7 Needs and Future Service

Existing levels of investment in Oklahoma's public transit system are insufficient to meet the current service needs. Studies and stakeholder input reveal that current public transit service in Oklahoma meets about 50% of the overall mobility needs of Oklahomans. The amount of unmet need is expected to increase significantly as demographics in the state change over the next 20 years, leading to even greater gaps in meeting mobility needs.

In addition to insufficient funding for operations, there is also inadequate funding for capital causing the fleet to be in a state of disrepair. More than one-third of the vehicles statewide are in service past their useful life, putting the safety of the public transit system at risk. Associated maintenance facilities and passenger amenities are also deficient and underfunded to meet current and future demand.

To provide public transit service that meets today's need and prepares for an increase of that service, transit systems must have the necessary technology, staff, agency development and marketing support needed for growth. These elements are currently lacking and are inadequate to meet future needs.

TRANSIT NEEDS ASSESSMENT

A transit needs assessment was conducted to identify gaps in Oklahoma's transit systems. Understanding current and future passenger needs, and the funding required to meet those needs, is a fundamental part of developing a public transit system that meets mobility for all. Needs were determined by looking at Oklahoma's existing transit services, demographics, and the service levels of transit systems' performance in other states.

The analysis consisted of three primary steps:

1. Determining the Baseline Need

Baseline needs were determined by calculating trips per capita using existing transit ridership in Oklahoma with consideration of the underlying population. Future needs are determined by using existing population projections for Oklahoma counties and assumes a corresponding ridership growth consistent with levels today.

2. Calculating the Benchmark Unmet Need

Performance benchmarks were set using peer systems from outside Oklahoma. Criteria for choosing peers included comparable service area populations, similar rural and urban demographics and geographies, and regional proximity. Peers that were chosen also exhibited superior performance regarding trips per capita, but at a level still comparable and achievable by Oklahoma providers. The unmet benchmark need is the difference between trip rates achieved by peer agencies and the average trip rate for each grouping of transit agencies in Oklahoma.

Unmet benchmark needs were calculated by:

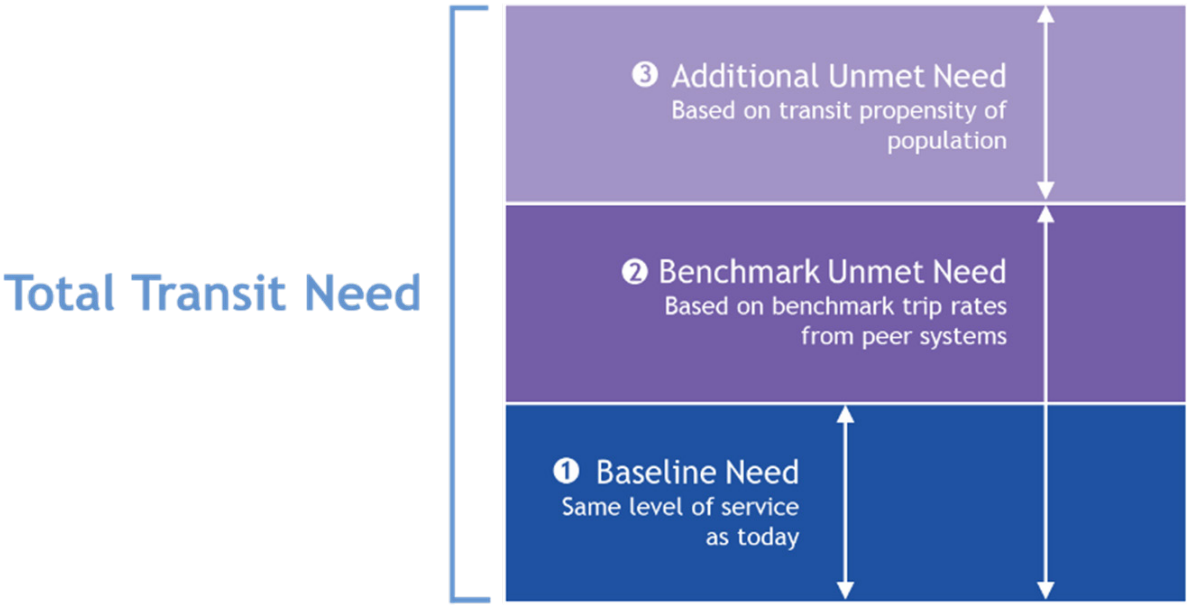
- Categorizing Oklahoma transit systems into seven different types based on system size, service area, and service type.
- Identifying peer systems from other states for each of the seven categories.
- Calculating the Oklahoma average trip rate (transit trips per capita) for each category.
- Calculating the peer average trip rate for each category.
- Calculating the benchmark trip rate for each category.

3. Determining the Additional Unmet Need

Trip rates were further adjusted to reflect cases where communities have a more transit-reliant population. This adjustment assumes an increased need based on income level, age, disability, minority status, and household vehicle access.

Figure 7-1 illustrates the components of determining transit need.

Figure 7-1 Components of Transit Need



Categorizing Oklahoma and Peer Transit Systems

Oklahoma is a geographically large state with a variety of communities including large cities, university towns, small cities, rural communities, and tribal lands. Given the inherent differences between systems, transit agencies were categorized into seven groups. These groups are characterized by the type of service operated and the similarities of their service areas. Figure 7-2 show the seven groups and the corresponding peer systems from other states.

Figure 7-2 Oklahoma Providers and Peer Systems

	Trips per Capita
Oklahoma Large Metro Providers	
Oklahoma Large Metro Provider Average	*5.13*
EMBARK	4.64
Tulsa Transit	5.63
Peer Systems	
Benchmark Trips per Capita (Peer Average)	*6.47*
Toledo, Ohio	6.82
Colorado Springs, Colorado	6.35
Omaha, Nebraska	6.26

Oklahoma Small Metro Providers	
Oklahoma Small Metro Provider Average	*3.02*
Lawton Area Transit System (LATS)	3.83
City of Norman	2.92
Citylink of Edmond	2.32
Peer Systems	
Benchmark Trips per Capita (Peer Average)	*5.26*
Davenport, IA	6.25
Greenville, NC	4.85
Wichita Falls, TX	4.67

Oklahoma University-Based Providers	
Oklahoma University-Based Provider Average	*13.04*
OSU/Stillwater Community Transit System	13.04
Peer Systems	
Benchmark Trips per Capita (Peer Average)	*19.03*
Flagstaff, AZ	34.36
Lawrence, KS	12.84
Durham, NH	9.88

	Trips per Capita
Oklahoma Large Rural Providers	
Oklahoma Large Rural Provider Average	*0.93*
JAMM Transit	2.57
Southwest Transit	1.99
Little Dixie Transit	1.67
KI BOIS Area Transit System (KATS)	1.56
Southern Oklahoma Rural Transit System (SORTS)	0.94
First Capital Trolley	0.80
Cimarron Public Transit System	0.54
Delta Public Transit	0.51
MAGB Transportation	0.43
Red River Public Transportation Service	0.41
Cherokee Strip	0.33
Central Oklahoma Transit System (COTS)	0.22
Pelivan Transit	0.18
Peer Systems	
Benchmark Trips per Capita (Peer Average)	2.24
MIDAS Council of Governments (IA)	2.07
North Iowa Area Council of Governments	2.90
Rural Transit Enterprises Coordinated, Inc. (KY)	1.76

Oklahoma Small Rural Providers	
Oklahoma Small Rural Provider Average	*1.71*
Beaver City Transit	4.61
The Ride (City of Guymon)	2.36
Muskogee County Public Transit Authority	1.30
Enid Transit	1.06
Call A Ride Public Transit	0.69
Washita Valley Transit	0.27
Peer Systems	
Benchmark Trips per Capita (Peer Average)	*2.99*
Harney County (Oregon)	5.36

Source: NTD 2018

Figure 7-2 Oklahoma Providers and Peer Systems *(continued)*

Oklahoma Large Tribal Providers	Trips per Capita
Oklahoma Large Tribal Provider Average	*0.65*
Choctaw Nation Tribal Transit	0.87
Comanche Nation Transit	1.37
Muscogee (Creek) Nation Tribal Transit	0.61
Cheyenne and Arapaho Tribal Transit	0.58
Chickasaw Nation Transportation Services	0.35
United Keetoowah Band Transit	0.07
Peer Systems	
Benchmark Trips per Capita (Peer Average)	1.15
Hopi Senom Transit (Arizona)	2.54
Navajo Nation (Arizona)	0.74
Ute Tribe Public Transit (Utah)	0.18

Oklahoma Small Tribal Providers	Trips per Capita
Oklahoma Small Tribal Provider Average	*3.20*
Seminole Nation Transit	4.23
Citizen Potawatomi Nation Tribal Transit	5.24
White Eagle Transit	1.59
Kiowa Fastrans	0.74
Peer Systems	
Benchmark Trips per Capita (Peer Average)	3.40
Stillaguamish Tribe of Indians (Washington)	4.98
Shaa'srk'a Transit (Laguna Pueblo, New Mexico)	2.25
Elko Band Council (Nevada)	2.97

Source: NTD 2018

Two tribal entities (Cherokee Nation and the Northeast Oklahoma Tribal Transit Consortium) contract with transit agencies to provide service. The transit trips per capita for Cherokee Nation is 0.86 and for Northeast Tribal Transit Consortium is 2.25.

Summary

Across all system groups, Oklahoma transit agencies are providing less trips per capita compared to their peer systems. While service costs can vary greatly between systems and regions, the data in Figure 7-3 illustrates that a higher level of investment is necessary to achieve service that meets mobility needs.

Figure 7-3 Summary of Oklahoma Benchmark Group and Peer Systems Average

Oklahoma Transit System Group	Trips per Capita		Investment per Capita	
	Oklahoma Group Average	Peer Benchmark Average	Oklahoma Group Average	Peer Benchmark Average
Large Metro	5.13	6.48	$37.92	$56.94
Small Metro	3.02	5.26	$18.21	$39.70
University	13.04	19.03	$75.10	$66.64
Large/Multi-County Rural	0.93	2.24	$14.51	$25.05
Small/Single County Rural	1.25	2.99	$13.54	$39.38
Large/Multi-County Tribal	0.65	1.15	$21.90	$25.02
Small/Single County Tribal	3.20	3.40	$51.81	$91.04

Source: NTD 2018, City of Norman FY20

Note: The higher investment level in the University category in Oklahoma is a result of a significant investment in CNG and building facilities by the University.

OPERATING NEEDS

This analysis shows that the investment in transit service operations in Oklahoma is lacking by $126.7 million annually. The increased investment is needed to meet transit service needs in all 77 Oklahoma counties. The investment would increase service levels in communities where people rely on public transit, as well as in communities with sufficient densities to attract more riders. Approximately 9.6 million transit trips were taken in 2018, but the analysis shows the actual trip demand was 17.7 million (Figure 7-4).

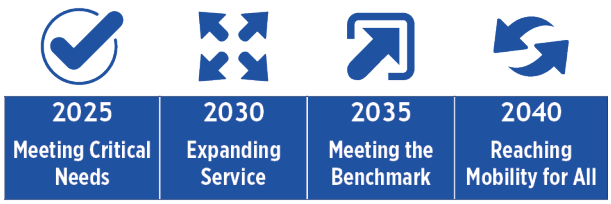
Meeting existing transit needs in Oklahoma will require more than doubling the existing investment in transit services. Given the size of this additional investment and the complexities of increasing service levels rapidly, the Plan sets milestones to increase services and investments over time (Figure 7-5).

Figure 7-4 Current Estimated Unmet Service Operating Need

	Current	Current Total Unmet Need
Total Passenger Demand *(millions of trips)*	9.6	17.7
Annual Operating Cost *(millions)*	$90.5	$217.2

Source: NTD 2018. Oklahoma ridership does not include EMBARK streetcar or ferry services and has been adjusted to reflect city of Norman service changes.

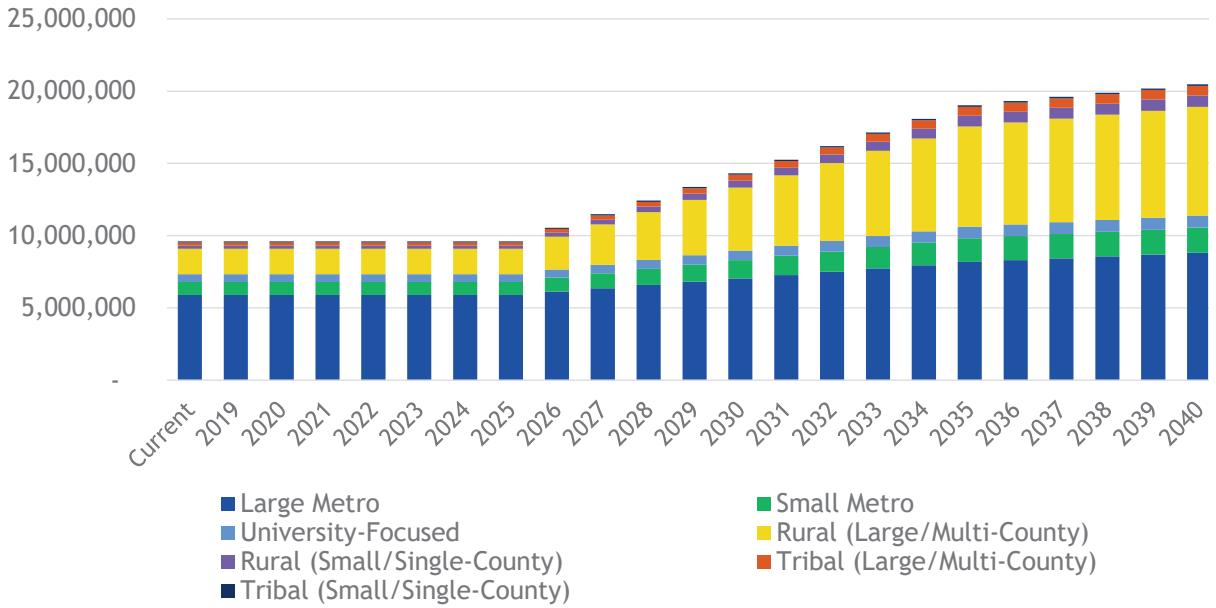
Figure 7-5 Program Milestones



This graduated approach to increasing transit investment will focus on meeting critical needs while building capacity to improve coordination and delivery of transit services (see Figure 7-6). Expanding local service as well as new regional connections will provide Oklahoma transit systems with the tools necessary to replicate the productivity of peer state systems. Meeting these milestones will increase transit trips to 20.5 million annually by 2040.

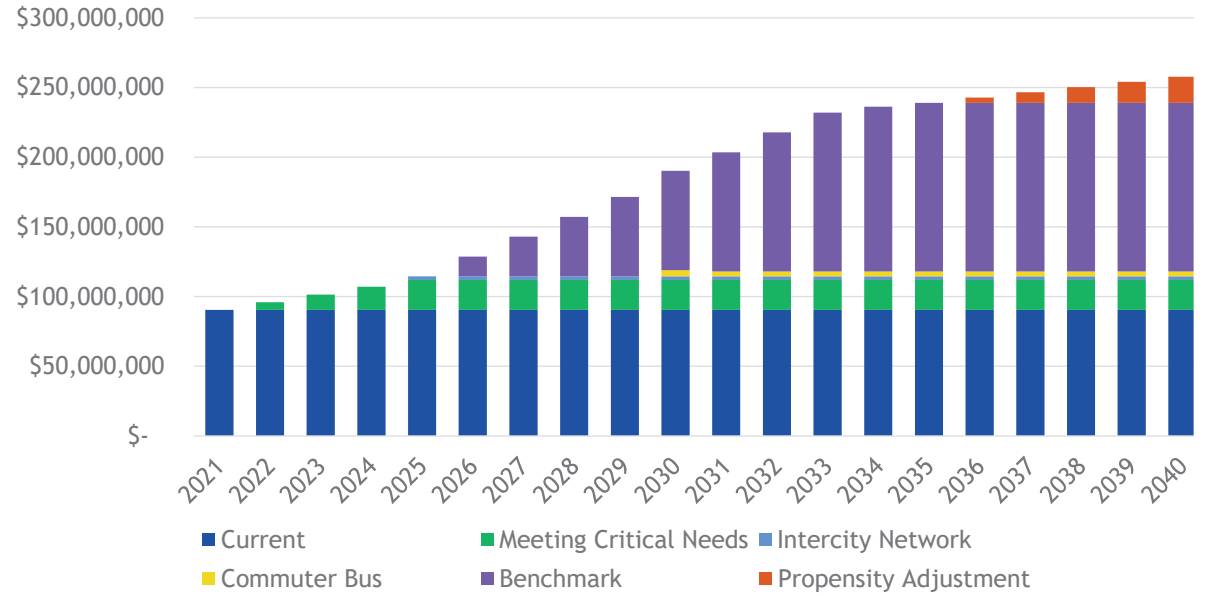
Increasing passenger trips through 2040 requires an operating investment of $257.8 million, an increase of $167.3 million from 2021 (see Figure 7-7). This investment would come from a variety of sources at the federal, state, and local level.

Figure 7-6 Estimated Annual Transit Trips in Oklahoma (2021-2040)



Source: Expansion needs based on needs identified by NDSU study and Service Needs Model, using NTD 2018 data. Norman trips are adjusted based on 2019 reported ridership. Does not include ferry or vanpool trips. Streetcar trips are also not included as service began December 2018.

Figure 7-7 Estimated Annual Operating Costs in Oklahoma (2021-2040)



All costs in 2020 dollars. Source: Expansion costs based on average cost per passenger trip for each Oklahoma Transit System Benchmark Group and estimated costs for intercity and commuter bus services. Does not include ferry, vanpool, or streetcar costs.

CAPITAL NEEDS

Consistent with the transit needs assessment, the capital analysis focuses on investments for the 20-year period between 2021 through 2040. Investment needs were determined based on transit agency type, using the same seven Oklahoma transit system groups. The analysis inventories Oklahoma's capital needs and estimates the cost to both maintain the existing statewide transit fleet and support expansion to meet the increased levels of service in line with the transit service needs assessment.[1]

Capital needs were categorized by three types of investments:[2]

- **State of Good Repair:** Updates and replacements required to ensure the statewide fleet is able to operate at a full level of performance.
- **Vehicle Expansion:** Additional vehicles needed to meet future operating milestones.
- **Facilities Expansion:** Additional maintenance and passenger facilities and capacity needed to meet future operating milestones.

State of Good Repair

A capital asset is in SGR if it is in a condition sufficient for the asset to operate at a full level of performance. The FTA determines the "useful life" of a vehicle according to its age (number of years in service) and miles. Useful life varies by vehicle type.

There are currently 1,408 vehicles in Oklahoma's transit systems, including traditional transit buses, "cutaway" buses, and mini or transit vans. Oklahoma's rural transit agency vehicles account for 68% of the statewide fleet, most of which are cutaway buses and vans. In contrast, the state's two large urban systems have approximately 200 vehicles and account for 14% of the statewide fleet.

1 Transit agencies that operate service on fixed guideway facilities, such as the Oklahoma City Streetcar and the Oklahoma River Cruises, also need capital equipment to operate and maintain those systems. This Plan did not anticipate nor develop capital costs associated with fixed guideway services in Oklahoma City as replacement of those vehicles fall outside the 20-year period of the Plan.

2 Costs are based on the typical cost per vehicle type as identified by ODOT in the state's TAM Group Plan. Costs for accompanying maintenance and passenger facilities are based on FTA required TAM Plans as well as other available capital and long-range planning documents.

Approximately 34% of Oklahoma's transit vehicles are currently at or past their useful life (see Figure 7-8). Because of the backlog created by underfunding capital investment, Oklahoma needs to invest $40.9 million in 2021 to replace old and aging vehicles and achieve SGR in order to maintain safety of the state's transit fleet. The investment of $40.9 million does not assume any growth in the fleet.

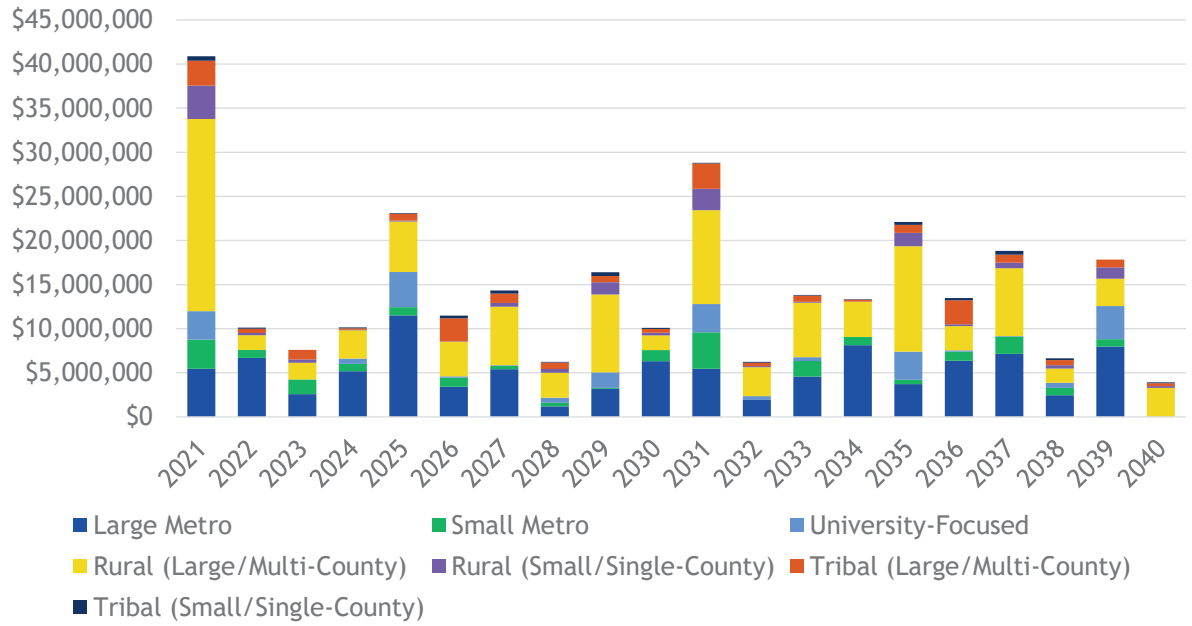
In addition to 2021 needs, between 2022 and 2040 transit agencies will need to replace 2,831 vehicles to maintain SGR. Some vehicles, particularly the lighter duty vehicles, have a shorter useful life and will need to be replaced twice or more through 2040 (see Figure 7-9). During the entire 20-year period, Oklahoma's transit agencies will need to spend $295 million replacing vehicles to maintain SGR. One-third of the replacement cost is needed for EMBARK and Tulsa alone.

Figure 7-8 State of Good Repair in 2021

Group	Current Fleet	Fleet At or Past Useful Life (in 2021)	Cost to Achieve State of Good Repair in 2021
Large Metro	198	45	$5,451,000
Small Metro	62	24	$3,301,000
University-Focused	38	9	$3,243,000
Large Rural	872	290	$21,768,000
Small Rural	89	41	$3,779,000
Large Tribal	119	57	$2,837,000
Small Tribal	30	10	$509,000
Total	1,408	476	$40,888,000

Source: TAM Plans (2018-2019), supplemented with Agency data and NTD 2018 Revenue Vehicle Inventory. *Does not include rail vehicles. EMBARK has 7 streetcar vehicles, which are not expected to be replaced before 2040.

Figure 7-9 Estimated Annual Capital Costs for Fleet State of Good Repair (2021-2040)



All costs in 2020 dollars.

Source: TAM Plans (2018-2019), supplemented with Agency data and NTD 2018 Revenue Vehicle Inventory. *Does not include rail vehicles. EMBARK has 7 streetcar vehicles, which are not expected to be replaced before 2040.

Vehicle Expansion

In addition to maintaining SGR, expanding transit service to fulfill all unmet needs requires statewide fleet expansion. To meet the goal of mobility for all, Oklahoma transit agencies will need to provide an additional 11 million passenger trips per year by 2040, which will require 3,271 more vehicles. Figure 7-10 shows the vehicles needed to meet the projected trips by the 2030, 2035, and 2040 milestones. The cost of the vehicle expansion is $222.9 million over the 20-year period.

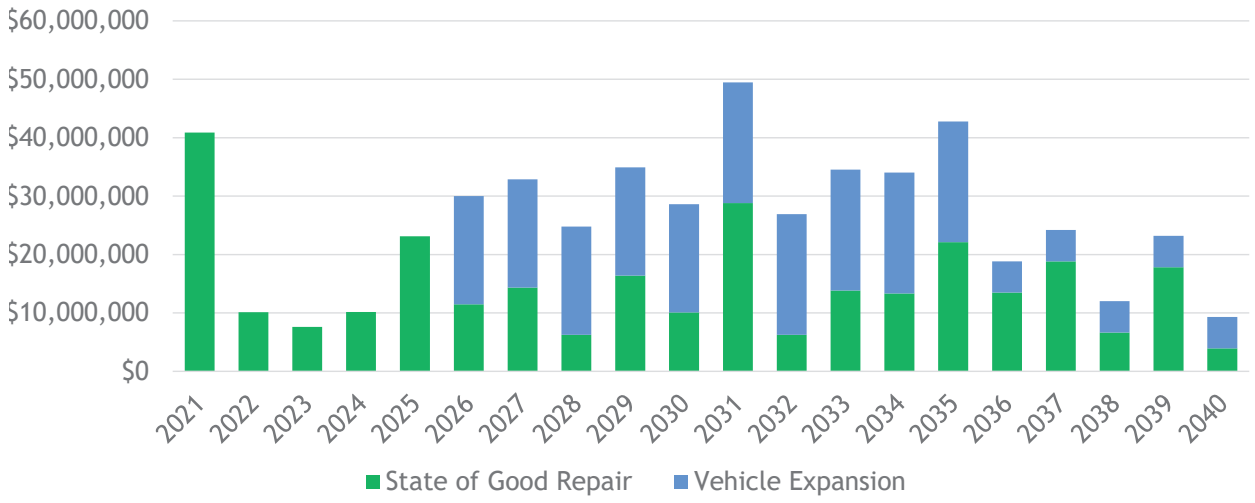
The combined annual investment to both maintain the existing fleet at SGR and purchase additional vehicles to provide for increased service is shown in Figure 7-11. This investment would come from a variety of sources at the federal, state, and local level.

Figure 7-10 Vehicle Expansion Needs

Group	Current Fleet	Vehicles Needed by 2030	Vehicles Needed by 2035	Vehicles Needed by 2040
Large Metro	198	215	250	269
Small Metro	62	80	103	111
University-Focused	38	43	52	54
Large Rural	872	2,051	3,272	3,547
Small Rural	89	183	282	300
Large Tribal	119	223	333	365
Small Tribal	30	31	33	34
Total	**1,408**	**2,826**	**4,325**	**4,680**

Source: Expansion need based on service increases identified in Needs Assessment Model and assessment of current vehicle loads and system performance.

Figure 7-11 Estimated Annual Total Fleet Capital Costs (2021-2040)



All costs in 2020 dollars. Source: ODOT, transit agencies, and TAM Plans (2018-2019), supplemented with NTD 2018 Revenue Vehicle Inventory. Expansion needs based on Service Needs Model.

*Does not include rail vehicles. EMBARK has 7 streetcar vehicles, which are not expected to be replaced before 2040.

Transit Maintenance Facilities

According to the 2018 Transit Needs Assessment, transit maintenance facilities in Oklahoma are inadequate to service the current fleet. As the statewide fleet increases, the need for expanded maintenance facilities multiplies. Building transit maintenance facilities for rural and tribal transit systems that do not currently have access to facilities is a critical capital need as the fleet increases. Expansion of current, as well as additional facilities, will be required in the out-years for larger systems.

Passenger Amenities

Providing safe and comfortable places for transit riders to wait is an important part of fixed-route transit systems. They are typically required only for fixed-route services since passengers using demand-response services typically do not wait for vehicles outside and rarely transfer between routes. For purposes of this analysis, passenger facilities are assumed to include additional investment to upgrade 25% of bus stops statewide by 2030 and 50% of bus stops statewide by 2040.

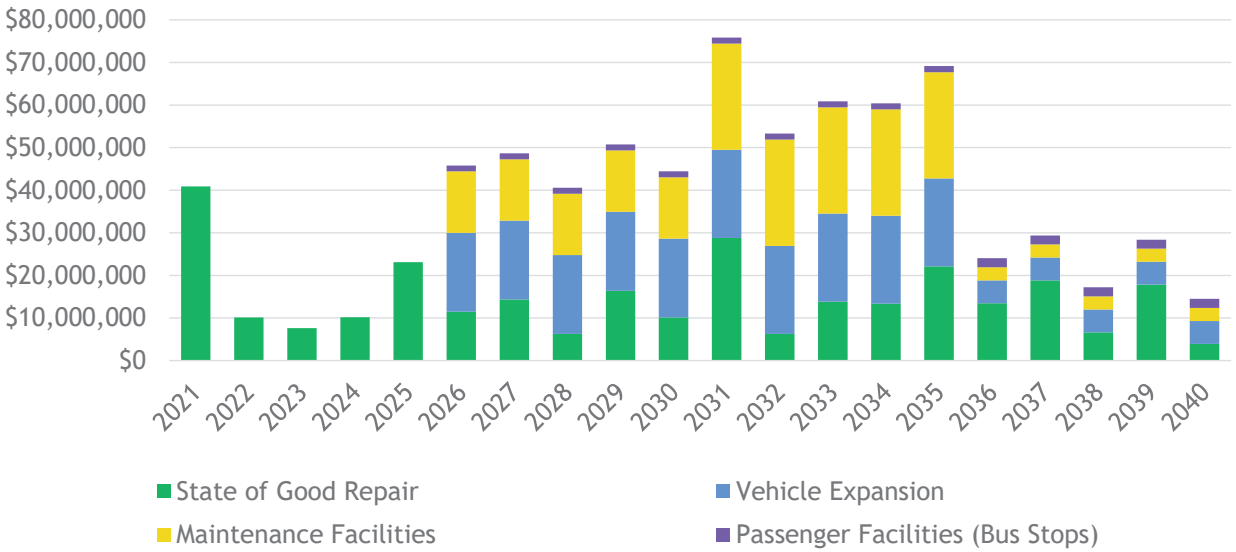
Total Capital Investment

Combining both the capital needs to maintain Oklahoma's existing transit fleet and the capital investment required to grow the system in line with identified transit service needs requires a $755.1 million investment over the 20-year period. This investment includes $295.5 million to maintain SGR for the existing fleet, plus $222.9 million for vehicle expansion and $236.8 million for maintenance and passenger facilities (Figure 7-12). This investment would come from a variety of sources at the federal, state, and local level.

TRANSIT RESOURCE MANAGEMENT

In order for transit systems to be able to implement the increased service to meet mobility for all Oklahomans, there is a corresponding need for new service types, local planning, new technology, staff development, and public education. Without an investment in the management elements shown in Figure 7-13, milestones for service expansion cannot be met.

Figure 7-12 Estimated Total Annual Capital Investment (2021-2040)



All costs in 2020 dollars. Source: ODOT, transit agencies, TAM Plans (2018-2019), supplemented with NTD 2018 Revenue Vehicle Inventory. Expansion needs based on Service Needs Model*Does not include rail vehicles. EMBARK has 7 streetcar vehicles, which are not expected to be replaced before 2040.

Figure 7-13 Transit Resource Management Costs

Management Elements	Costs for 2021	Annual Costs for 2022-2040
Single Source Program	$3,000,000	$500,000
Mobility Management Program	$560,000	$560,000
Training and Education	$550,000	$550,000
Public Education	$1,000,000	$1,000,000
Transit Planning Support	$3,500,000	$350,000
Technology for Transit Providers	$5,000,000	$600,000
Total	**$13,610,000**	**$3,560,000**

All costs in 2020 dollars. Source: Estimated based on input from Project Team review of best practices.

KEY FINDINGS

Oklahoma is currently providing millions of transit trips annually, even with an aging fleet, little to no technology, limited training, and no coordinated mobility management. The transit service needs assessment sets the stage to meet current and future demand for transit in Oklahoma.

While service levels cannot be increased immediately, the Strategic Investment Schedule in Chapter 8 will allow for transit agencies, in coordination with the state, to plan thoughtfully for future expansion and meet the goal of mobility for all Oklahomans as a Top Ten state in transit.


TO
40