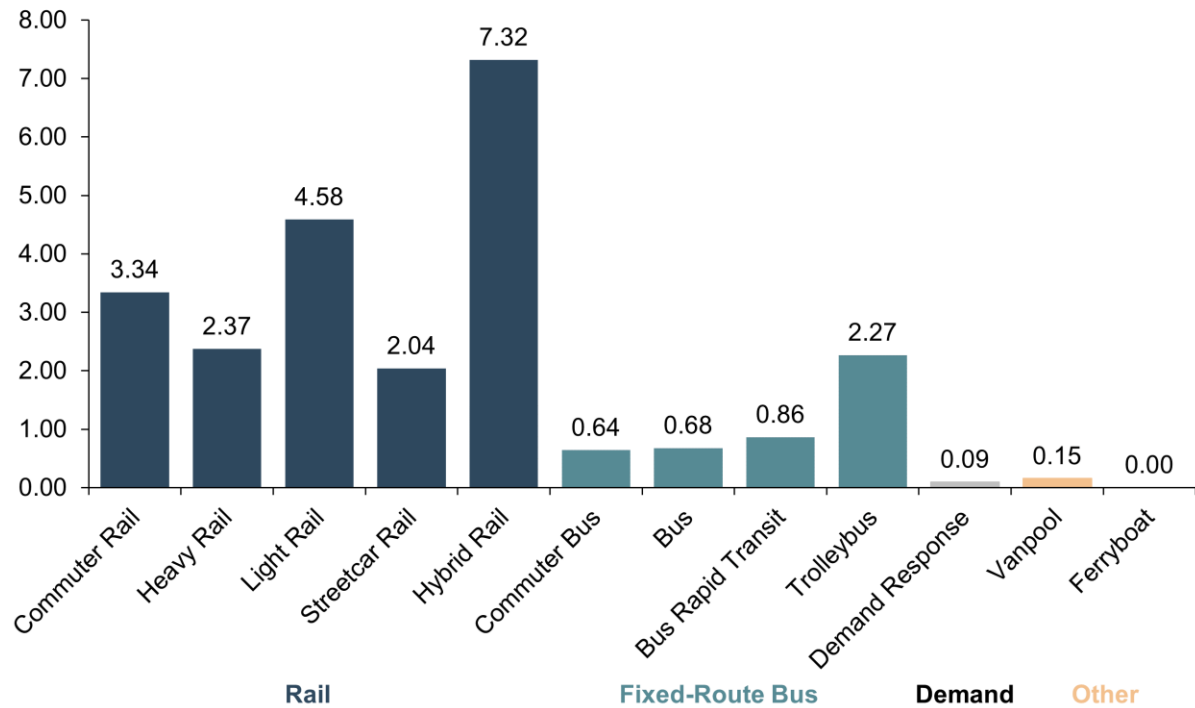


Exhibit 78. 2021 Fatalities (per 10 Million VRM) by Mode

In 2021, large UZAs experienced 246.70 reportable safety and security events per 100 million VRM. Medium UZAs and small UZAs experienced safety and security events at lower rates, 164.64 and 100.63 events per 100 million VRM, respectively.

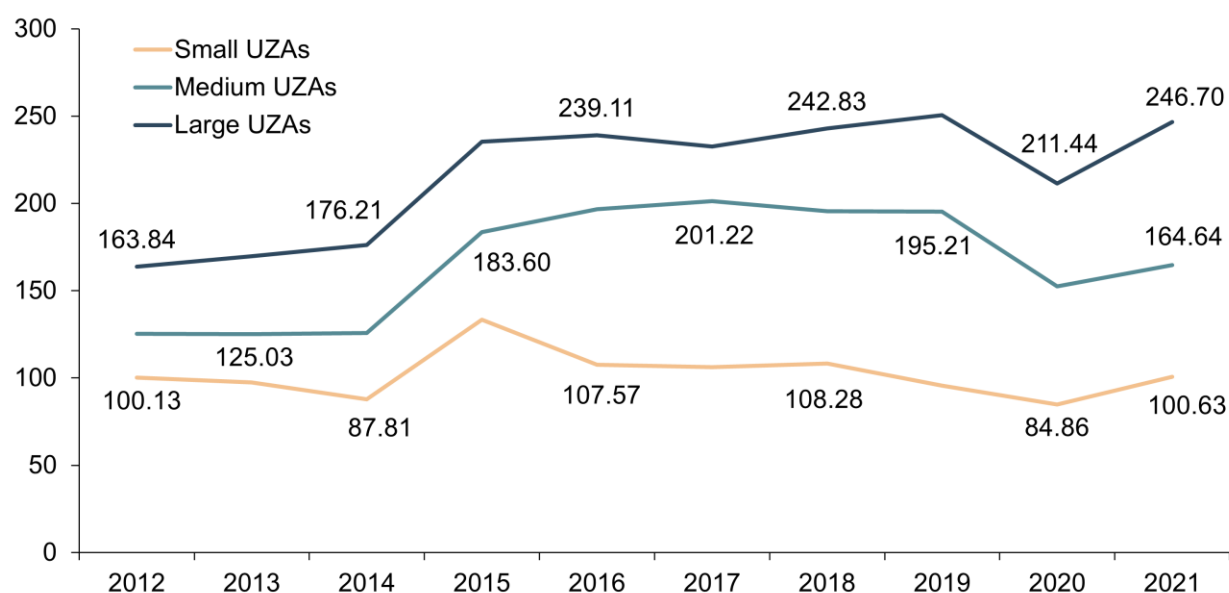


Exhibit 79. Total Reportable Safety and Security Events per 100 Million VRM, by UZA Size

Reduced Reporter Safety Data

Unlike Full Reporters, Reduced Reporters (small transit systems) only report the total number of events that meet a major event threshold and fatalities and injuries resulting from such events for the entire fiscal year of that agency, rather than submitting a separate report for each event. Most Urban Reduced and Rural Reporters (83.3 percent) reported zero major safety and security events in 2021. Of the agencies that did report events, 2.6 percent experienced fatalities.

Data Points	Fatalities	Injuries	Reportable Incidents
Total Safety Incidents	3	175	305
Number of Agencies	3	74	117
Number per Agency	0.00	0.11	0.17
Number per 10M UPT	0.70	40.75	71.03

Exhibit 80. 2021 Safety Events, Reduced Reporting Transit

Rural Safety Data

Rural Reporters do not report the same safety and security data that Full Reporters in the urban module do. Instead, Rural Reporters report reduced safety data similar to a Reduced Reporter in the urban module. They only report a count of incidents, injuries, and fatalities for the year. This exhibit shows that Rural Reporters did not report a high number of fatalities but did report 118 injuries for the year.

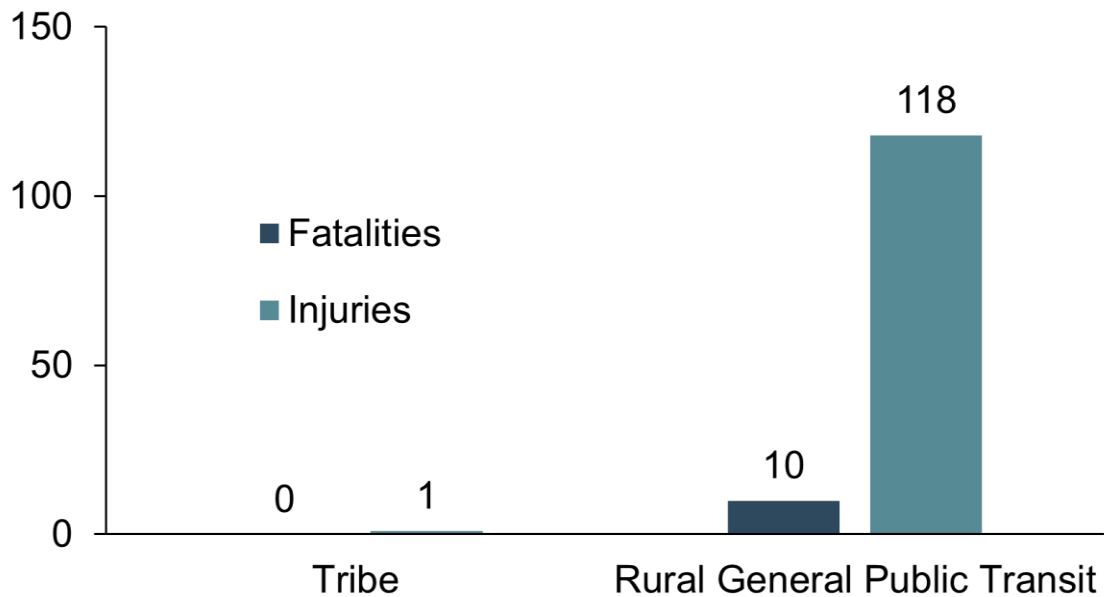


Exhibit 81. Rural Injuries and Fatalities by Reporter Type

Unique Transit Modes

One group of modes — the “unique” modes — are not included in some the mode-level exhibits and summaries in previous sections of this document. This is because these modes are operated in a very limited number of UZAs and represent a small percentage of the nation’s overall public transportation service. The “unique” modes include:

- Aerial Tramways (TR)
- Alaska Railroad (AR)
- Cable Car (CC)
- Inclined Plane (IP)
- Monorail/Automated Guideway (MG)
- Público (PB)

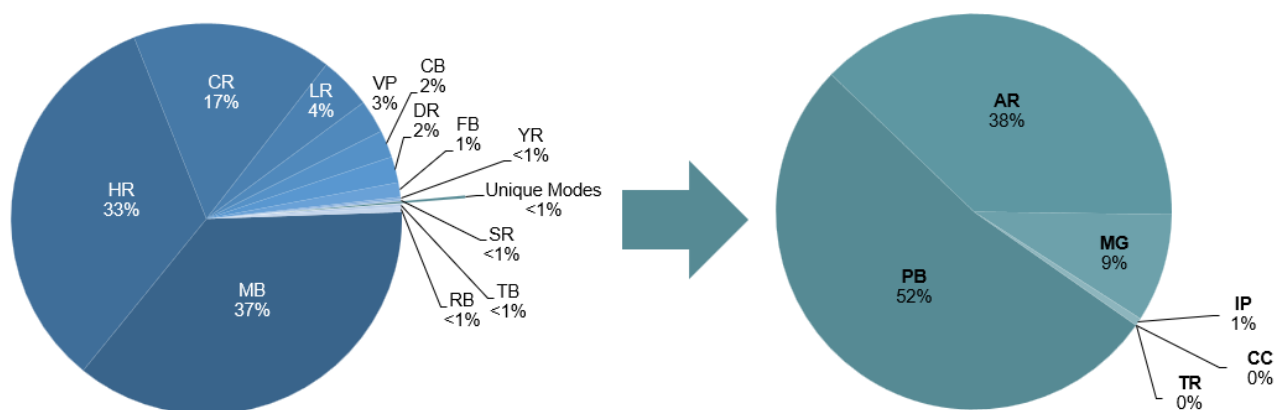


Exhibit 82. Full Reporters' Passenger Miles Traveled

Collectively, these modes represent less than one percent of PMT, VRM, and Operating Expenses. Here are some important notes regarding these modes:

- The Alaska Railroad Corporation operates the AR mode which provided 19.1 million passenger miles of service in Report Year 2021. This service accounted for approximately 38 percent of the total unique mode PMT.
- Público mode, unique to Puerto Rico, account for 52 percent of the PMT by unique transit modes in the U.S. This translates to 26.3 million out of the 50.1 million unique modes' PMT.