TRANSIT
ASSET
MANAGEMENT

2020 TAM Data Summary

A Snapshot of Asset-Related Data
Reported to the National Transit Database

July 2022

U.S. Department of Transportation
Federal Transit Administration

Disclaimer

The Transit Asset Management (TAM) Data Summary report provides a national snapshot of asset conditions. The Federal Transit Administration (FTA) summarizes and compiles data self-reported directly by agencies to the National Transit Database (NTD) in the Asset Inventory Module (AIM), and publishes an annual summary report. While all agencies report performance metrics and targets for the same performance measures, they have discretion over the methods that they use to set their targets. FTA verifies the data to resolve discrepancies such as values reported outside of the expected range, but does not model or extrapolate this data. Please refer to the TAM Performance Management webpage for additional context on the TAM Data Summary, its intended use, and limitations.

If you or your agency reference data from this report, please consider including the following abbreviated disclaimer: 'This statistic is from the TAM Data Summary report. Please refer to the TAM Performance Management webpage for additional context on the TAM Data Summary, its intended use, and limitations.'

Contents

Introduction 6
Report Overview 7
TAM Performance Measures 9
Capital Replacement Responsibility 10
Calculating Performance Metrics and Targets 10
NTD vs. TAM Terminology 10
Revenue Vehicles 14
Useful Life Benchmark (ULB) 17
Asset Replacement 20
Equipment 22
Total Service Vehicles 22
Useful Life Benchmarks (ULBs) and Vehicle Replacement 24
Facilities 27
Facility Condition and Responsibility 27
Phase-in of Facility Condition Assessment Reporting 27
Condition Rating 29
2020 Condition Assessment Phase-In 31
State of Good Repair and Age of Transit Facilities 31
Track + Infrastructure 34
Guideway Miles 34
Track Condition and Responsibility 34
Age of Guideway Miles 36
Track Condition and Responsibility 38
Group Plans 40
Agencies Reporting in Group Plans 40
Number and Condition of Transit Assets Included in Group Plans 41
Performance Targets 43
Comparing 2020 Metrics to 2020 Targets 44
Expected Increases and Decreases in SGR for the Next Year 46

Table of Figures

Figure 1: Tier I and Tier II Agency Definitions 6
Figure 2: Number of Revenue Vehicles (Thousands) 15
Figure 3: Percentage of Revenue Vehicles Not in SGR Currently and in 2022, by Tier (Capital Responsibility Only) 20
Figure 4: Average Revenue Vehicle Age as Percentage of Default ULB (Capital Responsibility Only) 21
Figure 5: Number of Service Vehicles (Thousands) 23
Figure 6: Range of Useful Life Remaining by Asset Class (Capital Responsibility Only) 25
Figure 7: Percentage of Service Vehicles Not in SGR Currently and in 2022, by Tier (Capital Responsibility Only) 26
Figure 8: Number of Facilities (Thousands) 28
Figure 9. Number of Facility Condition Assessments Reported in 2020 (Capital Responsibility Only) 31
Figure 10: Percentage of Facilities in SGR by Decade of Construction (Capital Responsibility Only) 32
Figure 11: Number of Facilities in SGR by Decade of Construction (Capital Responsibility Only) 32
Figure 12: Total Track Miles (Thousands) 36
Figure 13: Decade of Guideway Construction by Rail Mode 37
Figure 14: Percentage of Guideway Infrastructure Beyond Expected Service Years (Capital Responsibility Only) 38
Figure 15: Track Miles with Performance Restrictions in 2019 and 2020 (Capital Responsibility Only) 39
Figure 16: Distribution of Participants in Group Plans 40
Figure 17: 2020 Average Metrics (Bars) and 2020 Average Targets (Reference Lines) (Capital Responsibility Only) 45
Figure 18: 2020 Average Metrics (Bars) and 2021 Average Targets (Reference Line) (Capital Responsibility Only) 45
Figure 19: 2020 and 2021 Average Targets (Capital Responsibility Only) 46
Figure 20: Anticipated Increases and Decreases in Assets in SGR for 2021 Relative to 2020 (Capital Responsibility Only) 47

Table of Tables

Table 1: Overall Transit Asset Inventory and Percentage of Assets in SGR 8
Table 2: Asset Categories and Performance Measures 9
Table 3: Categorization of Revenue Vehicles by Asset Type and Class 14
Table 4: Number of Revenue Vehicles by Tier 15
Table 5: Number of Revenue Vehicles by Asset Class and Tier 16
Table 6: Number of Revenue Vehicles by Tier (Capital Responsibility Only) 17
Table 7: Percentage of Revenue Vehicles in SGR by Year (Capital Responsibility Only) 17
Table 8: Agencies Setting a Custom ULB for At Least One Revenue Vehicle Asset Class (Capital Responsibility Only) 18
Table 9: Default and Custom ULBs (Capital Responsibility Only) 19
Table 10: Number of Service Vehicles by Tier 23
Table 11: Number of Service Vehicles by Tier (Capital Responsibility Only) 23
Table 12: Percentage of Service Vehicles in SGR by Year (Capital Responsibility Only) 24
Table 13: Agencies Setting a Custom ULB for At Least One Service Vehicle Asset Class (Capital Responsibility Only) 24
Table 14: Default and Custom ULBs (Capital Responsibility Only) 25
Table 15: Number of Facilities by Tier 28
Table 16: Number of Facilities by Tier (Capital Responsibility Only) 29
Table 17: Summary of Facilities with Condition Ratings (Capital Responsibility Only) 29
Table 18: Percentage of Facilities in SGR by Year (Capital Responsibility Only) 29
Table 19: Percentage of Facilities in SGR by Facility Type (Capital Responsibility Only) 30
Table 20: Number of Facilities in SGR by Decade of Construction (Capital Responsibility Only) 33
Table 21: Total Track Miles in 2019 and 2020 by Mode 36
Table 22: Guideway Miles by Decade of Construction 37
Table 23: Percentage of Track Miles Without Performance Restrictions by Year (Capital Responsibility Only) 38
Table 24: Track Miles with Performance Restrictions in 2020 (Capital Responsibility Only) 39
Table 25: Participating Tier II Agencies by Type 41
Table 26: Percentage of Total Assets Included in Group Plans in 2019-2020 41
Table 27: Assets Included in Group Plans and in SGR 42
Table 28: Targets and Metrics for Percentage of Assets in SGR by Asset Class (Capital Responsibility Only) 44
Table 29: Anticipated Increases and Decreases in Assets in SGR for 2021 Relative to 2020 (Capital Responsibility Only) 47

Introduction

This report summarizes data that transit agencies reported to the National Transit Database (NTD), providing an inventory and assessment of the condition of assets used to provide transit service nationally. This report provides a snapshot of the data submitted for Report Year 2020, with some references and comparisons to the 2018 and 2019 report year data; 2018 was the first year in which transit agencies reported this information on transit assets, in accordance with the requirements of the Transit Asset Management (TAM) rule (49 CFR 625).

BACKGROUND ON TAM REQUIREMENTS AND REPORTING

The Moving Ahead for Progress in the 21st Century Act (MAP-21) amended Federal transit law to require the Department of Transportation to develop rules to establish a system to monitor and manage public transportation assets to improve safety and increase reliability and performance, and to establish performance measures. On July 26, 2016, FTA published the Transit Asset Management (TAM) Final Rule. The purpose of the TAM Rule is to help achieve and maintain a state of good repair (SGR) for the nation's public transportation assets. Transit asset management is a business model that uses transit asset condition to guide the optimal prioritization of funding.

The regulations apply to all transit providers that are recipients or subrecipients of Federal financial assistance under 49 U.S.C. Chapter 53 and own, operate, or manage transit capital assets used in the provision of public transportation. The TAM Rule groups providers into two categories: Tier I and Tier II. Figure 1 lists the criteria for an agency to be categorized as Tier I or Tier II. Some Tier II agencies participate in Group Plans, which are designed to reduce the burden on smaller transit providers by consolidating the administrative and reporting efforts to the sponsor agency. The remainder of Tier II agencies produce and report their TAM plans independently. Regardless of tier, each agency subject to the rule is required to develop a compliant TAM Plan (first required in October 2018), submit an annual data report to the NTD

Figure 1: Tier I and Tier II Agency Definitions

Tier I	Tier II
Operates rail **OR** ≥ 101 vehicles across all fixed route modes **OR** ≥ 101 vehicles in one non-fixed route mode	Subrecipient of 5311 funds **OR** American Indian Tribe **OR** ≤ 100 vehicles across all fixed route modes **OR** ≤ 100 vehicles in one non-fixed route mode

with performance targets and status (inventory and condition assessment), and submit an annual narrative report (first required in October 2019).

Agencies fulfill this requirement through an individual or group TAM plan. Group Plans are designed to collect TAM information about groups (typically subrecipients of 5311 or 5310 grant programs) that do not have a direct financial relationship with FTA. Group Plan sponsors include direct or designated recipients of section 5311, 5307, and 5310 funds with at least one subrecipient that is a provider of public transportation. State Departments of Transportation (State DOTs) are the most common sponsors, but Metropolitan Planning Organizations (MPOs) or transit agencies can also sponsor Group Plans. Group Plan sponsors are required to include their Tier II subrecipients that do not have a direct funding relationship with FTA; sponsors have the option of inviting Tier II recipients of 5307 funds to join the Group Plan.

This report highlights data that transit agencies reported, providing a comprehensive look at the wide range of capital assets supporting transit service, including revenue vehicles, equipment (service vehicles), facilities, and infrastructure (guideway and track). The data include information on count and age of assets, as well as current condition and expectations of agencies' ability to maintain assets in a state of good repair, as indicated by the reported performance targets. The data are self-reported to the NTD by transit agencies based on the best quality information available to them.

This report focuses on the TAM component of the NTD requirements and the data in the Asset Inventory Module (AIM). The data in this TAM NTD snapshot report are distinct from those documented in the "Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance Report," which FHWA and FTA jointly produce and publish. The Conditions and Performance report also uses data from the AIM, as well as additional information from a sampling of transit agencies across the country, in order to model the nationwide condition of transit and cost of deferred replacement needs. The most recent edition of that report is available online for download.[1]

Report Overview

This report begins with an introduction of TAM requirements as well as the TAM performance measures. It continues with a discussion of NTD reporting requirements and terminology. The report proceeds with a discussion of the data reporting, analysis, and results for the four asset categories of revenue vehicles, service vehicles, facilities, and track and infrastructure. The report concludes with a discussion of Group Plan participation before walking through the data reporting, analysis, and results for the TAM performance targets.

[1] 24th Ed. Status of the Nation's Highways, Bridges, and Transit Conditions and Performance Report: https://www.fhwa.dot.gov/policy/24cpr/ (accessed June 2022)

Table 1 provides a summary of the overall transit asset inventory, and an estimate of the percentage of assets in SGR. Over the past three years, the percentage of assets in SGR has remained relatively consistent for revenue vehicles and facilities, while the percentage of service vehicles in SGR has shown greater fluctuation, moving from 65.9% in 2018 to 62.9% in 2019, to 63.8% in 2020. The percentage of track miles in SGR has also varied over the years, partly due to how agencies report infrastructure condition to the SGR. See the Track and Infrastructure section for more information.

Table 1: Overall Transit Asset Inventory and Percentage of Assets in SGR

Asset Category	Year	Total Number of Assets	Assets with Capital Responsibility	Percentage of Assets in SGR
Revenue Vehicles	2018	173,733	151,035	79.2%
	2019	176,824	150,446	80.0%
	2020	172,845	147,879	79.8%
Equipment (Service Vehicles)	2018	29,480	29,332	65.9%
	2019	30,676	30,509	62.9%
	2020	30,926	30,754	63.8%
Facilities	2018	12,506	10,720	87.1%
	2019	13,318	11,323	87.8%
	2020	13,795	11,721	88.9%
Infrastructure (Track Miles)	2018	13,086	11,442	93.9%
	2019	13,839	11,729	97.0%
	2020	13,917	11,752	96.3%

NTD REPORTING

Reporting TAM data to NTD is a relatively new process. The FTA expects that there may be some reporting variability in the first several years of annual reports. Just as transit agencies are continuing to refine their methods and approaches for collecting and reporting the data, the FTA is also continuing to refine its methodology and approach to analyzing and representing the TAM-related data.

TAM Performance Measures

The NTD is the primary source for the inventory and condition of the country's public transportation systems. FTA requires transit agencies to measure asset performance by asset class, a subgroup of capital assets within an asset category. Table 2 shows assets that must be reported to the NTD and the applicable performance measures. Assets whose condition is beyond the associated performance metrics (e.g., vehicles beyond useful life benchmark, track with performance restrictions, and facilities below the 3.0 TERM rating) are considered to be not in SGR. Transit agencies report on asset condition for the current year and set targets for each asset class for the coming year. The targets reflect an agency's expectation of its ability to keep assets in a state of good repair, based on current conditions, anticipated funding, and internal agency decision making procedures. While FTA provides resources and technical assistance to support target setting, there is no prescribed process that agencies must use. Further, there are no rewards for meeting the targets and no penalties for not meeting the targets. Note that the raw data is reported to NTD as percentages not in SGR; this report simplifies the data to present the percentages of asset classes in SGR.

Table 2: Asset Categories and Performance Measures

Asset Category	Performance Measure	Key Metric
Rolling Stock: Revenue vehicles by mode	**Percentage of revenue vehicles (by type) that exceed the ULB.**	**Useful Life Benchmark (ULB): The expected lifecycle of a capital asset for a particular transit provider's operating environment, or the acceptable period of use in service for a particular transit provider's operating environment.**
Equipment: Nonrevenue support-service and maintenance vehicles	**Percentage of nonrevenue service vehicles (by class) that exceed the ULB.**	**Same as above.**
Facilities: Maintenance and administrative facilities; and passenger stations (buildings) and parking facilities	**Percentage of facilities that are rated less than 3.0 on the TERM scale.**	**Transit Economic Requirements Model (TERM) scale for defining asset condition: 1-poor, 2-marginal, 3-adequate, 4-good, and 5- excellent.**
Infrastructure: Only rail fixed-guideway track, signals, and systems	**Percentage of track segments (by mode) with performance restrictions.**	**Performance restriction: Exists on a segment of rail fixed guideway when the maximum permissible speed of transit vehicles is set to a value that is below the guideway's full-service speed. These restrictions are often referred to as "slow zones".**

Capital Replacement Responsibility

Transit agencies are required to inventory all assets used in provision of public transportation but are only required to assess the condition of and set targets on the assets for which they have direct capital responsibility. Agencies have direct capital responsibility of an asset if they:

- Own the asset;
- Jointly own the assets with another entity; or
- Are responsible for replacing, overhauling, refurbishing, or conducting major repairs on that asset, or the costs of those activities are itemized as a capital line item in their budget.

Calculating Performance Metrics and Targets

Transit agencies report condition information at the individual asset level for the current year, and set performance targets for all assets within each asset class for the following year. For this snapshot report, FTA has calculated the current year SGR metrics for each asset class across the country, based on the reported performance and condition of each asset. For example, this means calculating the total number of buses that all transit agencies have capital responsibility for, and the percentage of those buses that are beyond their agency-defined ULBs. Similarly, FTA compared the total number of buses for each agency to the SGR target to calculate a national total number of buses and percentage in SGR for the following year target. These results for buses are presented in the Revenue Vehicles and Performance Targets sections.

NTD vs. TAM Terminology

While the TAM and NTD requirements overlap at data reporting, they are each their own programs with distinct timelines, requirements, and terminology. This report focuses on the TAM component of the NTD requirements and the data in the Asset Inventory Module (AIM). It does not include data or information from other NTD modules. In general, this report may frame or discuss NTD data reporting through the lens of the TAM program, rather than using the specific language found in the NTD reporting forms.

GLOSSARY

Asset Category: A grouping of asset classes, including a grouping of equipment, a grouping of rolling stock, a grouping of infrastructure, and a grouping of facilities.

Asset Class: A subgroup of capital assets within an asset category. For example, buses, trolleys, and cutaway vans are all asset classes within the rolling stock asset category.

Asset Inventory Module (AIM): NTD forms used to report on transit assets.

A-15: Facility Inventory Form

A-20: Transitway Mileage Form

A-30: Revenue Vehicle Inventory Form

A-35: Service Vehicle Inventory Form

A-90: Transit Asset Management Performance Measures Form

Direct Capital Responsibility: Transit agencies have direct capital responsibility for assets that they own, jointly own with another entity, or for assets that they are responsible for replacing, overhauling, refurbishing, or conducting major repairs on that asset, or the cost of those activities are itemized as a capital line item in the agency's budget.

FTA Funding Programs:

5307, Urbanized Area Formula Grant Program: makes federal resources available to urbanized areas and to governors for transit capital and operating assistance in urbanized areas and for transportation-related planning. An urbanized area is an incorporated area with a population of 50,000 or more that is designated as such by the U.S. Department of Commerce, Bureau of the Census.

5310, Grant Program for special services to the elderly and disabled: provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs.

5311, Rural Area Formula Grant Program: provides capital, planning, and operating assistance to states and federally recognized Indian tribes to support public transportation in rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations. It also provides funding for state and national training and technical assistance through the Rural Transportation Assistance Program.

Tribal, Tribal Transit Program: A set-aside from the Formula Grants for Rural Areas program that consists of a formula program and a competitive grant program subject to the availability of appropriations.

Group Plan: A single TAM plan that is developed by a sponsor on behalf of at least one Tier II provider.

Group Plan Participant: A Tier II transit agency participating in a TAM Group Plan.

Group Plan Sponsor: A State, a designated recipient, or a direct recipient that develops a Group TAM Plan for at least one Tier II provider.

National Transit Database (NTD): Repository of data about the financial, operating and asset conditions of American transit systems. The NTD records the financial, operating, and asset condition of transit systems helping to keep track of the industry and provide public information and statistics.

Performance Restriction: Exists on a segment of rail fixed guideway when the maximum permissible speed of transit vehicles is set to a value that is below the guideway's full-service speed. These restrictions are often referred to as "slow zones".

State of Good Repair (SGR): The condition in which a capital asset is able to operate at a full level of performance. A capital asset is in a state of good repair when that asset:

- Is able to perform its designed function,
- Does not pose a known unacceptable safety risk, and
- Its lifecycle investments have been met or recovered.

Tier I: A recipient that owns, operates, or manages either (a) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (b) rail transit.

Tier II: A recipient that owns, operates, or manages (a) one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, (b) a subrecipient under the 5311 Rural Area Formula Program, (c) or any American Indian tribe.

Transit Asset Management (TAM): The strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation. TAM is a business model that prioritizes funding based on the condition of transit assets to achieve and maintain a state of good repair for the nation's public transportation assets. The 2016 TAM Final Rule develops a framework for transit agencies to monitor and manage public transportation assets, improve safety, increase reliability and performance, and establish performance measures in order to help agencies keep their systems operating smoothly and efficiently.

Transit Economic Requirements Model (TERM): An analysis tool developed for the FTA designed to estimate transit capital investment needs to maintain a state of good repair across the nation's transit systems.

Useful Life Benchmark (ULB): The expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA.

Revenue Vehicles

Revenue vehicles are the largest capital asset category used in the provision of public transit, and the most familiar assets to the public. There are 25 classes of revenue vehicles (Table 3) reported to the NTD; for ease of understanding, this fact sheet combines them into four asset types: rail vehicles, buses, vans, and other vehicles.

Table 3: Categorization of Revenue Vehicles by Asset Type and Class

Asset Type	Asset Classes	
Rail Vehicles		
	Cable Car	Inclined Plane Vehicle
	Commuter Rail Locomotive	Light Rail Vehicle
	Commuter Rail Passenger Coach	Monorail Vehicle
	Commuter Rail Self-Propelled Passenger Car	Streetcar
Buses	Articulated Bus	School Bus
	Bus	Trolleybus
	Double Decker Bus	Vintage Trolley
	Over-the-road Bus	
Vans/Cutaways	Cutaway	Van
Other Vehicles	Aerial Tramway	Minivan
	Automobile	Other
	Ferryboat	Sports Utility Vehicle

DATA REPORTING

Agencies report revenue vehicles to the NTD as fleets, providing information such as date of manufacture, useful life benchmark (ULB), and the number of vehicles in each fleet. Agencies also report whether they hold capital replacement responsibility for each vehicle fleet. For the number of vehicles, agencies report both the number of fleet vehicles and "active" fleet vehicles. Active fleet vehicles exclude vehicles that are slated for disposal or out of commission. The analysis below considers active fleet vehicles only. In 2020, 2,770 agencies reported revenue vehicles to the NTD.

ANALYSIS AND RESULTS

Nationwide, transit providers reported over 172,000 revenue vehicles in 2020. Figure 2 and Table 4 show the breakdown of asset types by agency tier, with Table 4 further distinguishing between Tier II agencies submitting their own TAM plan and Tier II agencies participating in Group Plans.[2] Agencies with rail vehicles are automatically classified as Tier I agencies.

Figure 2: Number of Revenue Vehicles (Thousands)

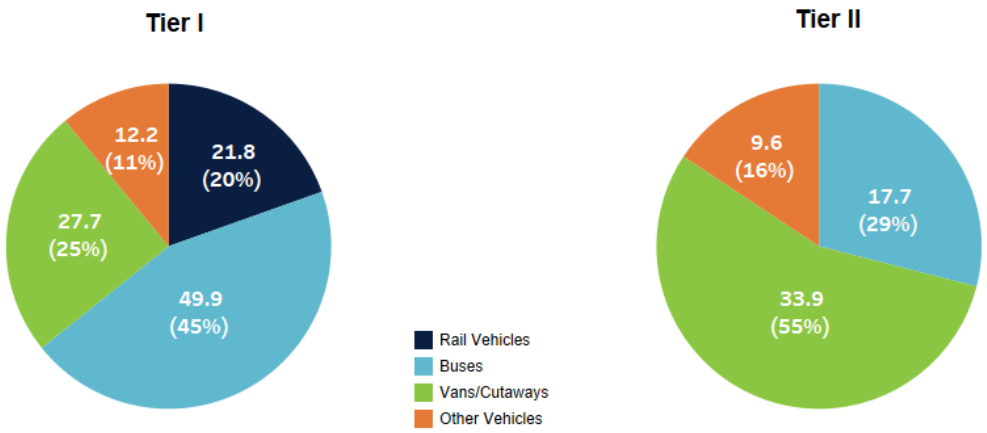


Table 4: Number of Revenue Vehicles by Tier

		2020			
Asset Type	2019 Total	Tier I	Tier II Individual	Tier II Group Plan	Total
Rail Vehicles	22,380	21,828	n/a	n/a	21,828
Buses	68,008	49,910	10,128	7,614	67,652
Vans/Cutaways	62,444	27,664	9,841	24,025	61,530
Other Vehicles	22,992	12,246	2,237	7,352	21,835
Grand Total	176,824	111,648	22,206	38,991	172,845

[2] Numbers in Snapshot tables and figures may not add exactly to 100% due to rounding.

Table 5 further breaks down the assets and presents the number of revenue vehicles by asset class and agency Tier. As stated above, by definition, Tier II agencies do not have any class of rail vehicles.

Table 5: Number of Revenue Vehicles by Asset Class and Tier

Asset Type	Asset Class	Tier I	Tier II	Total
Rail Vehicles	Automated Guideway Vehicle	115	n/a	115
	Cable Car	37	n/a	37
	Commuter Rail Locomotive	884	n/a	884
	Commuter Rail Passenger Coach	3,680	n/a	3,680
	Commuter Rail Self-Propelled Passenger Car	2,805	n/a	2,805
	Heavy Rail Passenger Car	11,575	n/a	11,575
	Inclined Plane Vehicle	8	n/a	8
	Light Rail Vehicle	2,716	n/a	2,716
	Monorail Vehicle	8	n/a	8
Buses	Articulated Bus	5,816	200	6,016
	Bus	38,418	16,063	54,481
	Double Decker Bus	174	14	188
	Over-the-road Bus	4,843	1,376	6,219
	School Bus	6	89	95
	Trolleybus	562	0	562
	Vintage Trolley	91	0	91
Vans/Cutaways	Cutaway	14,097	26,198	40,295
	Van	13,567	7,668	21,235
Other Vehicles	Aerial Tramway	2	71	73
	Automobile	5,159	1,337	6,496
	Ferryboat	46	188	234
	Minivan	5,381	7,312	12,693
	Other	1	67	68
	Sports Utility Vehicle	1,657	614	2,271
Grand Total	All Revenue Vehicles	111,648	61,197	172,845

Of the 172,845 revenue vehicles, agencies reported having capital responsibility for 147,879 revenue vehicles, as presented in Table 6. The subsequent discussion and analysis in this section only focuses on the revenue vehicles for which agencies report having capital responsibility.

Table 6: Number of Revenue Vehicles by Tier (Capital Responsibility Only)

		2020			
Asset Type	2019 Total	Tier I	Tier II Individual	Tier II Group Plan	Total
Rail Vehicles	19,573	19,001	n/a	n/a	19,001
Buses	67,461	49,297	9,687	7,219	66,203
Vans/Cutaways	50,180	17,899	8,985	22,997	49,881
Other Vehicles	13,232	4,910	1,245	6,639	12,794
Grand Total	150,446	91,107	19,917	36,855	147,879

Useful Life Benchmark (ULB)

The ULB is the age at which a vehicle asset class is estimated to no longer be in SGR; it can also be interpreted as the estimated replacement cycle for a specific asset class. Table 7 summarizes the percentage of revenue vehicles within their ULB, and thus in SGR, over the past three years.

Table 7: Percentage of Revenue Vehicles in SGR by Year (Capital Responsibility Only)

Asset Type	2018	2019	2020
Rail Vehicles	82.3%	82.3%	82.1%
Buses	81.0%	82.8%	83.2%
Vans/Cutaways	76.3%	76.8%	76.3%
Other Vehicles	76.0%	74.7%	72.1%

FTA established default ULBs for each vehicle asset class, using the average age at which it would reach the midpoint (a rating of 2.5) on the FTA Transit Economic Requirements Model (TERM) scale. Transit agencies may set a customized ULB, if FTA defaults do not accurately reflect their operating environment. Assets that are beyond the ULB, whether it is the FTA default or a custom value, are considered to not be in SGR and therefore need to be replaced. Table 8 below shows the number of agencies that set a custom ULB for at least one revenue vehicle asset class.

Table 8: Agencies Setting a Custom ULB for At Least One Revenue Vehicle Asset Class (Capital Responsibility Only)

Report Year	Number of Agencies Reporting Custom ULB	Total Number of Agencies Reporting Revenue Vehicles	Percentage of Agencies Reporting Custom ULB
2018	1,294	2,549	50.8%
2019	1,416	2,666	53.1%
2020	1,437	2,684	53.5%

Agencies set customized ULBs for both longer and shorter periods than the FTA defaults, indicating a range in expected replacement cycles, based on their unique operating environments. However, custom values were more frequently for a shorter period of time than the default, indicating that the vehicles would need to be replaced sooner than the FTA estimated lifespan.

Table 9 outlines the default and range of custom ULBs for each revenue vehicle asset class. The percentage of agencies reporting an asset reflects the number of agencies that report at least one asset of that class to NTD, out of the total number of agencies that report to NTD. For example, 3.19% of agencies that submitted data to the NTD reported Articulated Bus assets. Of those agencies that reported Articulated Buses, 58.8% of them set a custom ULB.

Table 9: Default and Custom ULBs (Capital Responsibility Only)

Asset Type	Asset Class	Percentage of Agencies Reporting Asset	Average Asset Age (Years)	Default ULB (Years)	Percentage of Agencies Setting Custom ULBs	ULB Range for All Assets (Years)
Rail Vehicles	Automated Guideway Vehicle	0.19%	21.0	31	80.0%	25 - 50
	Cable Car	0.04%	86.6	112	0.0%	112 - 112
	Commuter Rail Locomotive	0.82%	29.4	39	72.7%	20 - 80
	Commuter Rail Passenger Coach	0.90%	37.5	39	66.7%	25 - 45
	Commuter Rail Self-Propelled Passenger Car	0.52%	17.5	39	50.0%	30 - 77
	Heavy Rail Passenger Car	0.56%	20.9	31	73.3%	22 - 77
	Inclined Plane Vehicle	0.11%	19.5	56	33.3%	56 - 197
	Light Rail Vehicle	1.42%	25.4	31	55.3%	25 - 45
	Monorail Vehicle	0.04%	9.0	31	100.0%	80 - 80
Buses	Articulated Bus	3.19%	8.5	14	58.8%	4 - 25
	Bus	36.96%	9.1	14	53.5%	4 - 26
	Double Decker Bus	0.34%	12.3	14	33.3%	12 - 20
	Over-the-road Bus	3.94%	8.8	14	37.1%	10 - 25
	School Bus	0.67%	16.2	14	38.9%	10 - 15
	Trolleybus	0.19%	3.2	13	80.0%	13 - 18
	Vintage Trolley	0.37%	68.4	58	20.0%	58 - 118
Vans/Cut aways	Cutaway	82.27%	7.2	10	46.7%	1 - 20
	Van	40.52%	6.6	8	36.4%	4 - 15
Other Vehicles	Aerial Tramway	0.07%	15.1	12	50.0%	12 - 50
	Automobile	7.68%	9.0	8	37.1%	4 - 10
	Ferryboat	1.39%	24.4	42	54.1%	10 - 105
	Minivan	42.95%	6.6	8	39.1%	2 - 13
	Other	0.34%	9.5	14	88.9%	5 - 14
	Sports Utility Vehicle	4.72%	5.9	8	23.0%	4 - 12

Asset Replacement

Assets are considered due for replacement when their age (calculated from date of manufacture) reaches the ULB value. Figure 3 shows by tier the percentage of assets nationwide that currently exceed ULB or will by 2022, which is the time horizon for the first TAM plans completed in 2018. On average, 15.7% of buses owned by Tier I agencies and 19.9% of buses owned by Tier II agencies are beyond ULB, or are already overdue for replacement. By 2022, an additional 12.2% of buses owned by Tier I agencies and 12.7% of buses owned by Tier II agencies will be beyond ULB if no replacements are made.

Figure 3: Percentage of Revenue Vehicles Not in SGR Currently and in 2022, by Tier (Capital Responsibility Only)

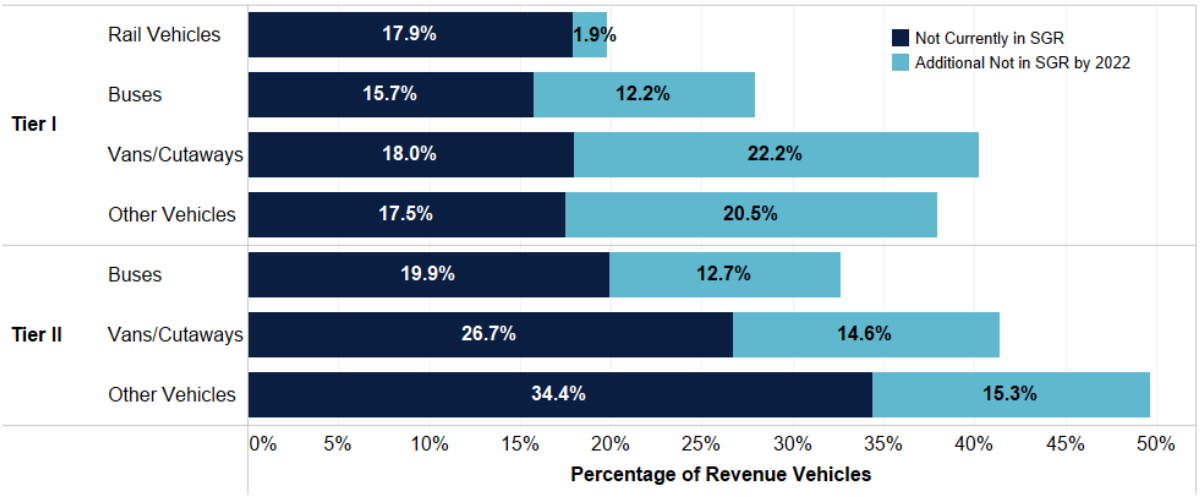
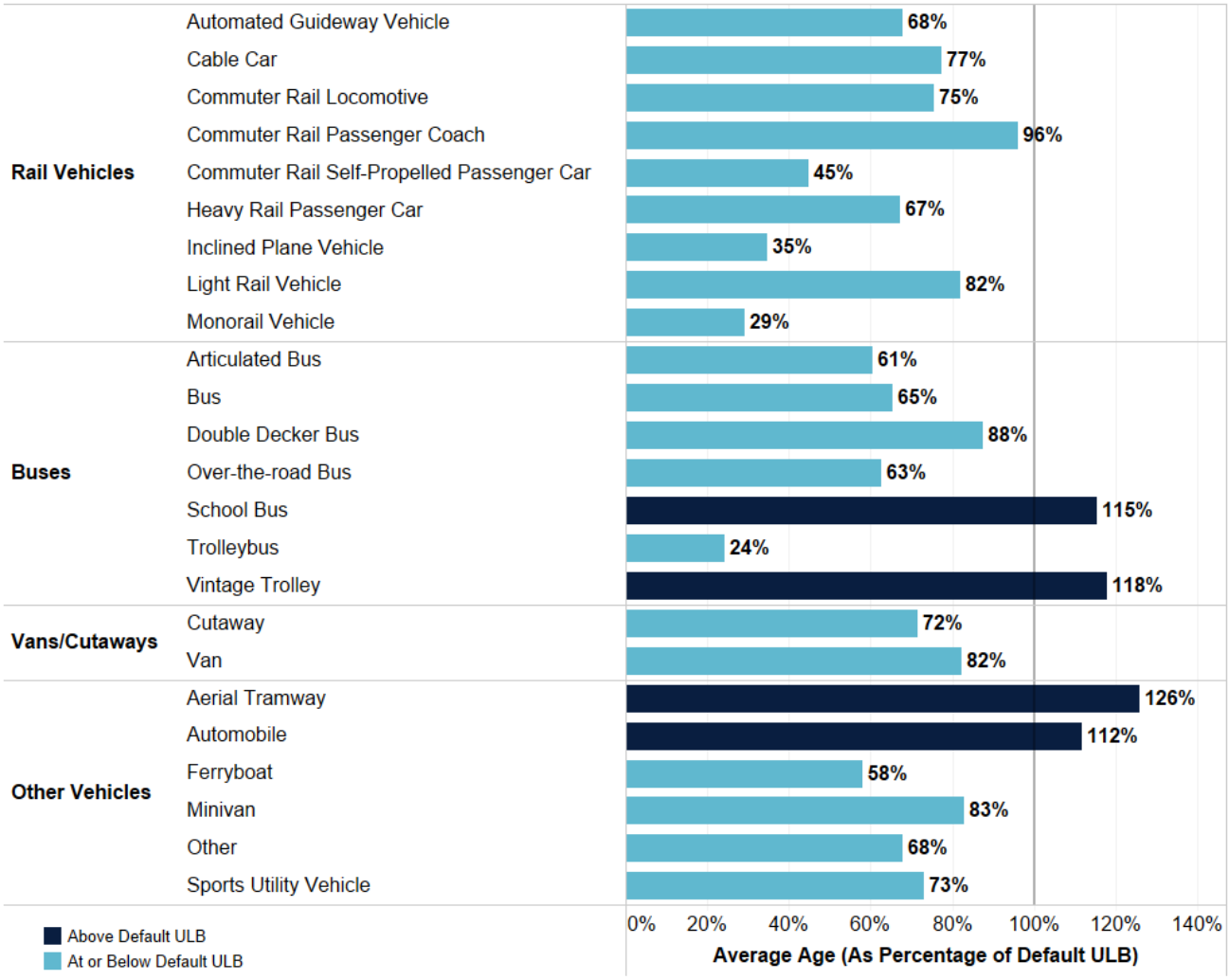


Figure 4 shows the average age of each asset class as a percentage of the default ULB. A percentage above 100% signifies that the average revenue vehicle in this class is older than the default ULB. In 2020, the school bus, vintage trolley, aerial tramway, and automobile asset classes all have average ages that exceed the default ULB. However, individual agencies may have set custom ULBs for their respective assets.

Figure 4: Average Revenue Vehicle Age as Percentage of Default ULB (Capital Responsibility Only)



Equipment

NTD reporting for Equipment focuses on service vehicles, which indirectly support transit service by helping to maintain revenue vehicles and perform transit related administrative activities. Examples include transit tow trucks, rail track de-icing vehicles, and supervisor cars used by the transit agency.

DATA REPORTING

Agencies report service vehicles to the NTD as fleets, providing information such as date of manufacture, useful life benchmark (ULB), and the number of vehicles in each fleet. The three classes of service vehicles are: automobiles, rubber tire vehicles (or 'bus service vehicles'), and steel-wheel vehicles (or 'rail service vehicles'). Agencies report the proportion of capital responsibility they have for each asset class. Agencies also report the replacement costs for each fleet of assets, including a year for the estimate. In 2020, 956 agencies reported service vehicles to the NTD.

ANALYSIS AND RESULTS

Total Service Vehicles

Nationwide, transit providers use over 30,000 vehicles to support transit service (including more than 6,300 automobiles, 1,500 rail vehicles, and 23,000 trucks and other bus service vehicles). These vehicles are used to maintain tracks, provide transportation for workers between sites, and support other crucial functions. Figure 5 and Table 10 show the number of service vehicles by class.[3]

[3] The service vehicles analysis excludes three museum display buses reported in the inventory.

Figure 5: Number of Service Vehicles (Thousands)

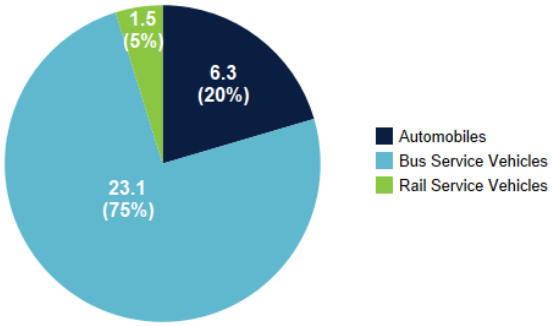


Table 10: Number of Service Vehicles by Tier

		2020			
Asset Class	**2019 Total**	**Tier I**	**Tier II Individual**	**Tier II Group Plan**	**Total**
Automobiles	6,626	4,616	1,018	709	6,343
Bus Service Vehicles	22,278	19,631	1,995	1,474	23,100
Rail Service Vehicles	1,772	1,483	n/a	n/a	1,483
Grand Total	30,676	25,730	3,013	2,183	30,926

Of the 30,926 service vehicles, agencies reported having capital responsibility for 30,754 service vehicles, as presented in Table 11. The subsequent discussion and analysis in this section only focuses on the service vehicles for which agencies report having capital responsibility.

Table 11: Number of Service Vehicles by Tier (Capital Responsibility Only)

		2020			
Asset Class	**2019 Total**	**Tier I**	**Tier II Individual**	**Tier II Group Plan**	**Total**
Automobiles	6,622	4,605	1,012	705	6,322
Bus Service Vehicles	22,120	19,516	1,973	1,465	22,954
Rail Service Vehicles	1,767	1,478	n/a	n/a	1,478
Grand Total	30,509	25,599	2,985	2,170	30,754

Useful Life Benchmarks (ULBs) and Vehicle Replacement

Agencies report ULBs for service vehicles similarly to revenue vehicles (see discussion of ULBs in Revenue Vehicle section above). As with revenue vehicles, FTA establishes default ULBs for each service vehicle asset class; however, transit agencies may set a customized ULB. Assets that are beyond the ULB, whether it is the FTA default or a custom value, are considered to not be in SGR and therefore need to be replaced. Table 12 summarizes how the percentage of service vehicles within their ULB, and thus in SGR, has changed over the past years.

Table 12: Percentage of Service Vehicles in SGR by Year (Capital Responsibility Only)

Asset Class	2018	2019	2020
Automobiles	57.2%	55.5%	56.5%
Bus Service Vehicles	70.7%	66.2%	66.8%
Rail Service Vehicles	47.5%	49.8%	48.2%

Table 13 below shows the number of agencies that set a custom ULB for at least one service vehicle asset class.

Table 13: Agencies Setting a Custom ULB for At Least One Service Vehicle Asset Class (Capital Responsibility Only)

Report Year	Number of Agencies Reporting Custom ULB	Total Number of Agencies Reporting Service Vehicles	Percentage of Agencies Reporting Custom ULB
2018	365	885	41.2%
2019	453	932	48.6%
2020	470	951	49.4%

Agencies set a wide range of ULBs across the three asset classes that make up service vehicles. Table 14 displays the default ULB as well as the range of reported ULBs for each service vehicle asset class. In this table, the percentage of agencies reporting each asset class is out of all 951 agencies reporting equipment.

Table 14: Default and Custom ULBs (Capital Responsibility Only)

Asset Class	Percentage of Agencies Reporting Asset	Average Asset Age (Years)	Default ULB (Years)	Percentage of Agencies Setting Custom ULBs	ULB Range for All Assets (Years)
Automobiles	59.2%	7.3	8	33.2%	3 - 40
Bus Service Vehicles	87.4%	7.8	14	50.9%	3 - 40
Rail Service Vehicles	3.8%	22.6	25	63.9%	8 - 45

Accounting for agency custom ULBs, the average ULB across all service vehicles are 8.0 years for automobiles, 10.6 years for bus service vehicles, and 23.1 years for rail service vehicles. Therefore, comparing the average age (shown in Table 14) and the average ULB for each service vehicle class, the average automobile and rail service vehicle is within one year of requiring replacement, while the average bus service vehicle is within three years of requiring replacement. Figure 6 shows a distribution of the average years until replacement across the entire fleet for each asset class.

Figure 6: Range of Useful Life Remaining by Asset Class (Capital Responsibility Only)

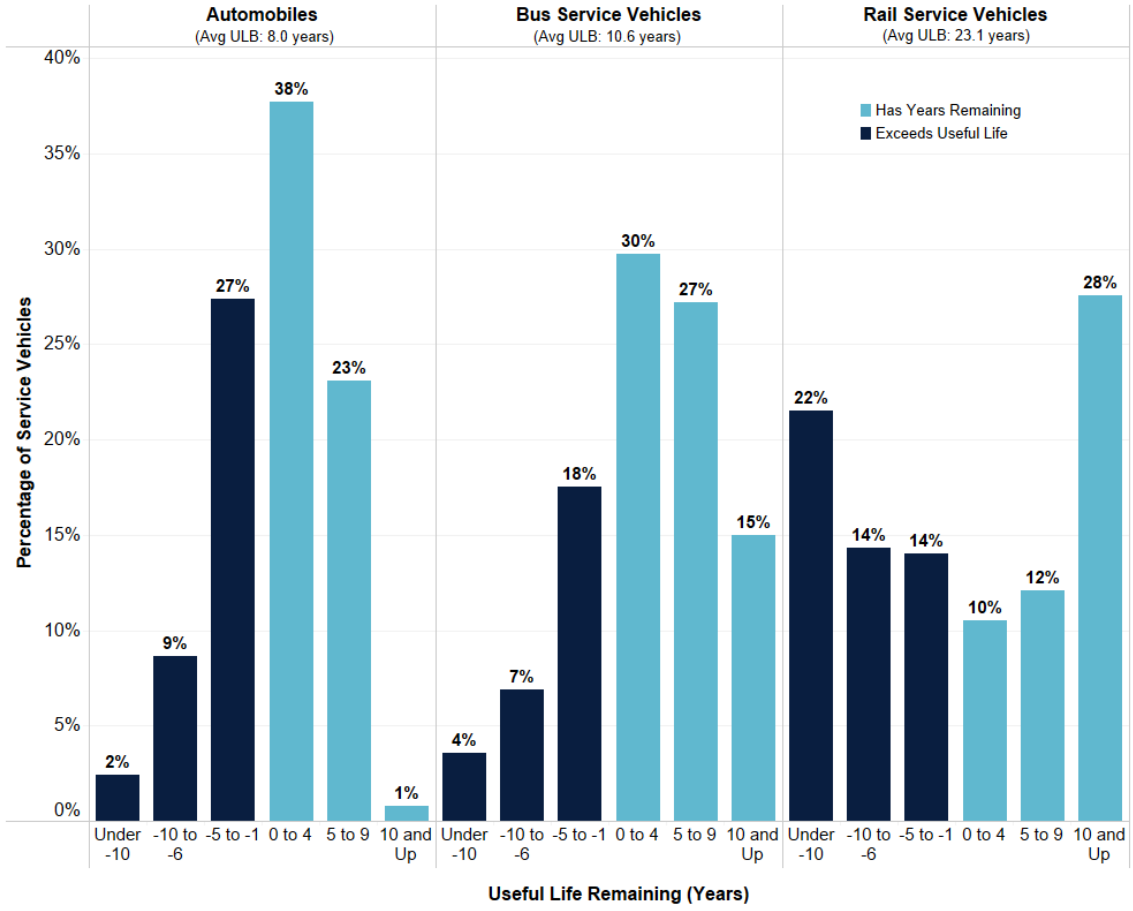
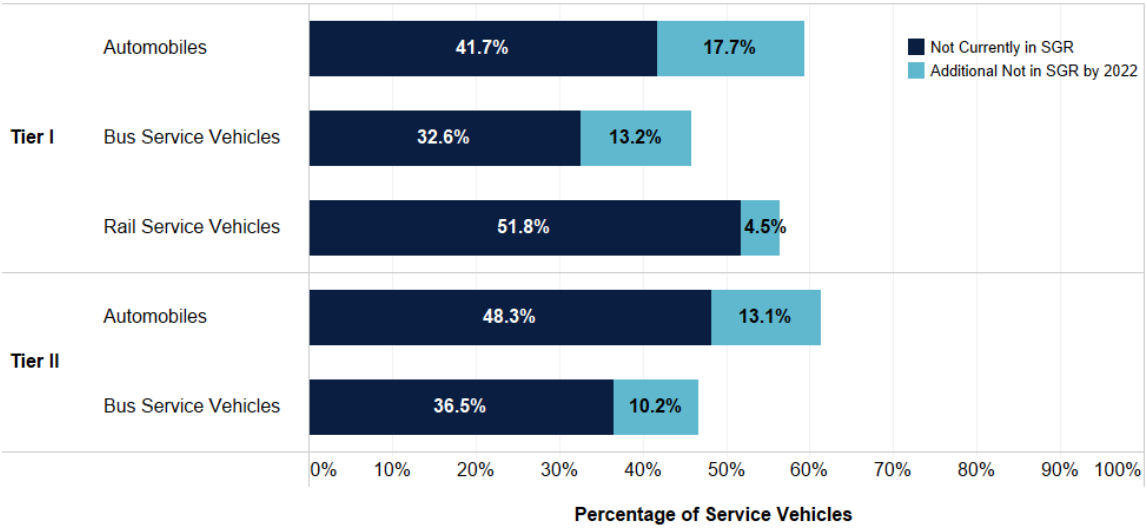


Figure 7 shows the percentage of service vehicles beyond ULB for the current report year as well as the horizon period for the first TAM plans. Across asset classes, over 9,000 Tier I service vehicles are already beyond their ULB, meaning they are currently considered overdue for replacement, and an additional 3,000 Tier I service vehicles will exceed their ULB by 2022. Across both Tier I and Tier II agencies, about 49% of all service vehicles will be in need of replacement by 2022 if the current fleet stays the same.

Figure 7: Percentage of Service Vehicles Not in SGR Currently and in 2022, by Tier (Capital Responsibility Only)



Facilities

As reported to the NTD, there are over 13,000 facilities supporting transit service in the U.S. While on average, facilities are approximately 28 years old, 3% of all facilities in use today were built at the turn of the 20th century. Approximately 89% of all facilities are in a state of good repair and, on average, facilities have a condition rating of 3.5 on the 1-5 TERM scale.

DATA REPORTING

Transit agencies report information on four classes of facilities that are used to support transit: maintenance, passenger, administrative, and parking. Agencies report information on the year of construction, percentage of capital responsibility, condition, and date of condition assessment. In 2020, 2,815 agencies reported facilities to the NTD.

Facility Condition and Responsibility

Transit agencies are required to conduct regular condition assessments of their assets for which they have capital responsibility. The condition assessment process involves inspections that evaluate asset physical conditions, performance characteristics, and potential risks and impacts of failures. Agencies self-assess the condition for each of their facilities on the 1-5 TERM scale, and submit condition ratings, which are then aggregated to calculate the facility condition performance measure metric. This condition rating is based on the TAM Facility Performance Measure Reporting Guidebook requirements.

Transit agencies assess and report facility condition to the NTD based on the five-point scale used in the Transit Economic Requirements Model (TERM). The TERM scale indicates that an asset is considered in a state of good repair if it has a rating of 3 (adequate), 4 (good), or 5 (excellent) on this scale. Likewise, a facility is deemed to not be in good repair if it has a rating of 1 (poor) or 2 (marginal).

Phase-in of Facility Condition Assessment Reporting

Facility condition assessments must be updated every four years at minimum. FTA allowed agencies to phase in the reporting of facility condition assessments specifically over the first TAM Plan reporting period, in order to reduce the burden of data collection processes that were new for many agencies. In 2020, agencies were required to report at least 50% of their facilities

condition assessment ratings[4], continuing to phase in the reporting until all facilities have condition assessments reported by Report Year 2021.

ANALYSIS AND RESULTS

Figure 8 and Table 15 show a breakdown of facility counts by asset class. Agencies reported a total of 13,795 facilities to their asset inventories in 2020, including 97 newly constructed facilities. By contrast, agencies reported 13,318 facilities in 2019; the remaining 380 facilities appear to be newly-accounted-for older facilities from improved reporting and repurposed facilities. As transit agencies continue to gain more experience in reporting and analyzing TAM-related data, the total reported numbers may continue to shift.

Figure 8: Number of Facilities (Thousands)

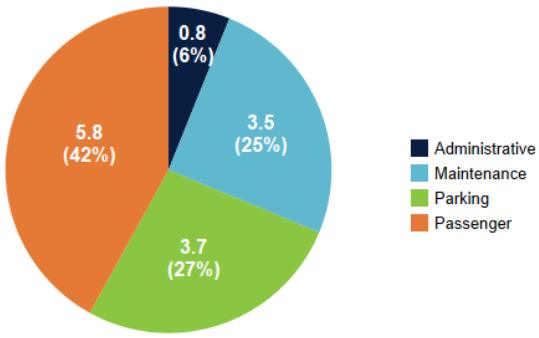


Table 15: Number of Facilities by Tier

		2020			
Asset Class	**2019 Total**	**Tier I**	**Tier II Individual**	**Tier II Group Plan**	**Total**
Administrative	822	392	149	299	840
Maintenance	3,412	2,123	521	828	3,472
Parking	3,516	3,344	203	146	3,693
Passenger	5,568	4,954	490	346	5,790
Grand Total	13,318	10,813	1,363	1,619	13,795

[4] The original requirement was to report at least 75% of facilities by Report Year 2020, but FTA relaxed this requirement to provide relief to agencies during the COVID-19 national health emergency.

In 2020, agencies reported having partial or full capital responsibility for 11,721 facilities, as presented in Table 16. Of this total, agencies reported condition ratings for 10,899 facilities. The subsequent discussion and analysis only include those facilities that have reported condition ratings in NTD.

Table 16: Number of Facilities by Tier (Capital Responsibility Only)

		2020			
Asset Class	2019 Total	Tier I	Tier II Individual	Tier II Group Plan	Total
Administrative	822	392	149	299	840
	3,405	2,120	521	826	3,467
Parking	2,290	2,105	173	129	2,407
	4,806	4,335	392	280	5,007
	11,323	8,952	1,235	1,534	11,721

FTA used the condition ratings reported by transit agencies to assess the percentage of facilities in SGR. Table 17 provides summary statistics for these facilities in 2020. The average condition rating of facilities is 3.5 in 2020, which is the same average rating as in 2018 and 2019.

Table 17: Summary of Facilities with Condition Ratings (Capital Responsibility Only)

	Tier I	Tier II	Total
Facilities with Condition Ratings	8,245	2,654	10,899
Mean Age	31	20	28
Average Condition Rating	3.4	3.8	3.5

Condition Rating

A facility is in SGR if it receives a rating of at least 3 on the TERM scale. Altogether, in 2020, 89% of reported facilities were in SGR, including 87% of Tier I facilities and 93% of Tier II facilities. Table 18 summarizes the percentage of facilities in SGR by asset class over the past three years.

Table 18: Percentage of Facilities in SGR by Year (Capital Responsibility Only)

Asset Type	2018	2019	2020
Administrative / Maintenance	87.0%	86.0%	87.0%
Passenger / Parking	87.1%	88.9%	90.1%

Table 19 details the number of reported condition assessments and the average reported condition of transit facilities by facility type.

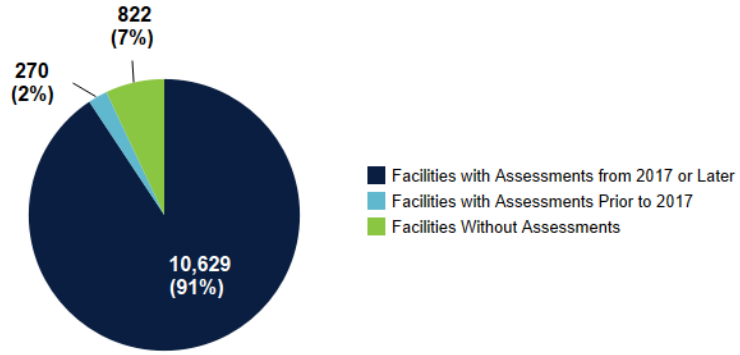
Table 19: Percentage of Facilities in SGR by Facility Type (Capital Responsibility Only)

Asset Class	Facility Type	Average Condition Rating	Percentage of Facilities in SGR	Facilities with Condition Assessment
Administrative	Administrative Office / Sales Office	3.6	91.4%	756
	Revenue Collection Facility	3.6	92.9%	28
Maintenance	Combined Administrative and Maintenance Facility	3.6	90.6%	764
	General Purpose Maintenance Facility/Depot	3.6	90.8%	752
	Heavy Maintenance & Overhaul (Backshop)	3.1	77.2%	92
	Maintenance Facility (Service and Inspection)	3.3	85.0%	646
	Other, Administrative & Maintenance	3.1	71.7%	591
	Vehicle Blow-Down Facility	4.0	100.0%	3
	Vehicle Fueling Facility	3.7	90.6%	160
	Vehicle Testing Facility	3.2	80.0%	5
	Vehicle Washing Facility	3.6	92.3%	209
Parking	Other, Passenger or Parking	3.4	78.4%	167
	Parking Structure	3.9	96.2%	212
	Surface Parking Lot	3.5	92.4%	1,796
Passenger	At-Grade Fixed Guideway Station	3.5	93.4%	1,565
	Bus Transfer Center	3.8	95.0%	783
	Elevated Fixed Guideway Station	3.2	79.5%	580
	Exclusive Platform Station	3.6	94.8%	326
	Ferryboat Terminal	3.7	94.8%	153
	Simple At-Grade Platform Station	3.8	93.5%	771
	Underground Fixed Guideway Station	2.8	68.5%	540
Grand Total	All Facilities	3.5	88.9%	10,899

2020 Condition Assessment Phase-In

As of 2020 agencies have reported condition assessments for 93% of all facilities with partial or full capital responsibility, exceeding the reporting percentage requirement. However, by Report Year 2021, condition ratings recorded prior to 2017 will be considered outdated. Figure 9 shows that 2% of facilities have assessments recorded prior to the January 1, 2017, cutoff date.

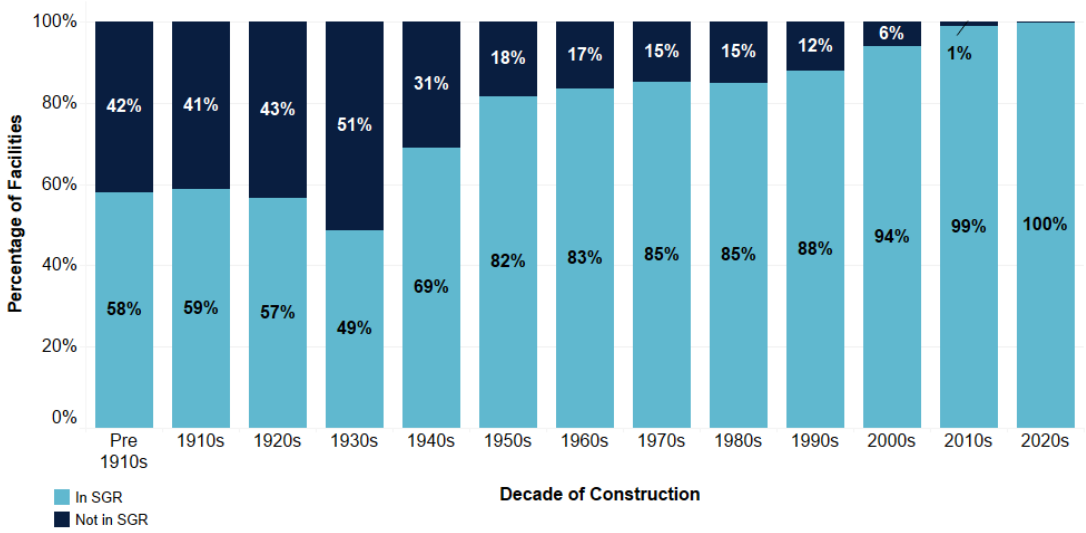
Figure 9. Number of Facility Condition Assessments Reported in 2020 (Capital Responsibility Only)



State of Good Repair and Age of Transit Facilities

The 2020 NTD data offers a snapshot of the 10,899 transit facilities with reported condition assessments. FTA assessed the percentage of facilities in SGR by construction year using condition and construction year data provided to the NTD. Figure 10 shows that over 80% of facilities built since the 1950s and over 90% of facilities built in the past 20 years remain in SGR.

Figure 10: Percentage of Facilities in SGR by Decade of Construction (Capital Responsibility Only)



Similarly, FTA was able to determine the total number of facilities in SGR based on their decade of construction. The data shows that 3% (435) of facilities were built at the turn of the last century, and more than half of them are still in SGR. Transit agencies underwent a construction boom in the past 40 years building nearly 9,000 facilities, of which almost 93 percent are in SGR. Figure 11 and the accompanying Table 20 show the breakdown of facilities built by decade and the number of those that are in or not in SGR.

Figure 11: Number of Facilities in SGR by Decade of Construction (Capital Responsibility Only)

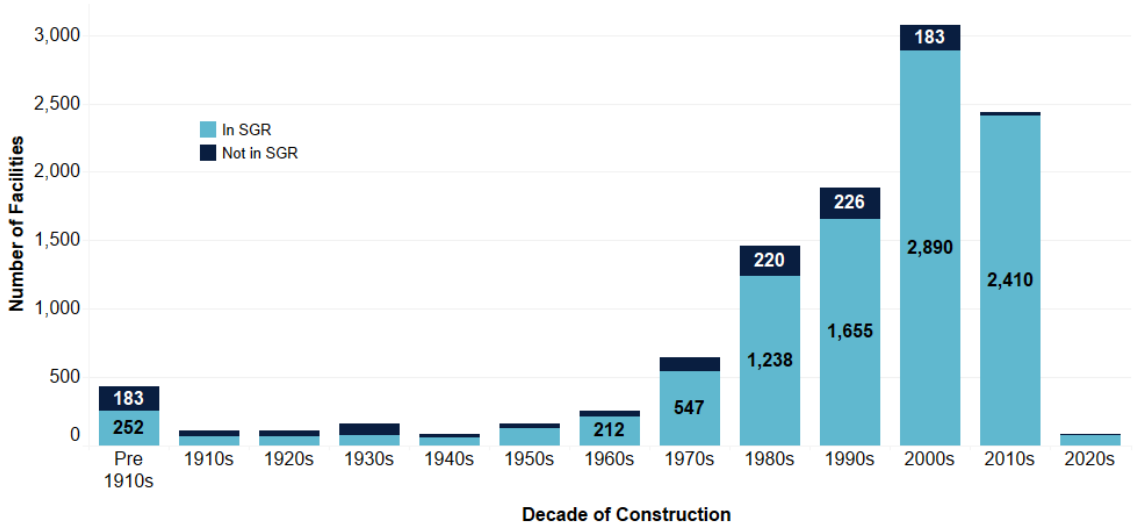


Table 20: Number of Facilities in SGR by Decade of Construction (Capital Responsibility Only)

	In SGR	Not in SGR	Not Yet Assessed
Pre 1910s	252	183	45
1910s	67	47	4
1920s	64	49	2
1930s	79	83	6
1940s	60	27	11
1950s	129	29	10
1960s	212	42	22
1970s	547	95	83
1980s	1,238	220	131
1990s	1,655	226	211
2000s	2,890	183	169
2010s	2,410	27	121
2020s	85	0	7

Track + Infrastructure

As reported to the NTD, there are over 13,900 miles of track used to provide transit service in the U.S. This includes approximately 8,600 miles for commuter rail (62%), 2,300 miles of heavy rail (17%), 1,800 miles of light rail (13%), and 1,200 miles (9%) in other rail modes (articulated rail, cable car, inclined plane, monorail/automated guideway, streetcar rail, and hybrid rail). The average reported expected service years for guideway across all modes was 63.8 years.

DATA REPORTING

Transit agencies report on rail infrastructure in two ways. In reporting for guideway elements, agencies provide information on the age, mileage, and characteristics of the fixed guideway right of way (ROW) on which the rail service runs. In reporting for track elements, agencies provide data on track mileage and performance. As transit agencies continue to gain more experience in reporting and analyzing TAM-related data, the total reported numbers may continue to shift. In 2020, 77 agencies reported track to the NTD.

Guideway Miles

For each rail mode, agencies report the decade of construction, as either before 1940 or in one of the decades from the 1940s through the 2020s, and the expected service years (ESY) of the guideway. Between 2018 and 2019, FTA updated the reporting requirements for guideway elements, making the method for counting mileage more consistent. In addition to the changes in NTD reporting methodology, some transit agencies updated the data sources used to calculate guideway miles, which impacted the total number of miles reported, as well as the allocation among the decades of construction for guideway elements.

Track Condition and Responsibility

For each rail mode, agencies report on the number of miles for three track elements: Tangent (Revenue Service), Curve (Revenue Service), and Non-revenue Service. The sum of these three elements comprises the total track mileage. Within this total, transit agencies also indicate the miles of revenue track for which they have no capital replacement responsibility, and the miles of track with performance restrictions. While transit agencies report all track used to provide public transit service in their asset inventory, they only report on condition of and set targets for the track mileage with capital responsibility.

Rail providers are required to establish a target for the infrastructure asset category -- the percentage of track under performance restriction -- and report the performance measure to the NTD. A performance restriction is defined to exist on a segment of rail fixed guideway when the maximum permissible speed of transit vehicles is set to a value below the guideway's full service speed. These restrictions are often referred to as "slow zones."

The TAM Infrastructure Reporting Guidebook details the following requirements for reporting performance restrictions:

- Agencies must measure the length of track miles under performance restrictions each month based on a snapshot of conditions that existed as of 9:00 AM local time on the first Wednesday of the month. This calculation must be performed separately for each combination of rail fixed guideway mode (or type of system) and type of service.
- All performance restrictions that can be applied to a specific section of track (excluding system-wide restrictions for inclement weather, for example) must be included in the calculation, regardless of cause or duration. This includes temporary speed restrictions placed due to construction or maintenance activity.
- Agencies are required to report an annual value for length of track miles under performance restrictions to FTA by averaging the values calculated each month over the course of the year.

ANALYSIS AND RESULTS

Figure 12 and Table 21 present total track miles reported by transit agencies by mode. Of the 78 additional miles of track reported on the Reportable Segments NTD form[5] in 2020, approximately 23 miles are new track construction – 13 miles of commuter rail and 10 miles of heavy rail. The remaining 55 miles appear to be older track miles newly accounted for due to improved reporting.

[5] Form P-40. In contrast, other analysis in this section is based on Transit Way Mileage (Form A-20).

Figure 12: Total Track Miles (Thousands)

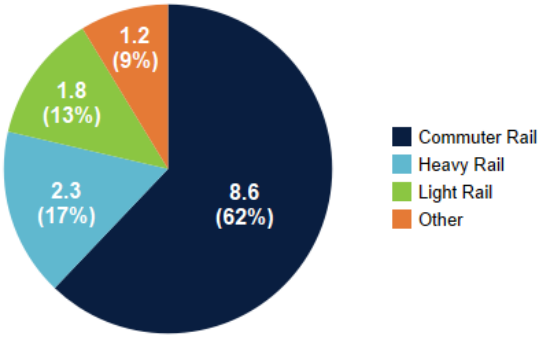


Table 21: Total Track Miles in 2019 and 2020 by Mode

Mode	Track Miles (2019)	Track Miles (2020)
Commuter Rail	**8,597**	**8,646**
Heavy Rail	**2,280**	**2,300**
Light Rail	**1,752**	**1,760**
Other	**1,211**	**1,211**
Grand Total	**13,839**	**13,917**

Age of Guideway Miles

Figure 13 with the accompanying Table 22 show the total miles of guideway infrastructure constructed by rail mode and by decade. Most guideway constructed before the 1980s was for heavy rail and commuter rail systems, with nearly all light rail construction since the 1980s. Note that the year of construction could include both expansion projects as well as replacement of even older guideway elements.

Figure 13: Decade of Guideway Construction by Rail Mode

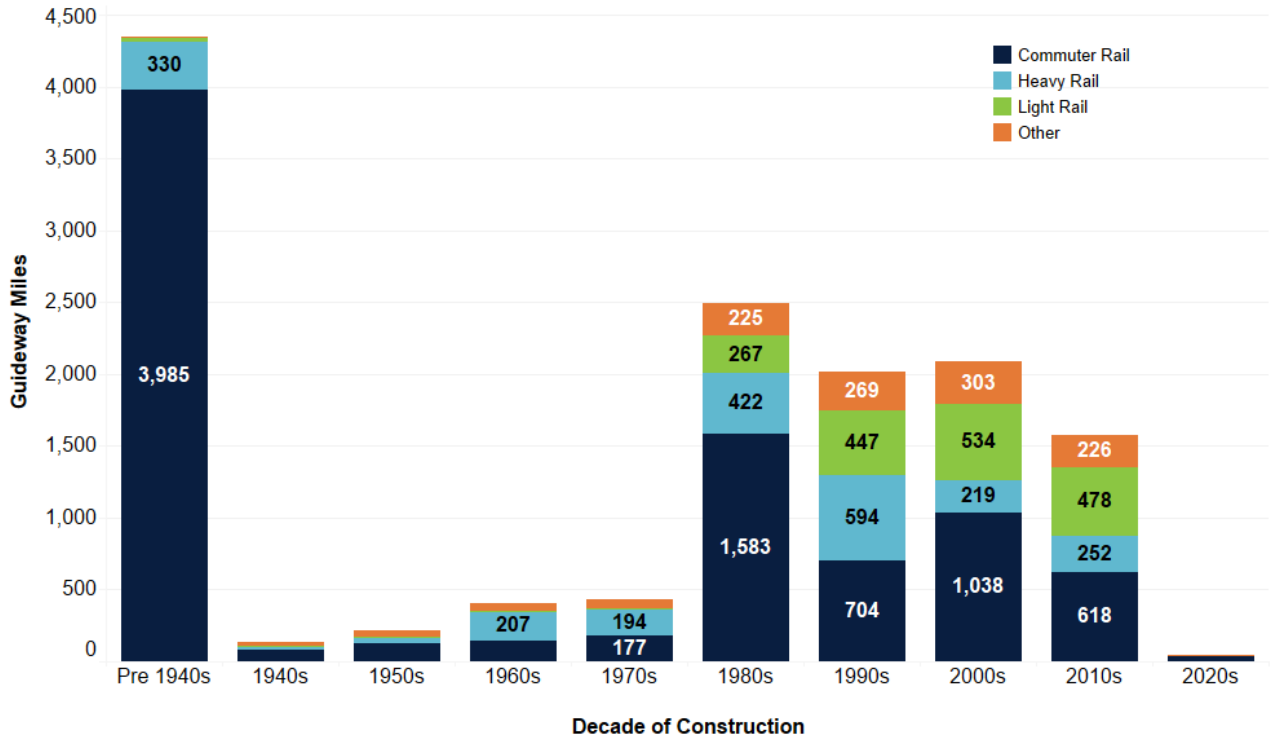
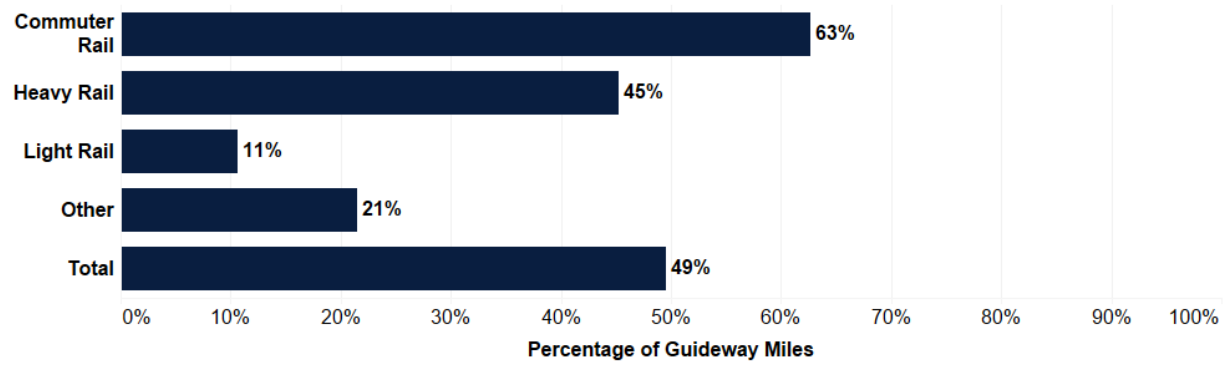


Table 22: Guideway Miles by Decade of Construction

Mode	Pre 1940s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s
Commuter Rail	3,985	82	122	140	177	1,583	704	1,038	618	33
Heavy Rail	330	27	45	207	194	422	594	219	252	9
Light Rail	26	0	0	0	2	267	447	534	478	1
Other	9	25	45	57	60	225	269	303	226	0

Using the reported data, FTA estimated the percentage of guideway miles currently in use beyond the expected service years. Because the age is reported by decade rather than a specific year, FTA assigned the miles constructed in each decade group to the midpoint year of that decade (e.g., all guideway constructed in the 1980s was assigned the year 1985). Once assigned to a specific year, FTA compared the construction year plus ESY to the current report year (2020), to identify guideway currently beyond ESY. Figure 14 summarizes this estimate by rail mode using the current report year. Approximately 49% of all reported fixed guideway miles are beyond the ESY, most of which are associated with commuter rail and heavy rail. Commuter rail and heavy rail together represent 6,464 miles of guideway needing replacement or major rehabilitation.

Figure 14: Percentage of Guideway Infrastructure Beyond Expected Service Years (Capital Responsibility Only)



Track Condition and Responsibility

The miles of track in SGR is measured as the percentage of track miles without performance restrictions. Table 23 summarizes how the percentage of track miles without performance restrictions has changed over the past three years. Note that the miles under performance restriction is a measure of performance at a specific point in time, and therefore, may vary more than the performance metrics for other asset categories which are based on age or asset condition.

Table 23: Percentage of Track Miles Without Performance Restrictions by Year (Capital Responsibility Only)

Asset Type	2018	2019	2020
Commuter Rail	93.4%	97.5%	96.5%
Heavy Rail	95.3%	94.2%	97.5%
Light Rail	92.7%	97.2%	93.8%
Other	96.3%	98.6%	96.7%

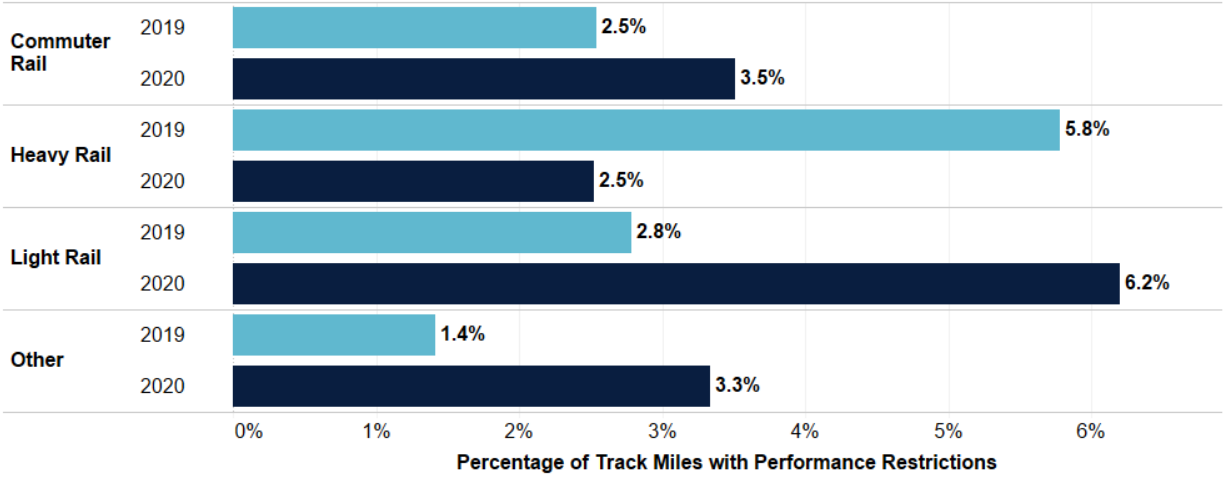
The miles of track with performance restriction applies only to the revenue track for which agencies have capital replacement responsibility. Table 24 shows the total track miles with capital responsibility and the percentage without performance restrictions in 2020. Transit agencies reported that about 96% to 98% of track is without performance restriction for all rail modes except for light rail, which has 93.8% of track not under performance restriction.

Table 24: Track Miles with Performance Restrictions in 2020 (Capital Responsibility Only)

Mode	Total Track Miles	Track Miles with Capital Responsibility	Percentage of Track Miles Without Performance Restrictions
Commuter Rail	**8,646**	**6,516**	**96.5%**
Heavy Rail	**2,300**	**2,278**	**97.5%**
Light Rail	**1,760**	**1,760**	**93.8%**
Other	**1,211**	**1,197**	**96.7%**
Grand Total	**13,917**	**11,752**	**96.3%**

Figure 15 shows the percentage of track miles that are under performance restrictions in 2019 and 2020 by mode. Across modes, agencies reported a total of 382 miles of track with slow zones in 2020, compared to 312 miles of track with slow zones in 2019.

Figure 15: Track Miles with Performance Restrictions in 2019 and 2020 (Capital Responsibility Only)



Group Plans

Group Plans are designed to reduce the burden on smaller transit providers by consolidating the administrative and reporting efforts of TAM to the sponsor agency. State DOTs are the most common sponsors, but MPOs and larger transit agencies also sponsor Group Plans. Group Plan sponsors are required to include their Tier II subrecipients that do not have a direct funding relationship with FTA, and have the option of inviting other small urban providers to join the Group Plan. In 2020, there were a total of 70 Group Plan sponsors – 50 State DOTs and 20 other sponsoring agencies – covering a total of 2,053 Tier II participants.

DATA REPORTING

Agencies Reporting in Group Plans

The number of participants in each Group Plan ranged from 1 to 150, with approximately 39% of plans having fewer than 15 participants. There were two plans with greater than 100 participants. Figure 16 shows the distribution of the number of participants in Group Plans.

Figure 16: Distribution of Participants in Group Plans

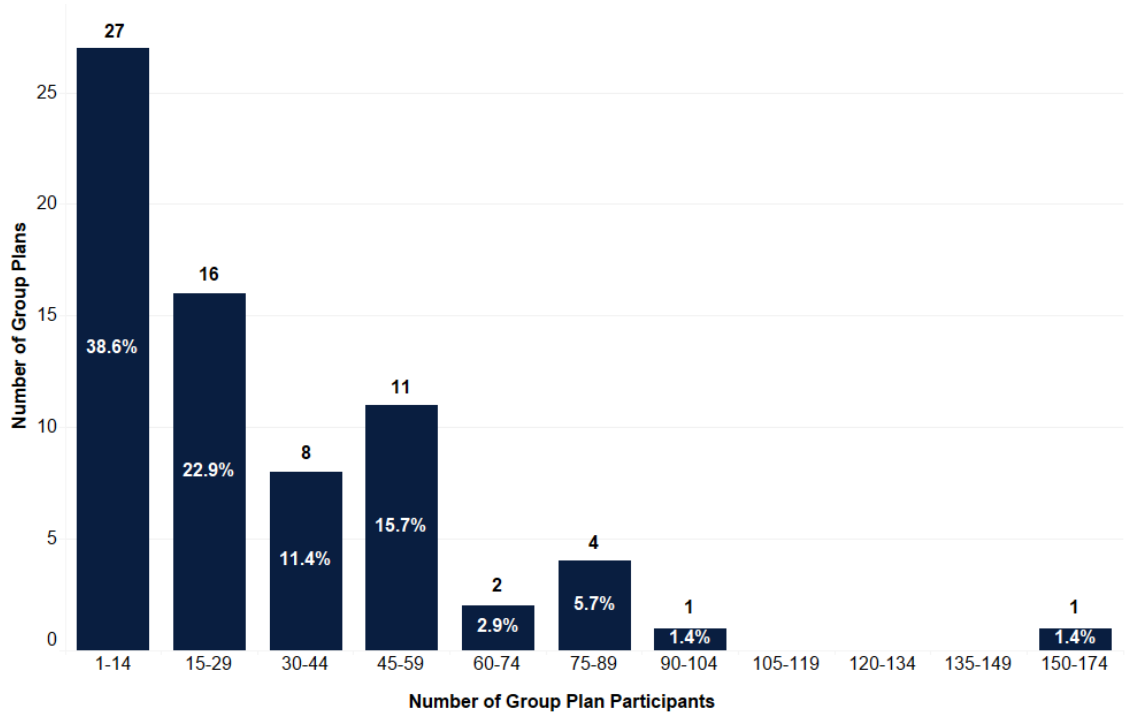


Table 25 breaks down the 2,053 participating agencies by type. Group Plan sponsors are required to include their Tier II subrecipients that do not have a direct funding relationship with FTA (5310 and 5311 funding recipients), and have the option of inviting other Tier II recipients of 5307 funds to join the Group Plan. State DOTs are required to include a Tribal transit agency if it requests to join the Group Plan, regardless of funding relationship.

Table 25: Participating Tier II Agencies by Type

Agency Type	Number of Participating Agencies	Percentage of Total Participating Agencies
5310		
	1,104	53.8%
	32	
	344	16.8%

ANALYSIS AND RESULTS

Number and Condition of Transit Assets Included in Group Plans

Nationally, nearly 20% of all transit assets are included in Group Plans. As shown in Table 26, this has increased slightly from 19.1% in 2019.

Table 26: Percentage of Total Assets Included in Group Plans in 2019-2020

Asset Category	Percentage in Group Plans (2019)	Percentage in Group Plans (2020)
Revenue Vehicles	21.8%	22.6%
Equipment	6.9%	7.1%
Facilities	11.9%	11.7%
Grand Total	19.1%	19.7%

Table 27 shows the number of assets included in Group Plans in the equipment, facility, and revenue vehicle asset categories, and the percentage that are in SGR. The percentage of facilities in SGR is similar for assets included in Group Plans and assets across all agencies, with 88.7% of assets in Group Plans in SGR compared to 88.9% of facilities across all agencies (see Table 1 for comparison). However, Group Plans have a lower percentage of revenue and service vehicles in SGR, with 72.8% of Group Plan revenue vehicles in SGR compared to 79.8% across all agencies, and 58.0% of Group Plan service vehicles in SGR compared to 63.8% across all agencies. Because Group Plan participants are all Tier II agencies, there are no rail-related assets included in Group Plans. The participating agencies have capital responsibility for their transit assets. Sponsoring agencies do not have capital responsibility for the assets in a Group Plan.

Table 27: Assets Included in Group Plans and in SGR

Asset Category	Asset Type	Total Number of Assets in Group Plans	Assets with Capital Responsibility	Percentage of Assets with Capital Responsibility in SGR
Revenue Vehicles		**7,614**	**7,219**	**79.3%**
	Vans/Cutaways	**24,025**	**22,997**	**73.4%**
	Other Vehicles	**7,352**	**6,639**	**63.8%**
	Total	**38,991**	**36,855**	**72.8%**
		709	**705**	**47.7%**
	Bus Service Vehicles	**1,474**	**1,465**	**62.9%**
	Total	**2,183**	**2,170**	**58.0%**
	Administrative	**299**	**299**	**89.3%**
	Maintenance	**828**	**826**	**90.0%**
	Parking	**146**	**129**	**91.5%**
	Passenger	**346**	**280**	**83.2%**
	Total	**1,619**	**1,534**	**88.7%**

Performance Targets

Transit agencies set performance targets for the coming year, which reflect their expectation of their ability to keep assets in SGR. FTA encourages transit agencies to set targets based on available asset condition data and anticipated financial resources from all sources. For some agencies, the projections reflect increasing SGR goals; in other cases, they may reflect an expectation of decreasing SGR based on the agency's constraints. FTA has clearly explained there are no rewards for meeting the targets and no penalties for not meeting the targets.

DATA REPORTING

Agencies set performance targets and report them to the NTD aggregated by asset class, rather than individually by each asset. In 2020, transit agencies reported 4,160 targets across 37 transit asset classes, representing their expected SGR in the upcoming 2021 report year.

Transit agencies set targets only on the assets with capital replacement responsibility.

The performance metrics included in this report are calculated from the asset class condition and performance that transit agencies provide to the NTD. Performance metrics represent the percentage of assets in SGR and are calculated based on the current report year data, while performance targets are forecasts of assets percentage in SGR set for the following year.

ANALYSIS AND RESULTS

Table 28 shows the performance targets that agencies set in 2019 to forecast 2020 conditions, the calculated performance metrics for 2020, and the targets that they have set for 2021. For this report, performance targets are calculated as an average of agencies' reported targets weighted by the number of assets to which a target applies. For example, if one agency is targeting 100% in SGR for two buses and a second agency is targeting 80% in SGR for 8 buses, the average target for these two agencies is (2 buses x 1.0 + 8 buses x 0.8) / 10 buses, which equals an average target of 84%. Please note that the average 2020 targets below are calculated using the number of assets reported in 2019 to ensure that the published targets are consistent across the 2019 and 2020 Snapshot reports.

The average targets across agencies reflect a national snapshot of agencies' expectations in their ability to maintain or improve the condition of transit assets in the near future.

Table 28: Targets and Metrics for Percentage of Assets in SGR by Asset Class (Capital Responsibility Only)

Asset Category	Asset Class	2020 Target	2020 Metric	2021 Target
Revenue Vehicles		79.3%	82.1%	78.2%
	Buses	83.0%	83.2%	84.7%
	Vans/Cutaways	77.6%	76.3%	77.9%
	Other Vehicles	72.6%	72.1%	74.2%
	Total	79.8%	79.8%	80.6%
	Automobiles	61.9%	56.5%	61.4%
	Bus Service Vehicles	66.5%	66.8%	65.8%
	Rail Service Vehicles	50.5%	48.2%	46.5%
	Total	64.6%	63.8%	64.0%
	Administrative / Maintenance	60.7%	87.0%	61.8%
	Passenger / Parking	82.4%	90.1%	83.5%
	Total	74.3%	88.9%	75.5%
	Commuter Rail	93.3%	96.5%	97.2%
	Heavy Rail	96.0%	97.5%	96.0%
	Light Rail	96.8%	93.8%	97.1%
	Other	98.5%	96.7%	94.6%
	Total	94.6%	96.3%	96.7%

Comparing 2020 Metrics to 2020 Targets

Figure 17 compares the 2020 performance targets (set in 2019) and the metrics calculated based on the 2020 data submissions, broken down by asset class. The data show that for most asset classes, the average percentage of assets in SGR exceeded the forecast from the previous year, with many asset classes coming close to the forecast condition and others far exceeding it. The percentages of assets in SGR for vans/cutaways, automobiles, rail service vehicles, and light rail infrastructure, as well as for "other" revenue vehicles and infrastructure, are below the 2020 targets.

Figure 18 compares the 2020 performance metrics and the 2021 performance targets, by asset class. In general, transit agencies are setting targets indicating a higher percentage of revenue vehicles in SGR in the coming year.

Figure 17: 2020 Average Metrics (Bars) and 2020 Average Targets (Reference Lines) (Capital Responsibility Only)

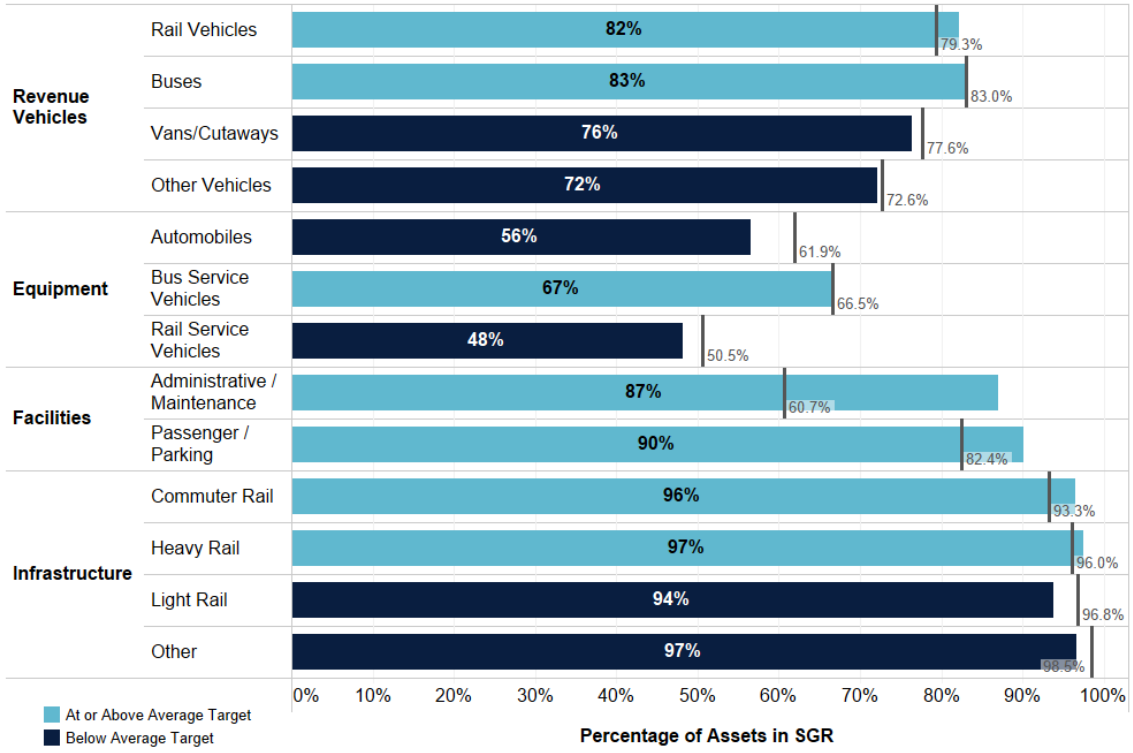


Figure 18: 2020 Average Metrics (Bars) and 2021 Average Targets (Reference Line) (Capital Responsibility Only)

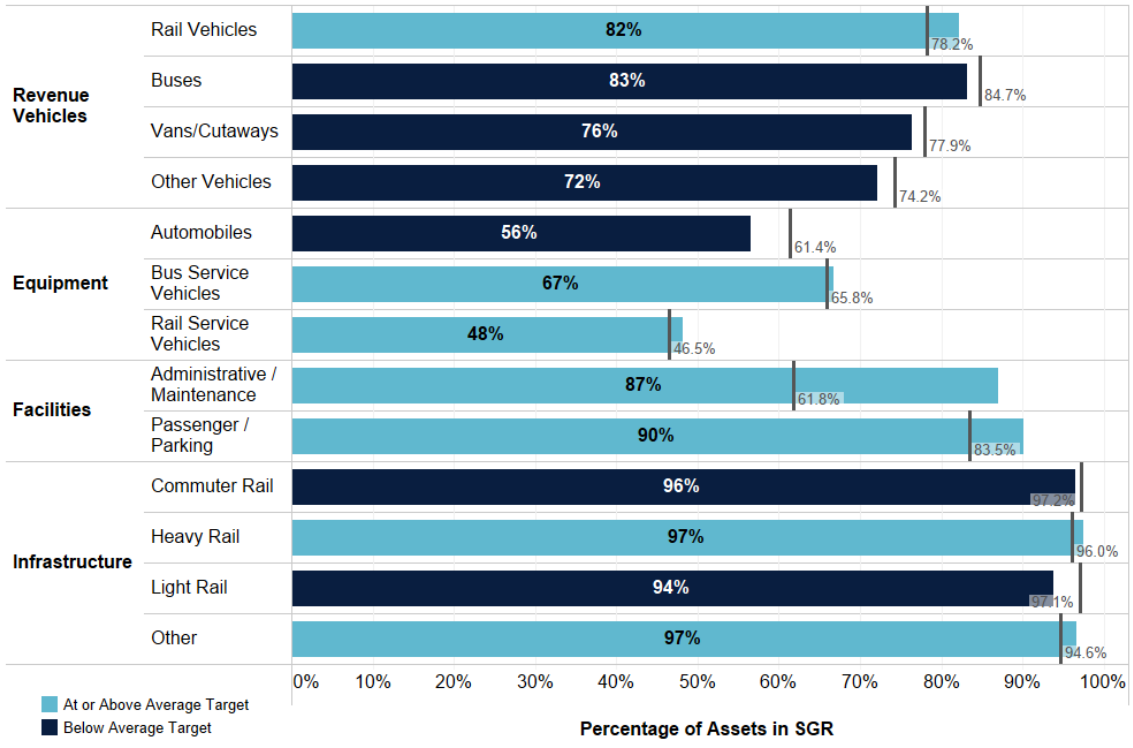
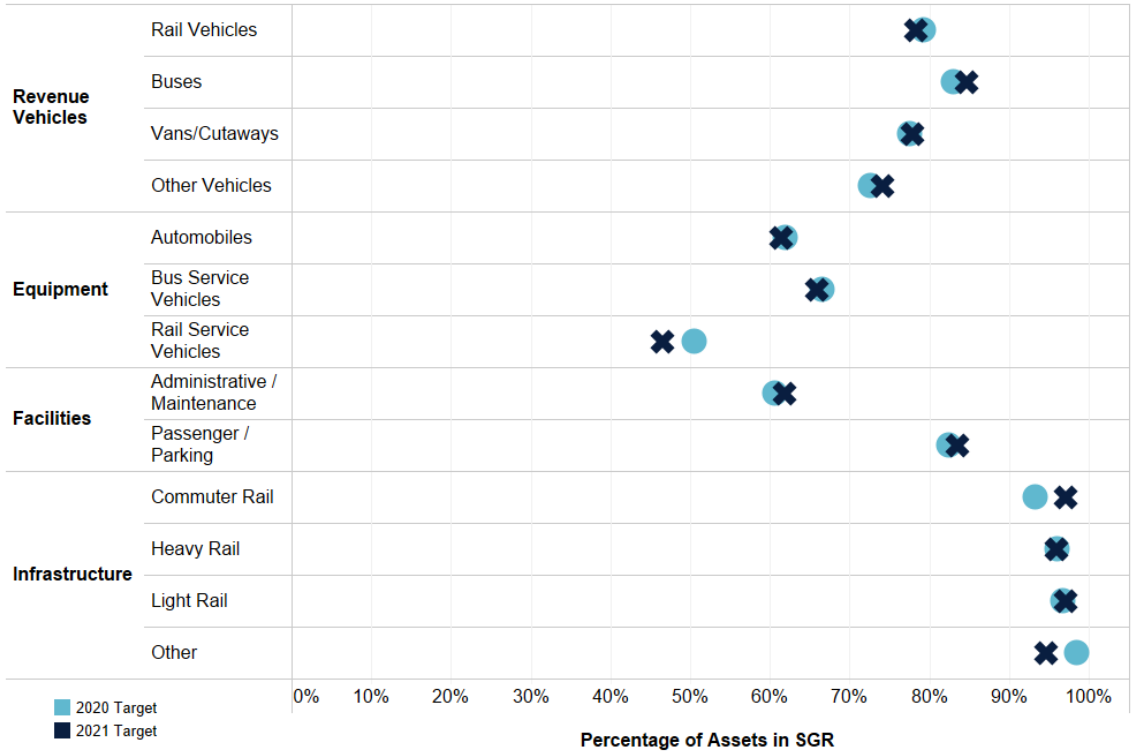


Figure 19 plots the targets for 2020 and 2021 side-by-side. For most asset classes the 2020 and 2021 targets are very similar.

Figure 19: 2020 and 2021 Average Targets (Capital Responsibility Only)



Expected Increases and Decreases in SGR for the Next Year

For each asset class reported by each agency, FTA compared the 2020 metric (e.g., percentage of assets in SGR) to the 2021 target, and determined whether the target was lower, higher, or the same as the 2020 metric. For purposes of this analysis, a target lower than the current reported metric indicates an expected decrease in SGR for that asset class for the following year; a target higher than the current reported metric indicates an expected increase in SGR for the following year. Many agencies reported an expectation of maintaining the same level of SGR for the next year.

Table 29 provides the number of assets (e.g., vehicles, facilities, or track miles) that would be newly in SGR or not in SGR based on a comparison of the 2020 calculated metric and the 2021 target.[6] While for most asset categories there is a relatively small net change in the number of assets in SGR, the data shows a range in the increases or decreases. The first column shows the

[6] This calculation assumes the total number of assets stays the same from 2020 to 2021.

additional assets that will attain SGR if every agency that set a 2021 target higher than their 2020 metric achieves their target. The second column shows the additional assets that will no longer be in SGR if every agency that set a 2021 target lower than their 2020 metric achieves their target exactly. The third column provides the net change between the two.

Table 29: Anticipated Increases and Decreases in Assets in SGR for 2021 Relative to 2020 (Capital Responsibility Only)

Asset Category	Assets Projected to No Longer be in SGR in 2021	Assets Projected to Enter SGR in 2021	Projected Net Change in Assets in SGR in 2021
Revenue Vehicles	**-7,686**	**9,139**	**1,453**
Equipment	**-1,429**	**1,554**	**125**
Facilities	**-169**	**75**	**-94**
Infrastructure	**-139**	**182**	**43**

Figure 20 provides another representation of the expected change in SGR between 2020 and 2021, by number of assets in each class. The line where "Change in Number of Assets" equals 0 represents a baseline of the 2020 calculated metric. The bars to the right of this line show the number of assets projected to newly enter SGR while the bars to the left show the number of assets projected to no longer be in SGR.

Figure 20: Anticipated Increases and Decreases in Assets in SGR for 2021 Relative to 2020 (Capital Responsibility Only)