



# TAM 2018 NTD Year 1 Summary: Overview

This series of fact sheets 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. The data are from 2018, 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 TRANSIT ASSET MANAGEMENT REQUIREMENTS AND REPORTING

The Moving Ahead for Progress in the 21st Century Act (MAP-21) required the Secretary 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, and the Fixing America's Surface Transportation (FAST) Act reaffirmed this requirement. On July 26, 2016, FTA published the TAM Final Rule.

The purpose of the Final Rule is to help achieve and maintain a state of good repair (SGR) for the nation's public transportation assets. TAM is a business model that uses transit asset condition to guide the optimal prioritization of funding. The 23rd Conditions and Performance Report notes that there is an estimated \$98.8 billion transit SGR backlog.<sup>1</sup>

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 Final Rule groups providers into two categories: Tier I and Tier II.

<sup>1</sup>Source: [23rd Conditions and Performance Report](#)

TIER I	TIER II
Operates rail	Subrecipient of 5311 funds
<b>OR</b>	<b>OR</b>
≥ 101 vehicles across all fixed route modes	American Indian Tribe
<b>OR</b>	<b>OR</b>
≥ 101 vehicles in one non-fixed route mode	≤ 100 vehicles across all fixed route modes
	<b>OR</b>
	≤ 100 vehicles in one non-fixed route mode

### STATE OF GOOD REPAIR (SGR)

The SGR is 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:

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

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

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

## Purpose of this Report

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This overview report and the subsequent series of more detailed fact sheets provide the first comprehensive look at transit agencies' reported data of a wide range of the primary assets supporting transit service, including revenue vehicles, equipment (service vehicles), facilities, and infrastructure (guideway and track). The data include information on the scope of assets used to support transit service across the country, including number and age, as well as current

condition and targets, for their ability to maintain them in a state of good repair.

The data are self-reported to the NTD by transit agencies based on the best quality information available to them. This information provides a snapshot of the overall condition of the country's public transportation system.

## Evaluating Asset Performance and State of Good Repair

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FTA requires transit agencies to measure asset performance by asset class, which means a subgroup of capital assets within an asset category. Table 1 shows assets which must be reported to the NTD and the applicable performance measures. Assets that meet or exceed the thresholds of 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 their internal decision making procedures. For example, an agency that has 60% of cutaway buses in SGR in the current year and sets a target of 65% of cutaway buses in SGR next fiscal year is estimating an SGR improvement of 5 percentage points. There are no rewards for meeting the targets and no penalties for not meeting the targets.

While the raw data is reported to NTD as percentages not in SGR, this report and series of factsheets simplifies the data to present the data as percentages of asset classes within SGR.

**TABLE 1: ASSET CATEGORIES AND PERFORMANCE MEASURES**

Asset Category	Performance Measure	Key Metric
<p><b>Equipment:</b> Non-revenue support-service and maintenance vehicles</p>	<p>Percentage of non-revenue vehicles met or exceeded ULB</p>	<p><b>Useful Life Benchmark (ULB):</b> 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</p>
<p><b>Rolling Stock:</b> Revenue vehicles by mode</p>	<p>Percentage of revenue vehicles met or exceeded ULB</p>	
<p><b>Infrastructure:</b> Only rail fixed-guideway, track, signals and systems</p>	<p>Percentage of track segments with performance restrictions</p>	<p><b>Performance restriction:</b> 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.”</p>
<p><b>Facilities:</b> Maintenance and administrative facilities; and passenger stations (buildings) and parking facilities</p>	<p>Percentage of assets with condition rating below 3.0 on FTA TERM Scale</p>	<p><b>The Transit Economic Requirements Model (TERM) scale</b> for defining asset condition:</p> <ul style="list-style-type: none"> <li>1 – poor</li> <li>2 – marginal</li> <li>3 – adequate</li> <li>4 – good</li> <li>5 – excellent</li> </ul>

The 2018 reported data provide an opportunity to look comprehensively at SGR across the industry, identifying assets within each category that are beyond their useful lives or in poor condition. However, note that the TAM rule allowed transit agencies to

conduct condition assessments of facilities in a phased approach over four years. FTA anticipates that the backlog estimate may change pending more complete asset condition assessment data.

## Initial Results

This section provides highlights of the initial results, with more detailed data analysis and descriptions following. Table 2 provides an initial record of the

overall transit asset inventory, and an estimate of those assets in SGR, using data provided in the NTD.

**TABLE 2: TRANSIT ASSET INVENTORY AND ESTIMATED STATE OF GOOD REPAIR**

Asset Category	Total # of Assets	% Assets in SGR
Revenue Vehicles	183,686 Vehicles	72%
Equipment (Service Vehicles)	29,501 Vehicles	66%
Facilities	13,857 Facilities	87%
Infrastructure (Track)	14,727 Miles of track	96%

## Highlights

- Based on the data reported by transit agencies, an estimated 73% of the nation’s transit capital assets are in SGR.
- Most of the nation’s track and guideway was built after 1980, though a significant portion of commuter rail and heavy rail track were built before the 1930s.
- 3% of facilities (400) in use today were built at the turn of the 20th century
- Tier II agencies (rural and smaller urban providers) have a higher percentage of bus and van assets not in SGR, but a higher percentage of facilities that are in SGR.
- 28% of all revenue vehicles are currently beyond their ULB, and an additional 24% of revenue vehicles will exceed their ULB in the next 4 years.
- 34% of all service vehicles are currently beyond their ULB, and an additional 26% of service vehicles will exceed their ULB in the next 4 years.
- 4% of track miles were reported as under performance restriction for 2018.
- 11% of track miles are currently beyond their expected service life, and an additional 5% will exceed their expected service life in the next 4 years.
- Transit agencies set targets reflecting expectation of their ability to maintain assets in SGR. The targets reflect an expectation to maintain 90% SGR for most assets.
- In general, the 2019 targets for revenue vehicles and for infrastructure expected more assets to be in SGR than targets set for facilities and equipment.
- There were 67 Group TAM Plans, developed by 18 direct recipients and 49 DOTs, with a total of 1,941 rural, tribal, and small urban agencies participating.
- Nationally, approximately 20% of all transit assets were reported in Group Plans; the vast majority of those assets are revenue vehicles.
- More than half of Group Plans have 15 or fewer participants; there were two plans with greater than 100 participants.

The following sections of this document provide additional detail on the highlights for Group Plans, each of the four asset categories, and Performance Targets.

# GROUP PLANS

Group plans are designed to reduce the burden on smaller transit providers by consolidating administrative and reporting efforts by the Sponsor. State Departments of Transportation (State DOTs) are the most common sponsors, but Metropolitan Planning Organizations (MPOs) or larger transit agencies may also sponsor group plans. 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 2018, there were a total of 67 Group TAM Plan sponsors, developed by 18 direct recipients and 49 DOTs, covering a total of 1,941 participants.

## Highlights

- Approximately 85% of subrecipient agencies opted to join a Group Plan, with the remainder developing individual TAM plans.
- Nationally, approximately 20% of all transit assets are included in Group Plans, the majority of which are revenue vehicles.
- Approximately half of Group Plans have 15 or fewer participants; there were two plans with greater than 100.

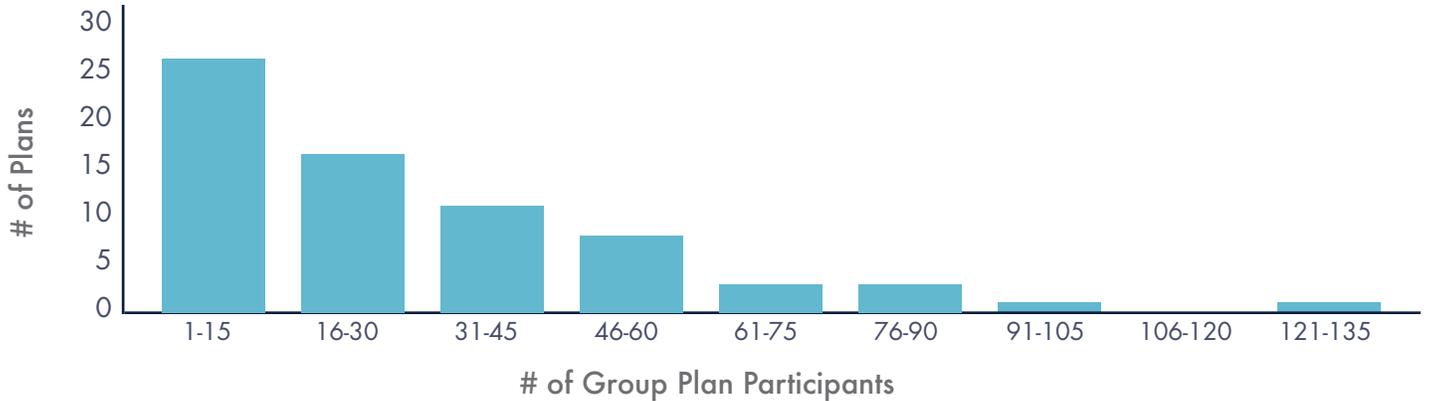
**TABLE 3: NUMBER OF TRANSIT ASSETS INCLUDED IN GROUP PLANS**

Asset Category	Number of Assets Included in Group Plans	Total # of Assets Nationwide	Percent of Assets Included in Group Plans
Revenue Vehicles	40,289	183,686	22%
Equipment	1,842	29,501	6%
Facilities	2,510	13,857	18%
<b>Total</b>	<b>44,641</b>	<b>227,044</b>	<b>20%</b>

## Agencies Participating in Group Plans

Most Group Plans had fewer than 50 participating agencies, with approximately 40% having 15 or fewer participants. Only two plans had over 100 participants. Figure 1 shows the distribution of the number of participants in Group Plans.

**FIGURE 1: DISTRIBUTION OF PARTICIPANTS IN GROUP PLANS**



## REVENUE VEHICLES

Revenue vehicles are the most common type of capital assets used in the provision of public transit, and the most familiar assets to the public. There are 28 classes of revenue vehicles reported to the NTD; for ease of understanding, this factsheet combines them into four asset types: rail vehicles, buses, vans,

and other vehicles. The full breakout of how each asset type reported is below in Table 4. Each asset type has multiple asset classes with detailed age and condition information. Figure 2 shows the total number of revenue vehicles in the U.S., organized by asset type and agency tier.

### Highlights

- Overall, a smaller percentage of rail vehicles will require replacement over the next four years compared to other types of revenue vehicles.
- Many of the higher-cost vehicle asset classes (e.g., rail vehicles) are in SGR.
- Twenty-eight percent of all revenue vehicles are beyond their ULB and would cost an estimated \$31 billion to replace. An additional 24% of vehicles will exceed their ULB in the next 4 years, at a cost of an additional \$16 billion.<sup>2</sup>

<sup>2</sup>Cost estimate calculated using cost values for each vehicle class estimated from the TERM model

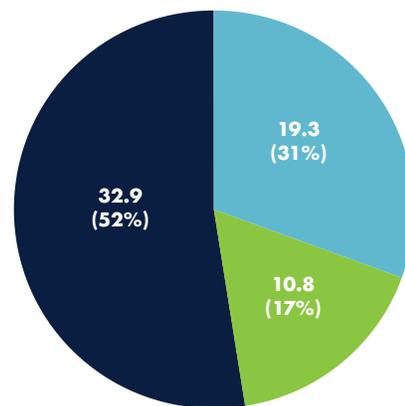
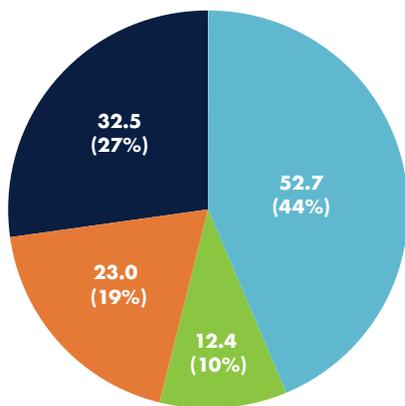
**TABLE 4: CATEGORIZATION OF ASSETS**

Asset Type	Asset Classes	
<b>Rail Vehicles</b>	Aerial Tramway	Commuter Rail Self-Propelled
	Automated Guideway Vehicle	Passenger Car
	Cable Car	Heavy Rail Passenger Car
	Commuter Rail	Inclined Plane Vehicle
	Locomotive	Light Rail Vehicle
	Commuter Rail	Monorail Vehicle
	Passenger Coach	Streetcar Rail
<b>Buses</b>	Articulated Bus	School Bus
	Bus	Trolleybus
	Double Decker Bus	Vintage Trolley
	Over-the-Road Bus	
<b>Vans/Cutaways</b>	Cutaway	Van
<b>Other Vehicles</b>	Automobile	Other
	Ferry	SUV
	Minivan	

**FIGURE 2: NUMBER OF TRANSIT REVENUE VEHICLES IN THE U.S. (THOUSANDS)**

**TIER I VEHICLES  
TOTAL: 120,502**

**TIER II VEHICLES  
TOTAL: 63,184**



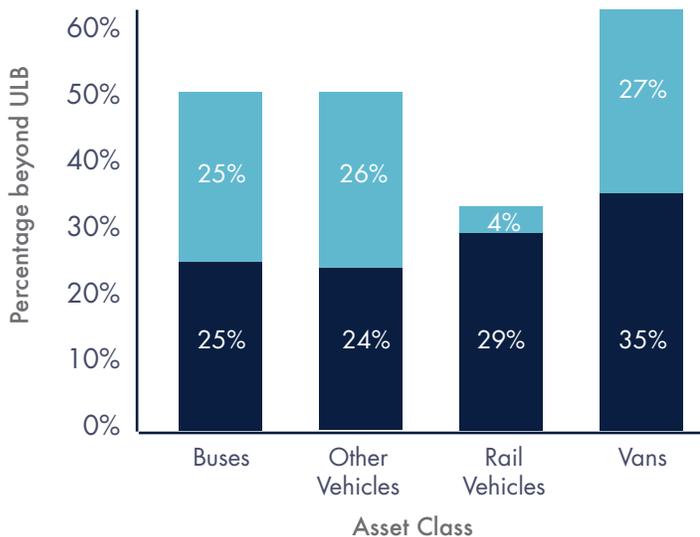
# How Many Revenue Vehicle Assets Are Beyond Their ULB?

In order to measure the SGR for revenue vehicles, FTA has established default ULBs for each asset class. A ULB is the age at which each asset class will enter the SGR backlog; it can also be interpreted as the estimated replacement cycle for a specific asset class. FTA provided transit agencies with default values based on the federal Transit Economic Replacement Model (TERM). Transit agencies are also allowed to set a customized ULB, if they have reason to believe that FTA defaults do not accurately reflect their operating environment. On average, most agencies reported ULBs close to the default values. When

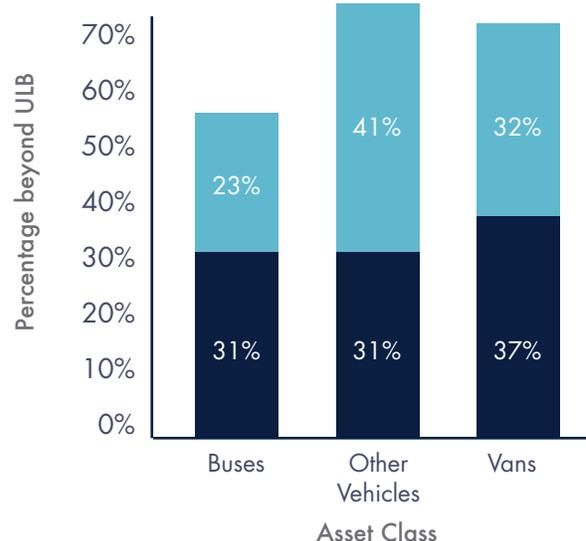
customized ULBs were reported, the majority were reported as lower than the FTA default, meaning that transit agencies felt their assets would not be in SGR as long as the default ULB.

The average years until replacement vary widely across asset classes on a national scale. Some classes are already beyond their ULB, while many will be approaching replacement in the next 4 years. Figures 3 and 4 indicate the percentage of assets that are beyond their ULB and therefore not in SGR.

**FIGURE 3: PERCENTAGE OF TIER I ASSETS NOT IN SGR CURRENTLY AND IN NEXT FOUR YEARS**



**FIGURE 4: PERCENTAGE OF TIER II ASSETS NOT IN SGR CURRENTLY AND IN NEXT FOUR YEARS**



# SERVICE VEHICLES

Service Vehicles are vehicles used to support transit service, maintain revenue vehicles, and perform transit-oriented administrative activities. Examples include tow

trucks, track de-icing vehicles, and supervisor cars used by the transit agency.

## Highlights

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- Over 29,000 service vehicles are used by transit agencies to support operations (overall reported value \$3.6 billion).
- Thirty-four percent of all services vehicles are beyond their ULB, and would cost \$1.6 billion to replace. An additional 26% of vehicles will exceed their ULB in the next 4 years, at a cost of \$482 million.<sup>3</sup>
- The average age and need for replacement vary across asset classes:
  - Bus Service Vehicles are on average 7.6 years old, with 29% beyond their ULB.
  - Automobiles are on average 6.8 years old, with 43% beyond their ULB.
  - Rail Service Vehicles are on average 24 years old, and 53% are beyond their ULB. Overall, rail vehicles are more expensive and much more likely to be beyond their ULB and in need of replacement.

## How Many Service Vehicles Do Agencies Own?

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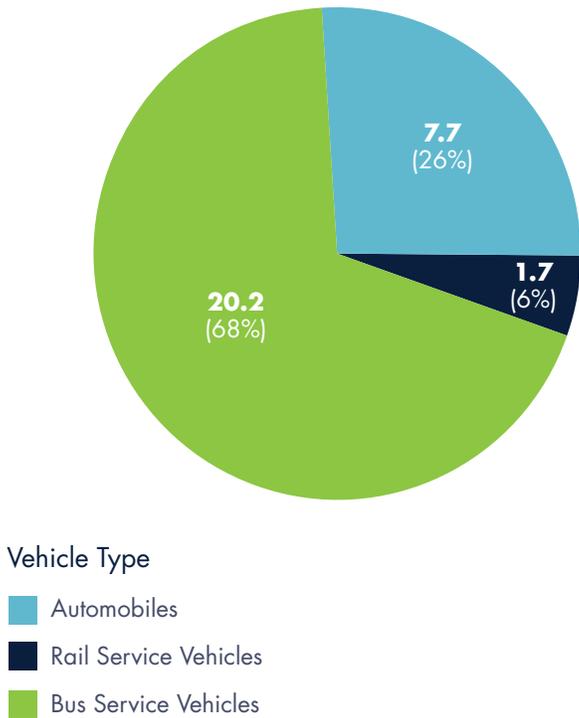
Nationwide, transit providers use nearly 30,000 vehicles to support transit service. These vehicles are used to maintain tracks, provide transportation for workers between sites, and support other crucial functions. The overall value of these vehicles in 2018 was \$3.6 billion (in 2018 dollars). Although rail service vehicles are the smallest group of assets within this category (1,700 vehicles), they make up the largest proportion of asset value (\$2.2 billion). Thirty-four percent of service vehicles are already beyond their expected ULB, meaning many are in need of replacement in the very near future. The total cost to

replace these assets is \$1.6 billion. An additional 26% of service vehicles will exceed their ULB in the next four years. These additional assets will cost \$482 million to replace, bringing the cost of replacing all service vehicles exceeding their ULB within the next four years to over \$2 billion.

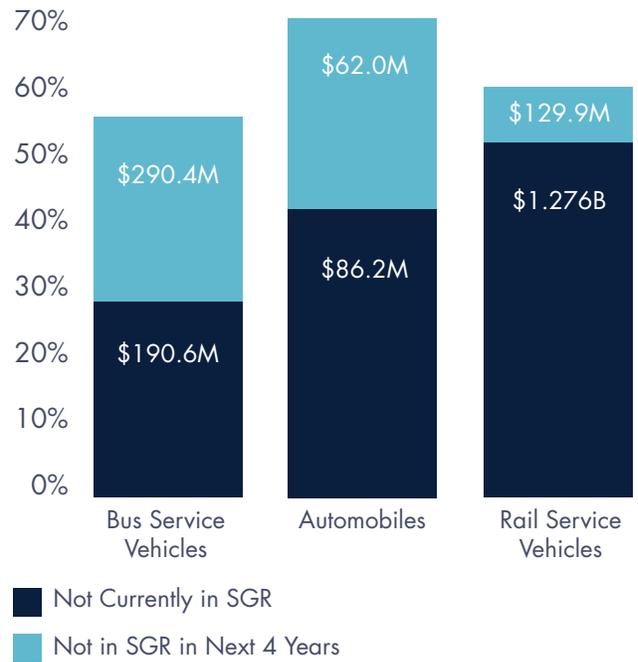
Figure 5 shows the number of service vehicles organized by type. Figure 6 shows the replacement value of service vehicles exceeding their ULB within the next four years.

<sup>3</sup>Cost estimate calculated using service vehicle replacement cost values reported to NTD.

**FIGURE 5: NUMBER OF VEHICLES (BY TYPE) (THOUSANDS)**



**FIGURE 6: PERCENT AND REPLACEMENT VALUE OF SERVICE VEHICLES NOT IN SGR CURRENTLY AND IN THE NEXT FOUR YEARS**



## TRANSIT FACILITIES

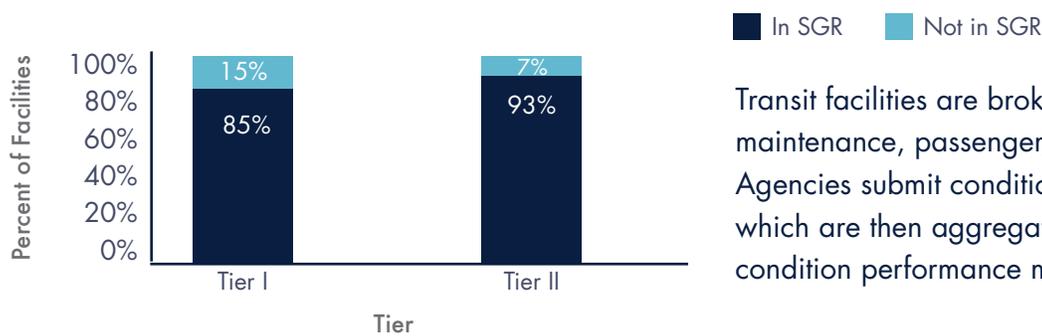
Transit agencies are required to conduct regular condition assessments of their assets, every four years. This process involves inspections that evaluate an asset’s physical and visual conditions, performance characteristics, and potential risks and impacts of failures. FTA requires transit agencies to assess and report facility condition to the NTD based on the

five-point scale used in TERM. An asset is considered in 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).

# Highlights

- Transit agencies reported information for nearly 14,000 facilities nationwide.
- Eighty-seven percent of transit facilities nationwide are in SGR, with a higher percentage of Tier II agency facilities in SGR than Tier I agency facilities.<sup>4</sup>
- It would cost an estimated \$5 billion to replace the facilities not in SGR.<sup>5</sup>
- The average age of facilities is 28 years, with approximately 400 facilities constructed before 1900. 84% of all facilities built between 1960 and 2019 are in SGR.

**FIGURE 7: PERCENT OF FACILITIES IN SGR BY TIER**



Transit facilities are broken into four asset classes: maintenance, passenger, administrative, and parking. Agencies submit condition ratings for each facility, which are then aggregated to calculate the facility condition performance measure metric.

**TABLE 5: TRANSIT FACILITIES (BY ASSET CLASS)<sup>6</sup>**

Asset Class	Average Condition Assessment	Number of Facilities	Total Size (sq. ft.)	Percent of Facilities in SGR
Maintenance	3.4	2,541	67,865,991	84%
Passenger	3.4	4,954	134,014,782	86%
Administrative	3.7	836	13,998,873	92%
Parking	3.4	3,420	52,575,197	91%

<sup>4</sup>Agencies were not required to provide condition assessment for all facilities in the first year; this value is expected to change in the coming years as more complete data is reported to NTD.

<sup>5</sup>Estimated using a calculation of \$162/sq ft. applied to facilities not in SGR. The multiplier represents the higher end of a cost range to construct commercial facilities.

<sup>6</sup>Analysis was only conducted for facilities with data on condition assessment and square footage. This explains the discrepancy between the number of facilities included among different tables.

# TRACK AND INFRASTRUCTURE

As reported to the NTD, there are 14,727 miles of track used to provide transit service nationally. This includes track serving commuter rail, heavy rail, light rail, and other types of rail systems (including articulated rail, cable car, inclined plane, monorail/

automated guideway, and streetcar). For further details on the definition of modes, types of service, and calculation of track miles refer to the [NTD Policy Manual](#).

## Highlights

- Most of the Nation’s track and guideway<sup>7</sup> was constructed after 1980, though a significant portion of commuter rail and heavy rail track is older than the 1930s.
- The average reported expected life for track was 42.5 years, with no significant variation by type of rail system.
- Four percent of all track, or 596 track miles, was reported as under performance restriction for 2018.

This represents an estimated replacement cost of \$60 billion.<sup>8</sup>

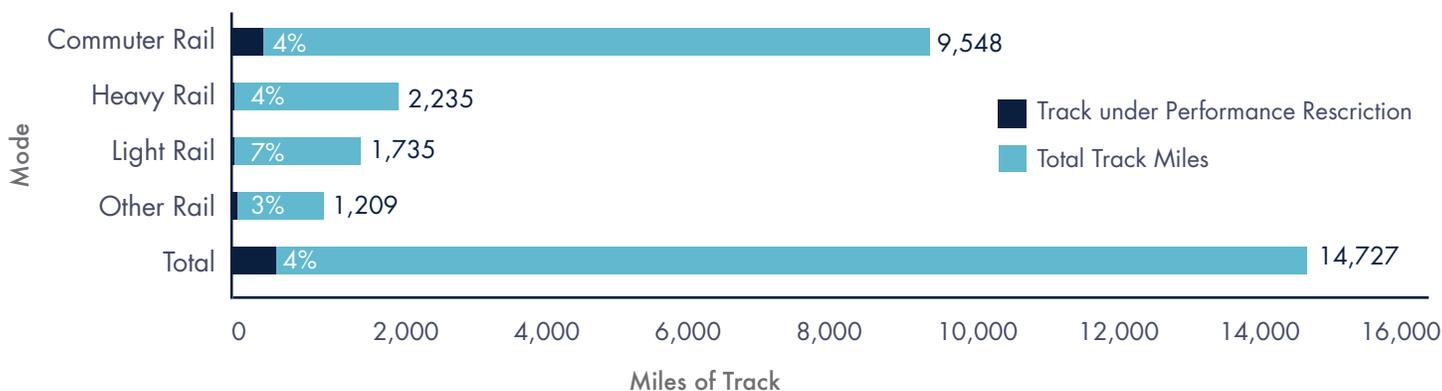
- Eleven percent of all guideway infrastructure in use is beyond its expected service life, and would cost \$156 billion to replace. An additional 5% of guideway infrastructure will exceed its expected service life in the next 4 years, at a cost of \$753 million.

## Track under Performance Restriction

Rail providers are required to establish a target for infrastructure, for the percent of track under performance restriction, and to report the performance measure to the NTD. A 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.” Figure 8 shows these totals as a percent of total revenue track miles.

**FIGURE 8: TOTAL TRACK AND TRACK UNDER PERFORMANCE RESTRICTION (TRACK MILES)**



<sup>7</sup>NTD collects data on both track and guideway, with some data elements (e.g., infrastructure age) reported only under guideway. Transit guideway is the full right of way, which includes the track, as well as buildings and structures dedicated for the operation of transit vehicles. It does not include passenger stations or transit facilities. This fact sheet notes whether the calculations are for track only or for track and guideway.

<sup>8</sup>Cost estimated using an industry accepted value of \$100 million per mile.

# PERFORMANCE TARGETS

Transit agencies set performance targets for the coming year, reflecting their expectation of their ability to keep assets in SGR. FTA encouraged transit agencies to set realistic targets based on available asset condition data and anticipated resources. For some agencies, the projections reflect aspirational goals; in other cases, they may reflect an expectation based on current condition and funding constraints.

There are no rewards for meeting the targets and no penalties for not meeting the targets. Agencies report performance targets to the NTD aggregated by asset class, rather than individually by each asset. In 2018, transit agencies reported 4,197 targets for 38 transit asset classes, representing their expected SGR in the upcoming 2019 fiscal year.

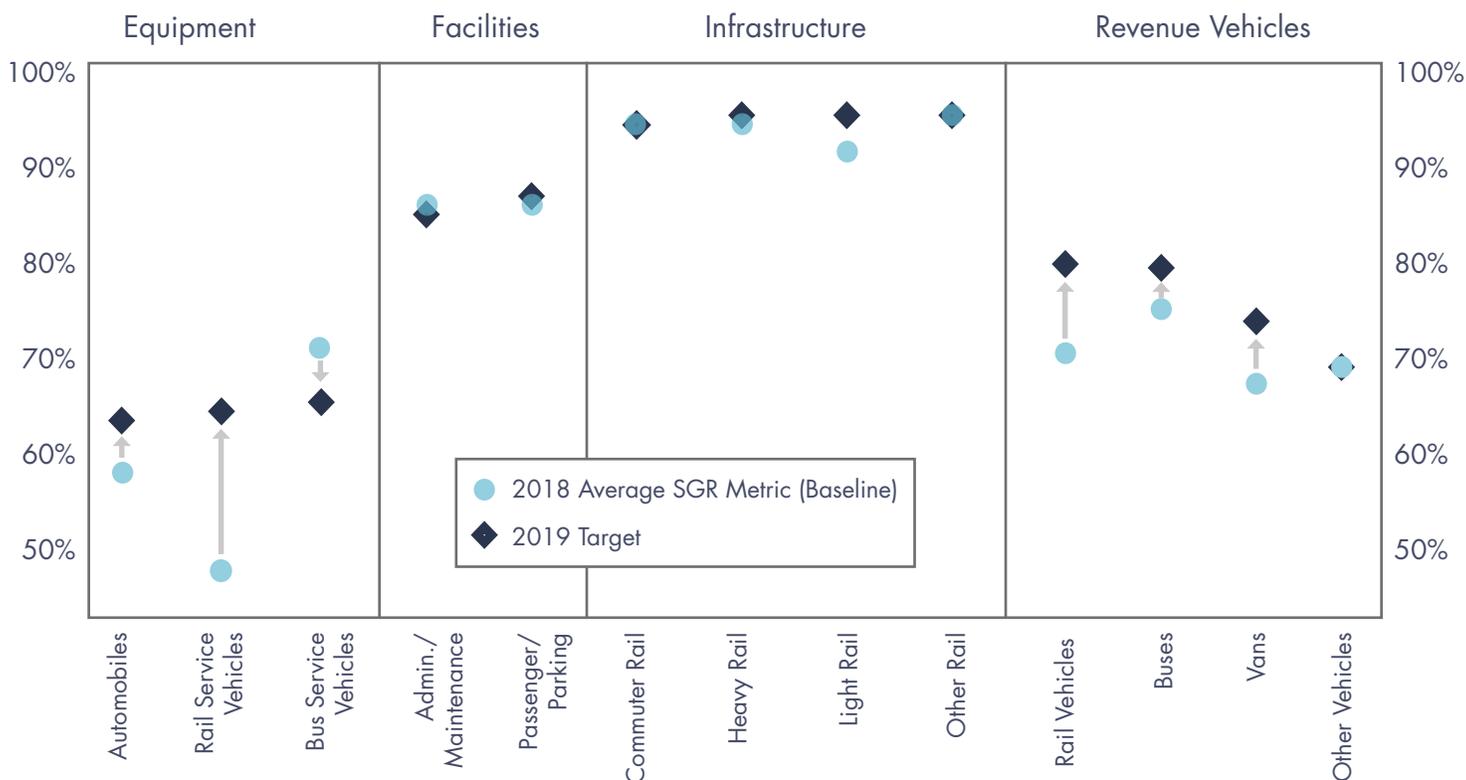
## Highlights

- Transit agencies set targets reflecting an overall expectation of their ability to maintain assets in SGR. The targets reflect an expectation to keep nearly half of asset classes within 90-100% SGR.
- Agencies report high expectations in the ability to avoid slow zones on rail infrastructure; no agencies expected greater than 50% of track miles in slow zone.

- A small number of agencies set expectations to not be able to keep assets in SGR for the coming year. These were mostly from Tier II agencies.

Figure 9 shows the agency reported expectations for future SGR in relationship to the calculated SGR for the current year for each asset type.

**FIGURE 9: AVERAGE SGR METRIC (2018) AND TARGET (2019)**





## TAM First-Year Summary: Group Plans (2018)

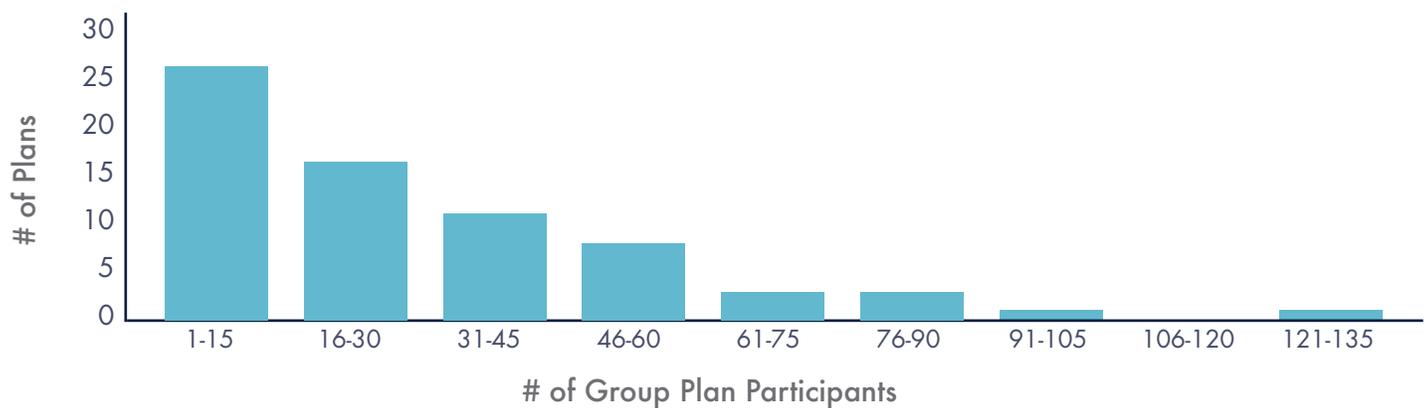
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required to include their Tier II subrecipients that do not have a direct funding relationship with FTA, and have the option of inviting other small urban providers to join the Group Plan. In 2018, there were a total of 67 Group TAM Plan sponsors, developed by 18 transit agencies and 49 State DOTs, covering a total of 1,941 participants.

### AGENCIES PARTICIPATING IN GROUP PLANS

The number of participants in each plan ranged from 1 to 133, with approximately 40% of plans having 15 or fewer participants. There were two plans with greater than 100 participants. Figure G-1 shows the distribution of the number of participants in Group Plans.

**FIGURE G-1: DISTRIBUTION OF PARTICIPANTS IN GROUP PLANS**



**TABLE G-1: PARTICIPATING AGENCIES BY TYPE**

Type of Participating Agency	Number of Participating Agencies	% of Total Participating Agencies
Required (Tier II Subrecipients)	1,620	83%
Tribe	32	2%
Optional (Small Urban)	289	15%
<b>Total</b>	<b>1,941</b>	

## NUMBER OF TRANSIT ASSETS INCLUDED IN GROUP PLANS

Nationally, approximately 20% of all transit assets are included in Group Plans. As shown in Table G-2, they are primarily revenue vehicles.

**TABLE G-2: NUMBER OF TRANSIT ASSETS INCLUDED IN GROUP PLANS**

Asset Category	# of Assets in Group Plans	Total # of Assets	% Assets in Group Plans
Revenue Vehicles	40,289	183,686	22%
Equipment	1,842	29,501	6%
Facilities	2,510	13,857	18%
<b>All</b>	<b>44,641</b>	<b>227,044</b>	<b>20%</b>



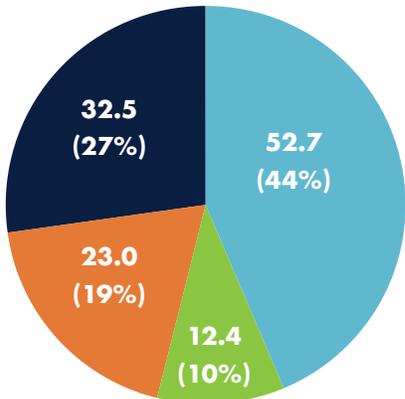
## TAM First-Year Summary: Revenue Vehicles (2018)

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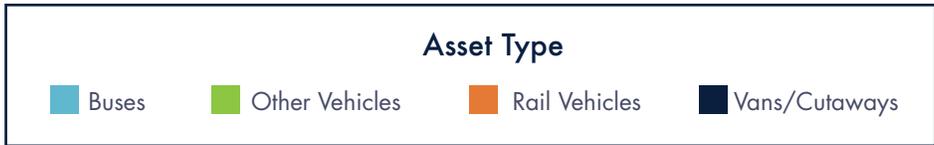
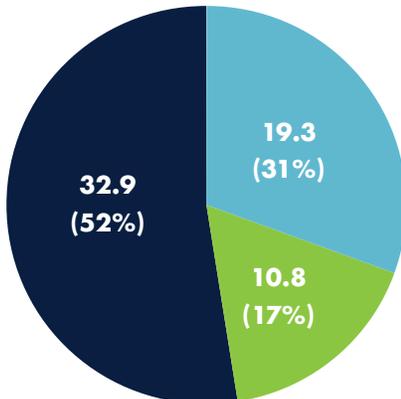
asset types: rail vehicles, buses, vans, and other vehicles. Table R-1 shows the full breakout of how each reported asset type is combined into the displayed categories. Each asset type has multiple asset classes with detailed age and condition information.

**FIGURE R-1: NUMBER OF TRANSIT REVENUE VEHICLES IN THE U.S. (THOUSANDS)**

**TIER I VEHICLES  
TOTAL: 120,502**



**TIER II VEHICLES  
TOTAL: 63,184**



**TABLE R-1: CATEGORIZATION OF ASSETS**

Asset Type	Asset Classes	
<b>Rail Vehicles</b>	Aerial Tramway Automated Guideway Vehicle Cable Car Commuter Rail Locomotive Commuter Rail Passenger Coach	Commuter Rail Self-Propelled Passenger Car Heavy Rail Passenger Car Inclined Plane Vehicle Light Rail Vehicle Monorail Vehicle Streetcar Rail
<b>Buses</b>	Articulated Bus Bus Double Decker Bus Over-the-Road Bus	School Bus Trolleybus Vintage Trolley
<b>Vans/Cutaways</b>	Cutaway	Van
<b>Other Vehicles</b>	Automobile Ferry Minivan	Other SUV

Table R-2 shows the total number nationwide and percent in SGR of revenue vehicles, organized by asset type and agency tier.

**TABLE R-2: REVENUE VEHICLE NUMBERS BY TIER**

Asset Type	Asset Class	Total Number	Number in Tier I Agencies	Percent in SGR (Tier I)	Number in Tier II Agencies	Percent in SGR (Tier II)
<b>Rail</b>	Aerial Tramway	70	70	19%	-	-
	Automated Guideway Vehicle	125	125	100%	-	-
	Cable Car	40	40	37%	-	-
	Commuter Rail Locomotive	965	965	79%	-	-
	Commuter Rail Passenger Coach	4,109	4,109	75%	-	-
	Commuter Rail Self-Propelled	-	-	-	-	-
	Passenger Car	2,794	2,794	70%	-	-
	Heavy Rail Passenger Car	12,220	12,220	68%	-	-
	Inclined Plane Vehicle	6	6	67%	-	-
	Light Rail Vehicle	2,353	2,353	91%	-	-
	Monorail Vehicle	8	8	100%	-	-
	Streetcar Rail	300	300	33%	-	-
	<b>Total</b>		<b>22,990</b>	<b>22,990</b>		<b>0</b>
<b>Bus</b>	Bus	58,823	41,471	81%	17,352	74%
	Articulated Bus	5,950	5,757	78%	193	75%
	Double Decker Bus	230	219	100%	11	73%
	Over-the-Road Bus	6,188	4,523	63%	1,665	70%
	School Bus	111	0	N/A	111	30%
	Trolleybus	596	596	56%	0	N/A
	Vintage Trolley	80	80	6%	0	N/A
	<b>Total</b>		<b>71,978</b>	<b>52,646</b>		<b>19,332</b>
<b>Van/ Cutaway</b>	Cutaway	40,613	15,275	75%	25,338	73%
	Van	24,847	17,182	57%	7,665	58%
	<b>Total</b>		<b>65,460</b>	<b>32,457</b>		<b>33,003</b>
<b>Other</b>	Automobile	7,599	5,896	66%	1,703	50%
	Ferryboat	206	46	85%	160	91%
	Minivan	13,722	5,216	68%	8,506	72%
	Other	38	2	0%	36	83%
	SUV	1,693	1,249	70%	444	52%
	<b>Total</b>		<b>23,258</b>	<b>12,409</b>		<b>10,849</b>
<b>Total Vehicles</b>		<b>183,686</b>	<b>120,502</b>	<b>66%</b>	<b>63,184</b>	<b>34%</b>

## USEFUL LIFE BENCHMARKS AND FTA DEFAULTS

The ULB is the age at which each asset class will enter the SGR backlog; it can also be interpreted as the estimated replacement cycle for a specific asset class.

To estimate the SGR for revenue vehicles, FTA established default ULBs for each vehicle class, using the average age at which it would reach the mid-point (a rating of 2.5) on the FTA Transit Economic Requirements Model (TERM) scale. Transit agencies are also allowed to set a customized ULB, if they have reason to believe that FTA defaults do not accurately reflect their operating environment. Assets that are beyond their ULB, whether it is the FTA default or a custom value, are considered to **not** be in SGR and in need of rehabilitation or replacement.

Most agencies reported ULBs close to the default values, with 1,466 agencies (out of a total of 2,941) setting custom ULBs. Custom values tended to be lower than the default, meaning that they would need to be replaced sooner than the FTA estimated value.

Agencies set both higher and lower ULBs, indicating a range in expected replacement cycles, based on their unique operating environments.

Table R-3 outlines the default and range of custom ULBs for each asset class.

**TABLE R-3: DEFAULT AND CUSTOM USEFUL LIFE BENCHMARKS (ULBS)**

Asset Type	Asset Class	Percent Reporting Asset	FTA Default ULB (yrs)	Percent Agencies Setting Custom ULB	ULB Range (yrs)
<b>Rail</b>	Aerial Tramway	0.07%	12	50%	12 - 50
	Automated Guideway Vehicle	0.19%	31	80%	25 - 50
	Cable Car	0.04%	112	N/A	N/A
	Commuter Rail Locomotive	1%	39	58%	15 - 80
	Commuter Rail Passenger Coach	1%	39	54%	25 - 40
	Commuter Rail Self-Propelled Passenger Car	1%	39	50%	30 - 40
	Heavy Rail Passenger Car	1%	31	67%	22 - 77
	Inclined Plane Vehicle	0.11%	56	33%	51 - 56
	Light Rail Vehicle	1%	31	48%	25 - 41
	Monorail Vehicle	0.04%	31	100%	80
	Streetcar Rail	1%	31	29%	25 - 35
<b>Bus</b>	Bus	38%	14	51%	1 - 22
	Articulated Bus	3%	14	49%	12 - 25
	Double Decker Bus	0.26%	14	29%	12 - 20
	Over-the-Road Bus	5%	14	31%	8 - 25
	School Bus	1%	14	43%	2 - 25
	Trolleybus	0.19%	13	60%	13 - 18
	Vintage Trolley	0.26%	58	N/A	N/A
<b>Van/ Cutaway</b>	Cutaway	81%	10	43%	1 - 23
	Van	42%	8	33%	1 - 15
<b>Other</b>	Automobile	14%	8	25%	1 - 10
	Ferryboat	1%	42	41%	10 - 105
	Minivan	43%	8	37%	2 - 84
	Other	0.3%	14	63%	4 - 15
	SUV	5%	8	21%	4 - 12

## NATIONAL TRANSIT VEHICLE REPLACEMENT COST ESTIMATES

The cost of replacing revenue vehicle assets is an important component of a transit agency's asset management strategy. Tier I agencies generally incur a larger cost to replace assets, mainly because they usually have more assets, and rail assets in particular are more expensive to replace, repair, and maintain.

Cost estimates for Tier I agencies are more than double the cost estimate for Tier II agencies to replace their assets beyond their ULB. Table R-4 includes cost estimates which are calculated based on replacement costs for each asset class provided in TERM.

**TABLE R-4: ESTIMATED REPLACEMENT COST FOR REVENUE VEHICLES**

Asset Type	Asset Class	Tier I (\$ million)	Tier II (\$ million)	Total (\$ million)
<b>Rail</b>	Aerial Tramway	\$22.7	N/A	\$22.7
	Automated Guideway Vehicle	N/A	-	N/A
	Cable Car	\$107.6	-	\$107.6
	Commuter Rail Locomotive	\$876.1	-	\$876.1
	Commuter Rail Passenger Coach	\$2,344.9	-	\$2,344.9
	Commuter Rail Self-Propelled Passenger Car	\$3,388.6	-	\$3,388.6
	Heavy Rail Passenger Car	\$11,339.2	-	\$11,339.2
	Inclined Plane Vehicle	\$0.7	-	\$0.7
	Light Rail Vehicle	\$918.3	-	\$918.3
	Monorail Vehicle	N/A	-	N/A
Streetcar Rail	\$818.6	-	\$818.6	
<b>Bus</b>	Bus	\$3,697.8	\$2,094.6	\$5,792.4
	Articulated Bus	\$1,303.8	\$48.9	\$1,352.7
	Double Decker Bus	N/A	\$1.8	\$1.8
	Over-the-Road Bus	\$1,131.0	\$354.5	\$1,485.5
	School Bus	N/A	\$7.3	\$7.3
	Trolleybus	\$253.1	N/A	\$253.3
	Vintage Trolley	\$311.6	N/A	\$311.6
<b>Van/ Cutaway</b>	Cutaway	\$429.5	\$784.9	\$1,214.4
	Van	\$333.0	\$170.7	\$503.7
<b>Other</b>	Automobile	\$21.2	\$13.4	\$34.6
	Ferryboat	\$63.1	\$135.1	\$198.2
	Minivan	\$62.4	\$90.6	\$153.0
	Other	\$0.1	\$0.4	\$0.5
	SUV	\$15.2	\$8.5	\$23.7
<b>Total</b>		<b>\$27,438.5</b>	<b>\$3,710.7</b>	<b>\$31,149.2</b>

# ASSET REPLACEMENT

Assets are considered due for replacement when they reach the end of their ULB. Assets that are beyond their ULB, as highlighted in Table R-4, are considered overdue for replacement. Figures R-2 and R-3 show the percentage of assets nationwide that already exceed

their ULB, or will in the next four years. On average, 21% of buses for Tier I agencies, and 27% of buses for Tier II agencies are beyond their ULB, or already overdue for replacement.

**FIGURE R-2: PERCENTAGE OF TIER I ASSETS NOT IN SGR CURRENTLY AND IN NEXT FOUR YEARS**

**FIGURE R-3: PERCENTAGE OF TIER II ASSETS NOT IN SGR CURRENTLY AND IN NEXT FOUR YEARS**

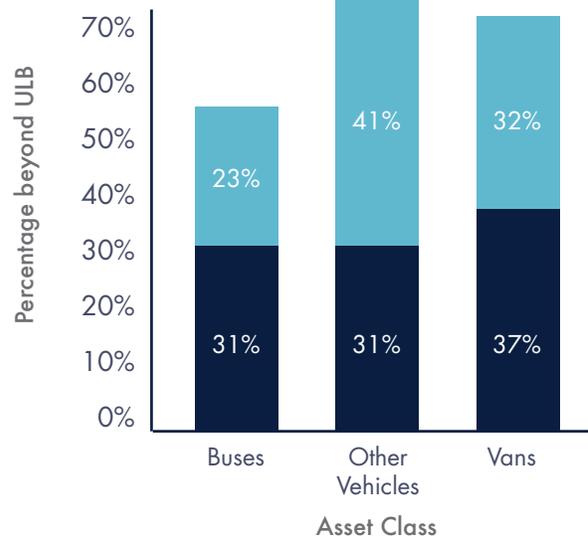
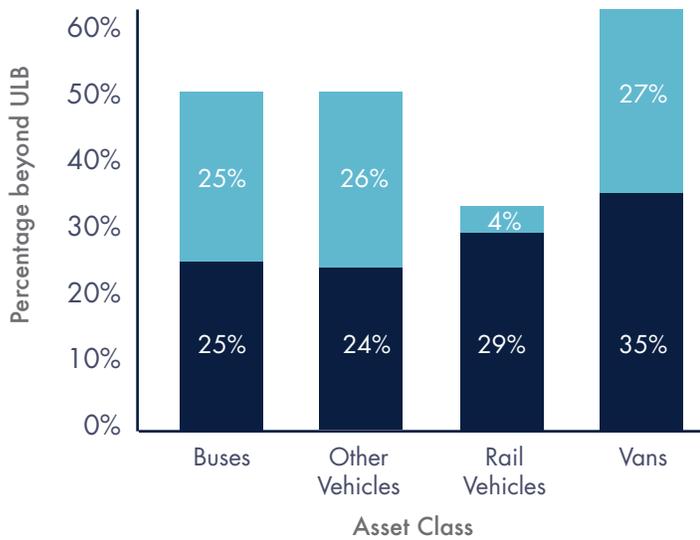


Table R-5 provides the average years for each asset class until it reaches its ULB. For example, this means that based on agency reported data, on a national average, Heavy Rail Passenger Cars will need to be replaced in 7 years, while Inclined Plane Vehicles are 17 years beyond their estimated time for replacement.

**TABLE R-5: REVENUE VEHICLES: AVERAGE YEARS UNTIL REPLACEMENT**

Asset Type	Asset Class	Average Years until Replacement
<b>Rail</b>	Aerial Tramway	0
	Automated Guideway Vehicle	11
	Cable Car	26
	Commuter Rail Locomotive	8
	Commuter Rail Passenger Coach	1
	Commuter Rail Self-Propelled Passenger Car	19
	Heavy Rail Passenger Car	7
	Inclined Plane Vehicle	-17
	Light Rail Vehicle	9
	Monorail Vehicle	23
	Streetcar Rail	-11
<b>Bus</b>	Bus	5
	Articulated Bus	3
	Double Decker Bus	0
	Over-the-Road Bus	4
	School Bus	-3
	Trolleybus	5
	Vintage Trolley	-16
<b>Van/ Cutaway</b>	Cutaway	1
	Van	0
<b>Other</b>	Automobile	-2
	Ferryboat	15
	Minivan	0
	Other	2
	SUV	0



## TAM First-Year Summary: Service Vehicles (2018)

Service Vehicles are used to indirectly deliver transit service, maintain revenue vehicles, and perform transit-oriented administrative activities. Examples include tow

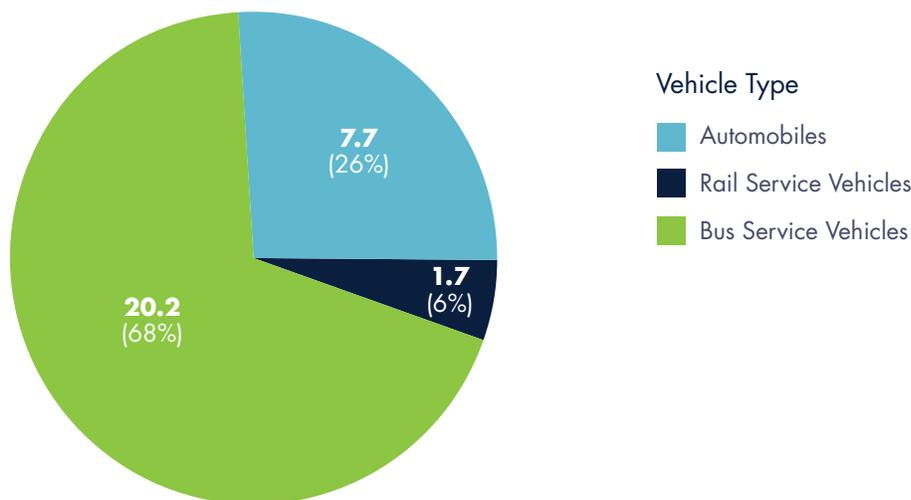
trucks, rail track de-icing vehicles, and cars used by the transit agency.

### SERVICE VEHICLES

Nationwide, transit providers use nearly 30,000 vehicles to support transit service (including more than 7,500 automobiles, 1,500 rail vehicles, and 20,000 trucks and other bus service vehicles). These vehicles are used to maintain tracks, provide transportation for workers between sites, and support other crucial functions. The overall value of these vehicles in 2018

was reported at \$3.6 billion (in 2018 dollars). Agencies reported this replacement cost to NTD. Although rail service vehicles are the smallest category of assets within service vehicles, they make up the largest proportion of asset value (\$2.2 billion). Figure S-1 shows the number of service vehicles organized by type.

**FIGURE S-1: NUMBER OF VEHICLES** (by type and replacement cost)

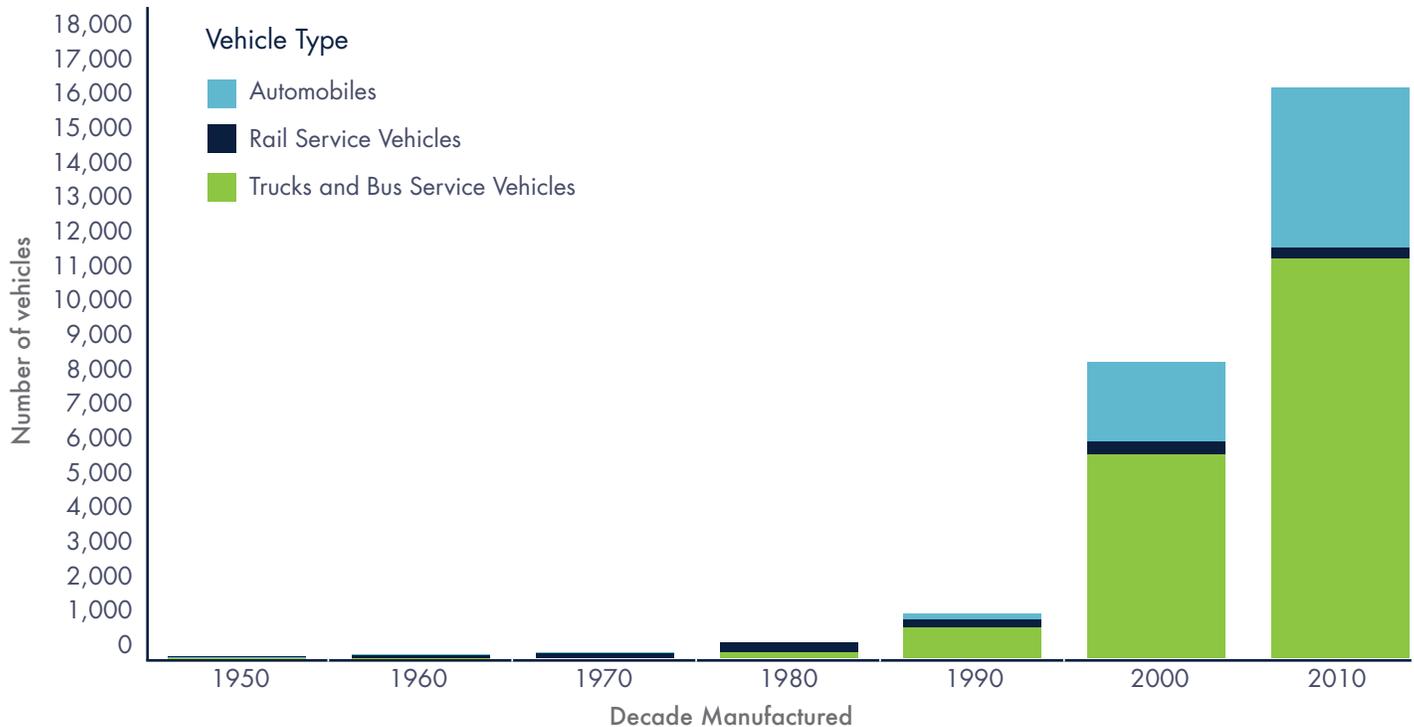


## AGE OF SERVICE VEHICLES

Service vehicles are reported with the date of manufacture. Useful life for these assets varies significantly both across asset categories and within asset categories. Over 99.9% of assets were manufactured after 1960 (shown below).

The oldest asset (a rail vehicle not shown below) was manufactured in 1900. Assets beyond their ULB are no longer considered in SGR. Figure S-2 shows the distribution for the year of manufacture for service vehicles, organized by vehicle type.

**FIGURE S-2: YEAR OF MANUFACTURE DISTRIBUTION FOR SERVICE VEHICLES**



## USEFUL LIFE BENCHMARKS (ULB) FOR SERVICE VEHICLES

ULBs represent the expected life cycle or the acceptable period of use in service of a capital asset for a transit agency's operating environment. Transit agencies may use the FTA-provided default values or adjust them based on local maintenance and operating conditions.

As Table S-1 indicates, rail service vehicles are on average at or beyond their ULB, while automobiles and bus service vehicles are the youngest asset

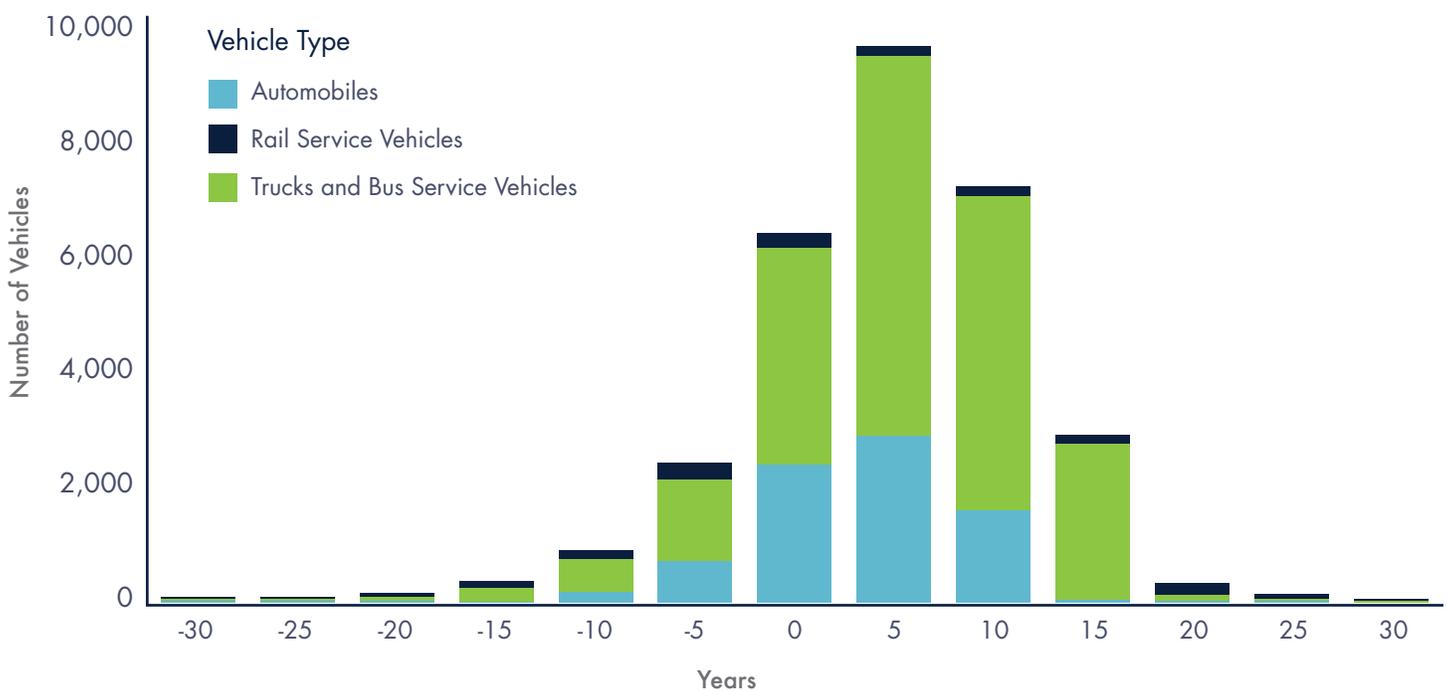
categories on average. Despite being within the average ULB, automobiles and bus service vehicles are still on average close to the end of their ULBs. The data implies that agencies may keep many of these assets beyond their ULB.

Figure S-3 shows the average ULBs for each vehicle type, as well as the life remaining (calculated from year of manufacture and ULB).

**TABLE S-1: AGE AND ULB FOR SERVICE VEHICLES**

Vehicle Type	Average Age (yrs)	Default ULB (yrs)	Percent Agencies Setting Custom ULBs	ULB Range (yrs)	Average Years Until Replacement
Automobiles	6.8	8	43%	2-40	1.2
Rail Service Vehicles	24	25	57%	5-45	0
Trucks and Other Bus Service Vehicles	7.6	14	67%	3-100	3.2

**FIGURE S-3: USEFUL LIFE REMAINING DISTRIBUTION BY VEHICLE TYPE**

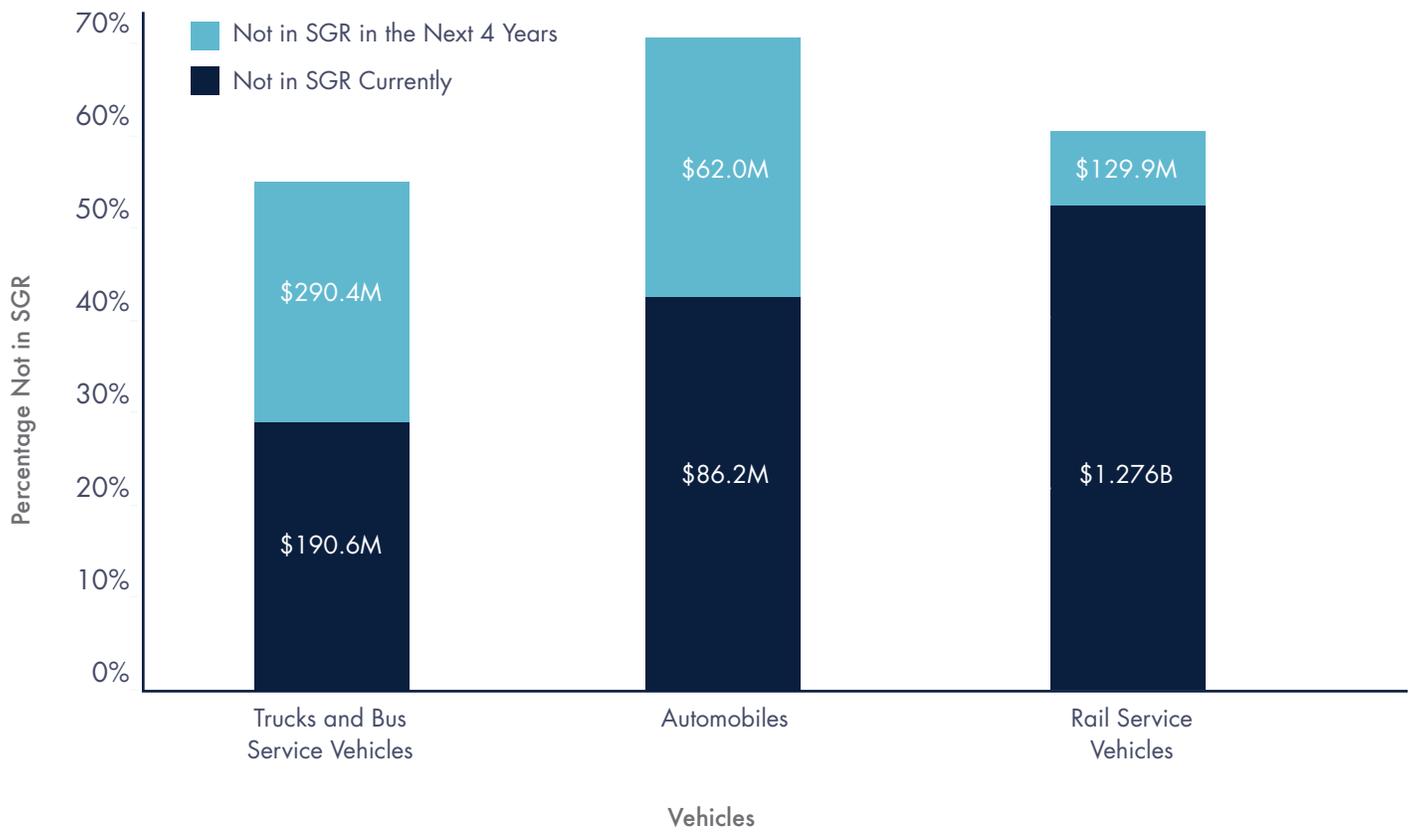


**ASSET REPLACEMENT**

Assets are due for replacement when they reach the end of their ULB. Assets that are beyond their ULB are overdue for replacement. Thirty-four percent of service vehicles are already beyond their ULB, meaning many are in consideration for replacement in the very near future. The total cost to replace these assets is reported as \$1.55 billion. An additional 26% of

service vehicles will exceed their ULB in the next four years, bringing the total percentage of assets in need of replacement to 59%. These additional assets will cost \$482 million to replace, bringing the total cost of replacing all service vehicles exceeding ULB within the next four years to over \$2 billion. This is shown in Figure S-4.

**FIGURE S-4: PERCENT AND REPLACEMENT VALUE OF VEHICLES NOT IN SGR CURRENTLY AND IN NEXT FOUR YEARS (WITH COST OF REPLACEMENT)**





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## TAM First-Year Summary: Facilities (2018)

Transit agencies are required to conduct regular condition assessments of their assets. This process involves inspections that evaluate an asset’s physical and visual conditions, performance characteristics, and potential risks and impacts of failures. Only transit facilities are required to report these condition assessments to the NTD. Transit facilities are divided into four asset classes: maintenance, passenger, administrative, and parking, allowing agencies to report condition ratings by facility type and by asset class.

FTA requires transit agencies to 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 good repair if it has a rating of 3 (adequate), 4 (good), or 5 (excellent); it is not considered to be in good repair if it has a rating of 1 (poor) or 2 (marginal).

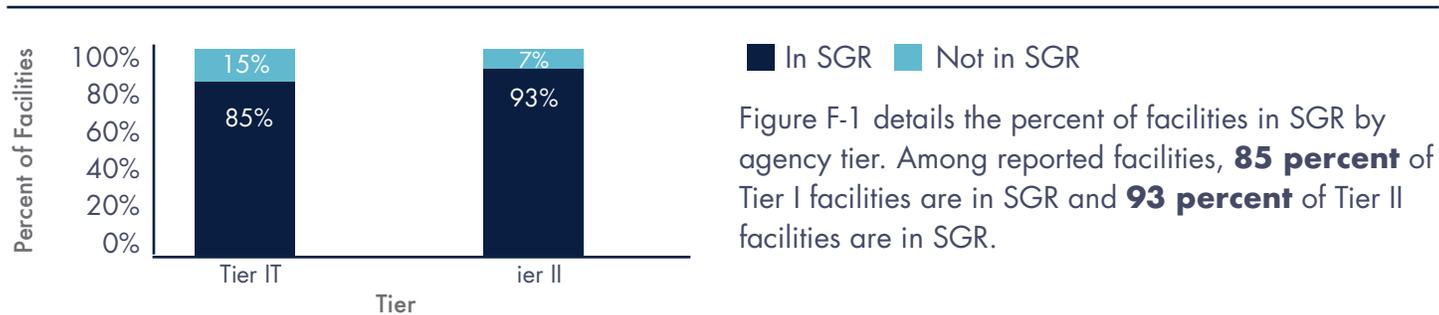
### TRANSIT FACILITIES: AGE AND CONDITION

Table F-1 provides summary statistics for all Tier I and Tier II transit facilities across the country.

**TABLE F-1: TRANSIT FACILITIES**

	Tier I	Tier II	Total
Number of Facilities	9,731	4,126	<b>13,857</b>
Average Age (Years)	31	22	<b>28</b>
<b>Average Condition Rating</b>	<b>3</b>	<b>4</b>	<b>3</b>

**FIGURE F-1: PERCENT OF FACILITIES IN A STATE OF GOOD REPAIR BY AGENCY TIER**



■ In SGR ■ Not in SGR

Figure F-1 details the percent of facilities in SGR by agency tier. Among reported facilities, **85 percent** of Tier I facilities are in SGR and **93 percent** of Tier II facilities are in SGR.

TERM Scale: 1 (poor) – 2(marginal) – 3 (adequate) – 4( good) – 5 (excellent)

## TRANSIT FACILITY TYPES

There are four transit facility asset classes: maintenance, passenger, administrative, and parking. Agencies self-assess the condition for each of their facilities on the 1-5 TERM scale, and submit condition ratings for every facility, 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.

**TABLE F-2: RANGE OF CONDITION RATINGS AND SGR PERCENTAGES BY FACILITY TYPE**

Maintenance	Average TERM Condition Rating	Percent of Facilities in SGR	Oldest Facility
General Purpose Maintenance Facility/Depot	3.6	91%	1900
Heavy Maintenance & Overhaul (Backshop)	3.0	77%	1900
Maintenance Facility (Service and Inspection)	3.3	84%	1900
Other, Administrative & Maintenance (describe in Notes)	3.2	74%	1900
Vehicle Blow-Down Facility	4.0	100%	1995
Vehicle Fueling Facility	3.7	89%	1900
Vehicle Testing Facility	2.7	67%	1978
Vehicle Washing Facility	3.6	92%	1914
<b>Passenger</b>			
At-Grade Fixed Guideway Station	3.5	90%	1900
Bus Transfer Center	3.8	94%	1900
Elevated Fixed Guideway Station	3.1	75%	1900
Exclusive Grade-Separated Platform Station	3.7	97%	1905
Ferryboat Terminal	3.7	92%	1900
Simple At-Grade Platform Station	3.4	91%	1900
Underground Fixed Guideway Station	2.7	62%	1904
<b>Administrative</b>			
Administrative Office / Sales Office	3.7	92%	1900
Revenue Collection Facility	3.7	90%	1900
<b>Parking</b>			
Other, Passenger or Parking (describe in Notes)	3.8	97%	1900
Parking Structure	3.9	96%	1939
Surface Parking Lot	3.4	89%	1900

TERM Scale: 1 (poor) – 2(marginal) – 3 (adequate) – 4( good) – 5 (excellent)

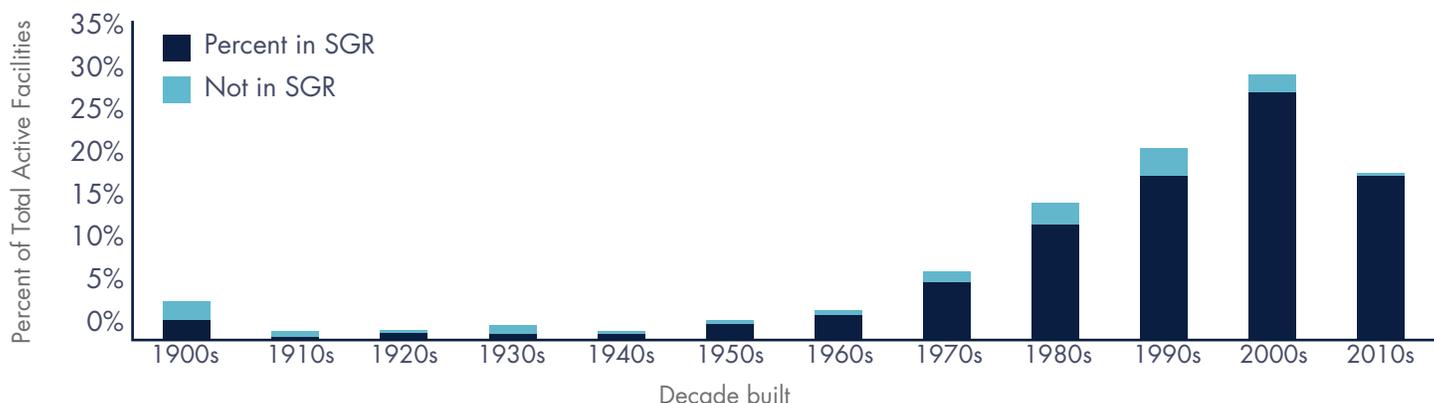
## STATE OF GOOD REPAIR AND AGE OF TRANSIT FACILITIES

The new NTD data allows a snapshot look at the condition of the 13,857 transit facilities nationwide. Figure F-2 shows that while 83% of facilities built in the last 60 years are in SGR, only half built over 100 years ago are reported to be in SGR. The data shows that almost 30%

of facilities were built between 2000 and 2009, and around 4% are over a hundred years old.

Agencies were only required to conduct condition assessments for 25% of their facilities in the first year.

**FIGURE F-2: PERCENT OF FACILITIES IN SGR BY DECADE BUILT**



## HOW MUCH WILL IT COST TO REPLACE FACILITIES NOT IN SGR?

**TABLE F-3: ESTIMATED COST TO REPLACE TRANSIT FACILITIES (BY ASSET CLASS)**

Asset Class	Average Condition Assessment	Number of Facilities	Total Size (sq. ft.)	% of Facilities in SGR	Replacement Cost for Facilities
Maintenance	3.4	2,541	67,865,991	84%	\$1,539 million
Passenger	3.4	4,954	134,014,782	86%	\$2,822 million
Administrative	3.7	836	13,998,873	92%	\$295 million
Parking	3.4	3,420	52,575,197	91%	\$596 million
<b>Total</b>					<b>\$5.3 billion</b>

The number of facilities included in this table is lower than the total number of facilities as the square footage and condition rating was not reported for all facilities.

TERM Scale: 1 (poor) – 2(marginal) – 3 (adequate) – 4( good) – 5 (excellent)

The replacement cost for facilities was estimated by multiplying the total square footage of facilities not in SGR by \$162. This multiplier represents the higher end of commercial facility construction cost range. As agencies were only required to conduct condition

assessments for at least 25% of their transit facilities in the first year, the replacement cost for facilities is likely to change as more agencies report more facility condition assessments to the NTD.



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## TAM First-Year Summary: Track and Infrastructure (2018)

### TRACK AND INFRASTRUCTURE OWNED BY TRANSIT AGENCIES

As reported to the NTD, there are over 14,700 miles of track used to provide transit service in the U.S. This includes approximately 9,500 miles for Commuter Rail (64%), 2,200 miles of heavy rail (16%), 1,700 miles of light rail (12%), and 1,200 miles (8%) in other types of rail systems (articulated rail, cable car, inclined plane, monorail/automated guideway, streetcar rail, and hybrid rail). The average reported expected service life (ESL) for track was 42.5 years, with no significant variation by type of rail system.

Rail providers and other fixed-route operators also report power and signal equipment and linear miles of guideway.

Transit guideway refers to facilities using or occupying a separate right of way or rail for the exclusive use of public transportation. This includes track, as well as buildings and structures dedicated for the operation of transit vehicles. It does not include passenger stations or maintenance facilities.

This fact sheet notes whether the calculations are for track only or for track and guideway together.

In total, transit providers reported 4,825 linear miles of guideway structures and 2,700 power and signal equipment elements.

### PERFORMANCE RESTRICTIONS

Rail providers are required to establish a target for infrastructure – the percent of track under performance restriction – and report the performance measure to the NTD. The average target for track SGR was for roughly 5% of all track to be under a performance restriction. Most types of rail systems reported 4% or less of track under performance restriction, except for light rail, for which 7% of track was reported under performance restriction. Agencies reported a total of 596 miles of track with slow zones in 2018, which is estimated

at approximately \$59.6 billion in replacement costs (calculated using an industry-accepted replacement cost of \$100 million per mile).

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:

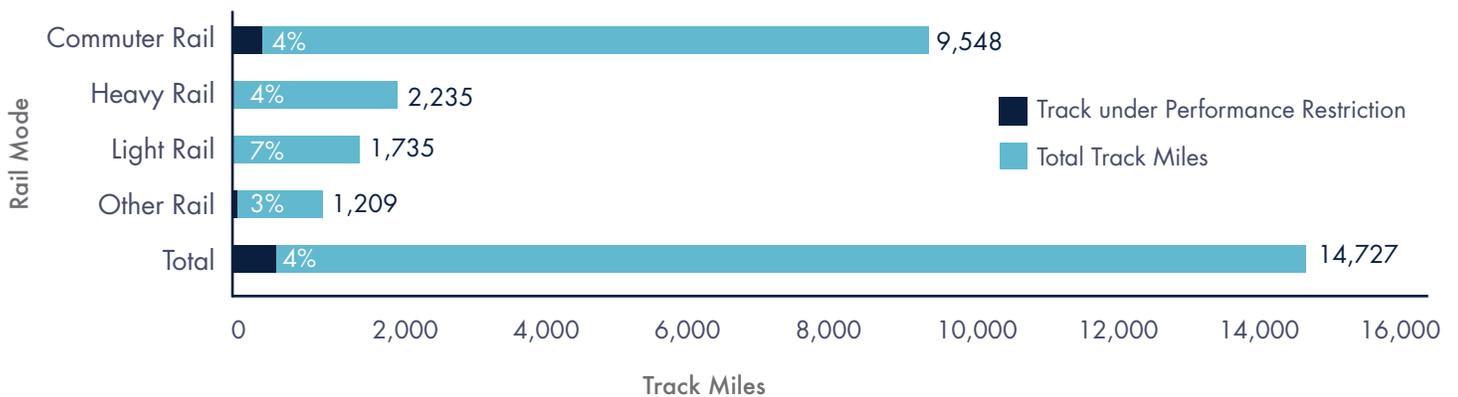
- Agencies must measure the length of track miles under performance restrictions each month based on a snapshot of conditions that existed as of 9:00 AM local time on the first Wednesday of the month. This calculation must be performed separately for each combination of rail fixed guideway mode (or type 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.

Figure T-1 summarizes the total track miles by type of rail system, along with the mileage and percent under performance restriction.

**FIGURE T-1: TOTAL TRACK AND TRACK UNDER PERFORMANCE RESTRICTION**



## EXPECTED SERVICE LIFE (ESL)

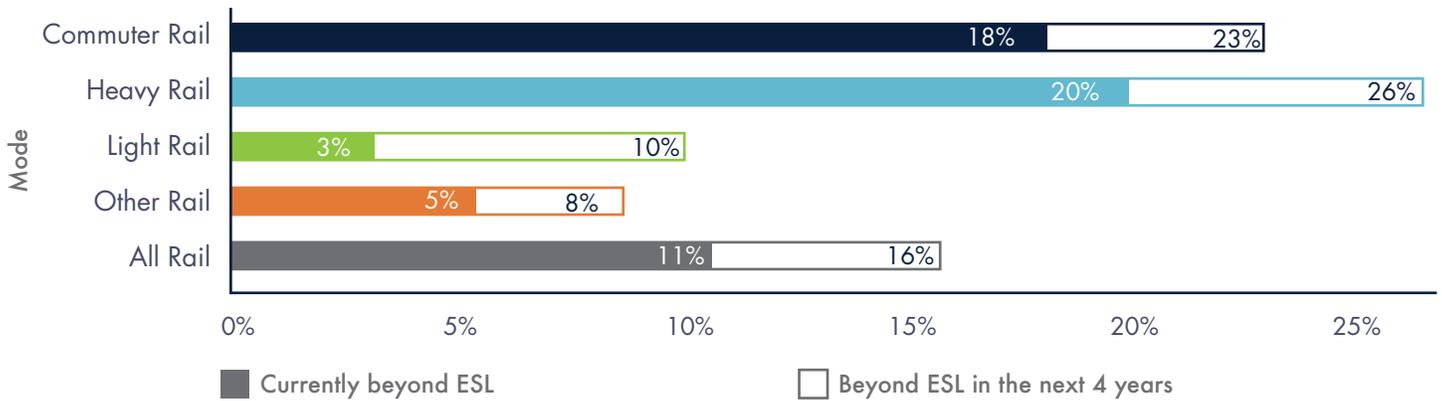
Agencies report an ESL for track or guideway elements for each rail mode. For each mode, the agency also reports an approximate year of construction, as either before 1930 or in one of the 10 decades from the 1930s through the 2020s. Using the reported data, FTA estimates the percent of track and guideway that is currently in use beyond its expected service life. Figure T-2 summarizes this estimate by rail mode and for all rail.

Approximately 11% of all reported track and guideway is beyond its ESL, most being commuter rail and heavy rail guideway elements. Using the reported

total track miles, this represents 1,562 miles of track needing replacement at an estimated cost of \$156.2 billion.

An additional 5% of track and guideway miles is estimated to exceed their ESL in the next four years, for a total of 16% of track mileage. These additional track and guideway elements will cost \$753 million to replace. This would bring the cost estimate to replace all track and guideway assets beyond their reported ESL in the next four years to approximately \$231 billion.

**FIGURE T-2: AVERAGE PERCENT OF ALL TRACK INFRASTRUCTURE PAST EXPECTED SERVICE YEARS**

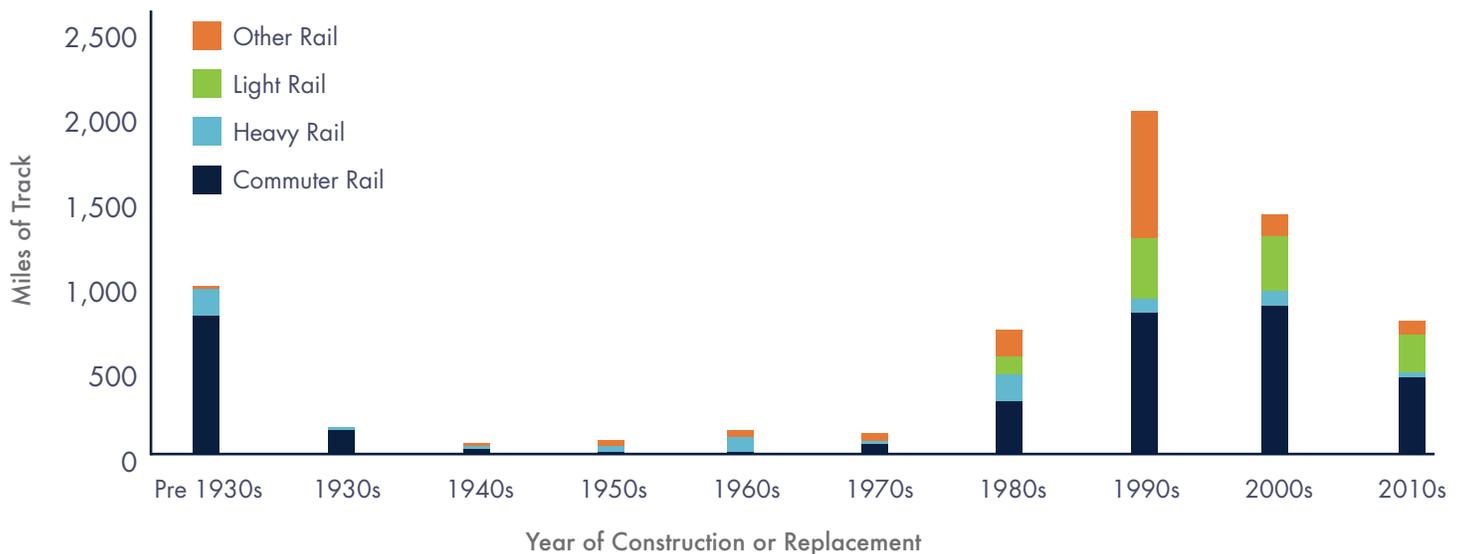


**TRACK CONSTRUCTION**

Figure T-3 shows the reported year of construction. For most, track the age is well below the average expected life of 42.5 years. The figure also shows that most track constructed before the 1980s belongs to heavy rail and commuter rail systems, whereas, a

significant portion of heavy rail track was constructed before the 1930s. (Note that the year of construction could include both track expansion projects as well as replacement of even older track elements).

**FIGURE T-3: YEAR OF CONSTRUCTION FOR TRACK (TRACK MILES)**



Data Note: The mileage depicted in Figure T-3 does not equate to the total track mileage nationally, because year of construction data was not collected for all infrastructure assets in rail right of way (ROW). However, the distribution in this factsheet is assumed to be representative of the whole.



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## TAM First-Year Summary: Performance Targets (2018)

Transit agencies set performance targets for the coming year, reflecting their expectation of their ability to keep assets in SGR. FTA encouraged transit agencies to set targets based on available asset condition data and anticipated resources. 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. Agencies

are not required to report their local decision making process for setting their SGR targets. Agencies report performance targets to the NTD aggregated by asset class, rather than individually by each asset.

In 2018, transit agencies reported 4,197 targets for 38 transit asset classes, representing their expected SGR in the upcoming 2019 fiscal year.

### DISTRIBUTION OF PERFORMANCE TARGETS

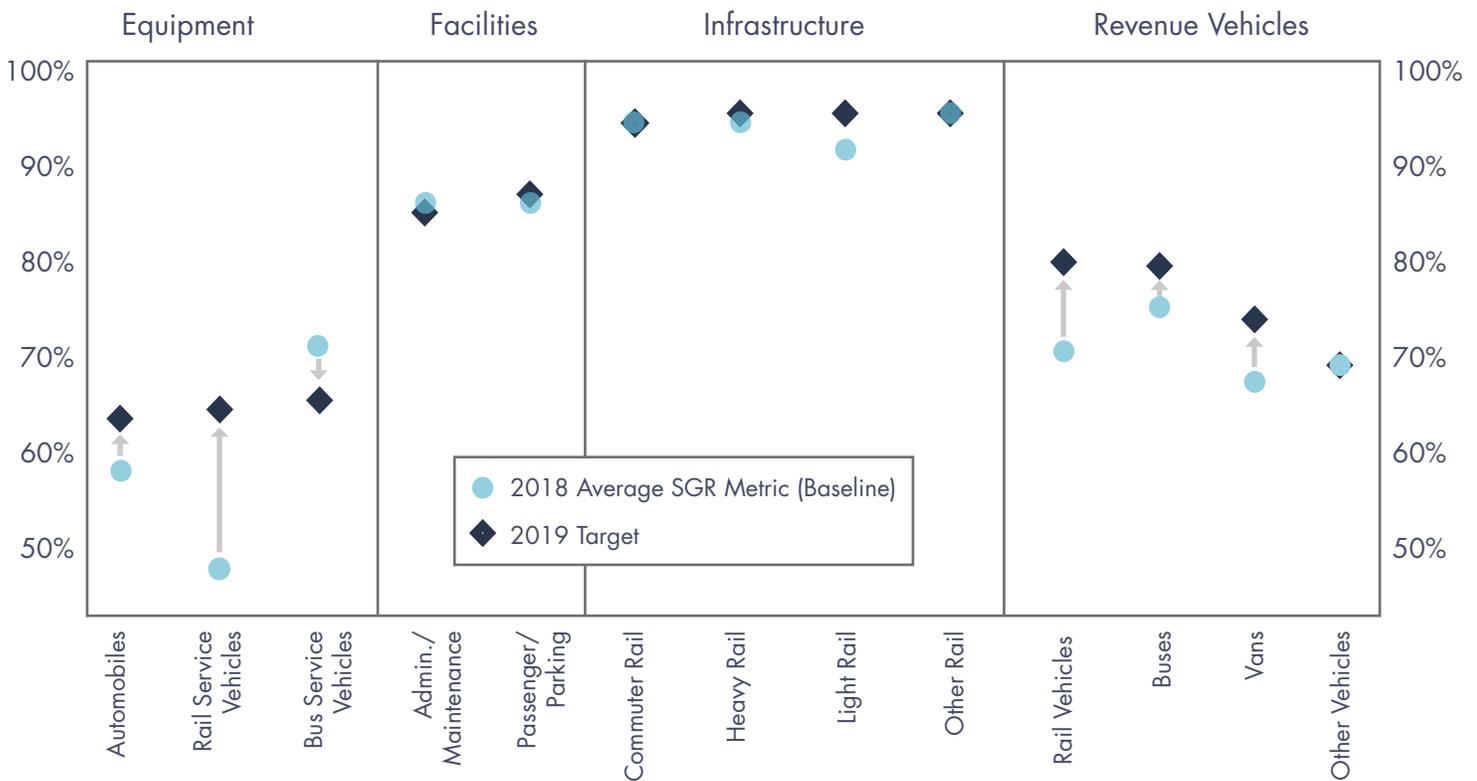
Table P-1 and Figure P-1 show the 2018 condition assessments and the 2019 performance targets broken down by asset category and class. The 2018 values are calculated based on data reported to the NTD; 2019 target values are the average for all targets set for that asset class. The data show a range in agencies’ expectations in their ability to maintain or improve the condition of transit assets in the near

future. On average, transit agencies forecast expectations for 2019 SGR for facilities and infrastructure that align closely with the current reported condition, generally improving SGR targets for service vehicles, and a mix of higher and lower SGR targets for revenue vehicles. Table P-2 shows average performance targets, organized by asset category and agency tier.

**TABLE P-1: PERCENT OF ASSETS IN STATE OF GOOD REPAIR (BY ASSET CLASS)**

Asset Category	Asset Class	% Assets in SGR (2018 Baseline)	% Assets in SGR (2019 Target Average)
Facilities	Administrative/Maintenance	87%	86%
	Passenger/Parking	87%	88%
Equipment	Automobiles	57%	63%
	Rail Service Vehicles	46%	64%
	Trucks and Bus Service Vehicles	71%	65%
Infrastructure	Commuter Rail	96%	96%
	Heavy Rail	96%	97%
	Light Rail	93%	97%
	Other Rail	97%	97%
Revenue Vehicles	Rail Vehicles	72%	81%
	Buses	77%	80%
	Vans/Cutaways	68%	74%
	Other Vehicles	69%	69%

**FIGURE P-1: AVERAGE SGR METRIC (2018) AND TARGET (2019)**



In general, Tier II agencies reported lower average performance targets across all asset categories, with the largest differences in revenue vehicles and equipment.

**TABLE P-2: AVERAGE PERFORMANCE TARGETS BY ASSET CATEGORY AND AGENCY TIER**

Asset Category	SGR	Tier I	Tier II	Total
Revenue Vehicles	72%	84%	72%	75%
Equipment	66%	69%	63%	65%
Facilities	87%	89%	86%	87%
Infrastructure	96%	96%	n/a	96%

For each asset class reported by each agency, FTA compared the 2018 metric (e.g., percent of assets in SGR) to the 2019 target, and determined whether the target was lower, higher, or the same as the current metric. For purposes of this analysis, a target lower than the current reported metric indicates a forecasted decline in SGR for that asset class for the following year; a target higher than the current reported metric

indicates a forecasted increase in SGR for the following year. Many targets forecasted maintaining the same level of SGR for the next year. Table P-3 displays this comparison, aggregated across all agencies and asset classes. In general, targets for revenue vehicles and for infrastructure were more likely to forecast an improved SGR than for facilities and equipment.

**TABLE P-3: NATIONAL AVERAGES OF TRANSIT AGENCY'S EXPECTED SGR NEXT FISCAL YEAR (2019)**

Asset Category	Asset Class	Declining SGR in 2019 (% Targets)	No Change in SGR in 2019 (%Targets)	Increasing SGR in 2019 (% Targets)
Facilities	Administrative/Maintenance	23%	69%	8%
	Passenger/Parking	19%	72%	9%
Equipment	Automobiles	26%	28%	47%
	Rail Service Vehicles	50%	11%	39%
	Trucks and Bus Service Vehicles	45%	27%	28%
Infrastructure	Commuter Rail	0%	0%	100%
	Heavy Rail	0%	0%	100%
	Light Rail	5%	0%	95%
	Other Rail	3%	0%	97%
Revenue Vehicles	Rail Vehicles	17%	63%	20%
	Buses	29%	33%	38%
	Vans/Cutaways	35%	28%	37%
	Other Vehicles	28%	48%	24%