Georgia Statewide Transit Plan

Improving Access and Mobility in 2050

Investment Strategies Technical Report

Final Report

May 2020

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GDOT
Georgia Department of Transportation

Let's Ride

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
APTA	Association of Public Transit Administrators
ARC	Atlanta Regional Commission
ARTP	Atlanta Regional Transit Plan
ATL	Atlanta-region Transit Link Authority
CRC	Coastal Regional Commission
CID	Community Improvement District
CNG	Compressed Natural Gas
CV	Connected Vehicle
DB	Design Build
EV	Electric Vehicle
FHWA	Federal Highway Administration
FAST Act	Fixing America's Surface Transportation Act
FRNAT	Federally Recognized Native American Tribes
FTA	Federal Transit Administration
GCT	Gwinnett County Transit
GDOT	Georgia Department of Transportation
GRTA	Georgia Regional Transportation Agency
GTFS	General Transit Feed Specification
MARTA	Metropolitan Atlanta Rapid Transit Authority
MPO	Metropolitan Planning Organization
MTA	Macon-Bibb County Transit Authority
NTD	National Transit Database
OBU	On-Board Unit
RC	Regional Commission
SGR	State of Good Repair
SPLOST	Special-Purpose Local-Option Sales Tax
SRTA	State Road and Tollway Authority
SWTRP	Statewide Transit Plan
TAC	Technical Advisory Committee
TAM	Transit Asset Management
TDM	Travel Demand Management
TDP	Transit Development Plan
TSPLOST	Transportation Special Purpose Local Option Sales Tax
USDOT	United States Department of Transportation

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1.0 Executive Summary

The Georgia Department of Transportation (GDOT) is developing a Statewide Transit Plan (SWTRP) to coordinate with local government, planning agencies, and transit providers to document needs across the state, and prioritize future investments. Throughout this process, individual technical reports and memoranda detail the work components completed toward the final plan. The *SWTRP Investment Strategies Technical Report* is a key component of the SWTRP as it identifies and documents potential strategies and scenarios to meet Georgia's transit needs as identified in the *SWTRP Transit Needs Assessment Report*.

This report identifies and describes strategies and categorizes them into three areas (Administrative Tools and Guidance, Service Expansion, and Service Enhancements). The strategies are followed with a review of available funding streams applicable to public transportation. The report concludes with a discussion of four potential funding scenarios (Baseline-Level, Low-Level, Mid-Level, and High-Level), the potential economic impacts for each, and a discussion of the next steps to implement the SWTRP. The combination of the *SWTRP Transit Needs Assessment Report* and *SWTRP Strategies and Funding Scenarios Report* can be used to inform investment decisions at the state and local levels.

Figure 1 illustrates the process followed in developing the strategies and funding scenarios included in this report.

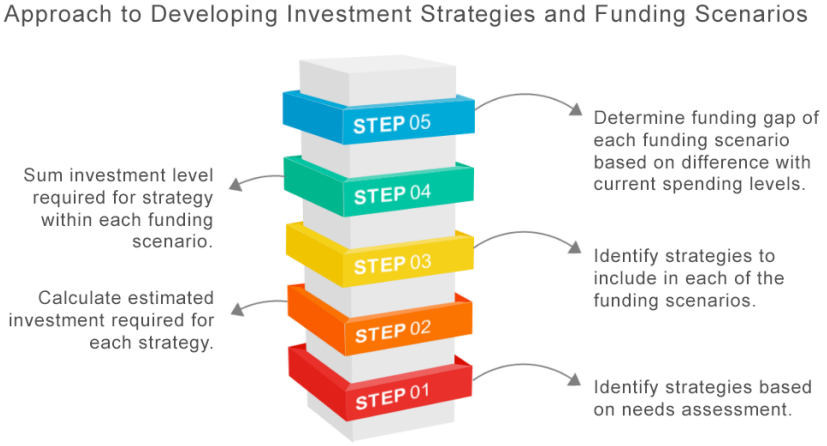

Figure 1: Approach to Developing Strategies

1.1 Summary of Rural Needs

Section 2.0 of this report provides an overview of the needs identified in the *SWTRP Transit Needs Assessment Report* with key findings and strategies. The section also includes a summary of the methodology used to calculated existing and future rural transit demands statewide, including both communities served by transit and those currently without local public transit service. **Figure 2** shows Georgia's estimated existing and future rural transit forecasted trip demand.

In addition to the quantified rural forecasted trip demand, the SWTRP stakeholder outreach process identified the need for various service enhancements, and improved administrative tools and guidance.

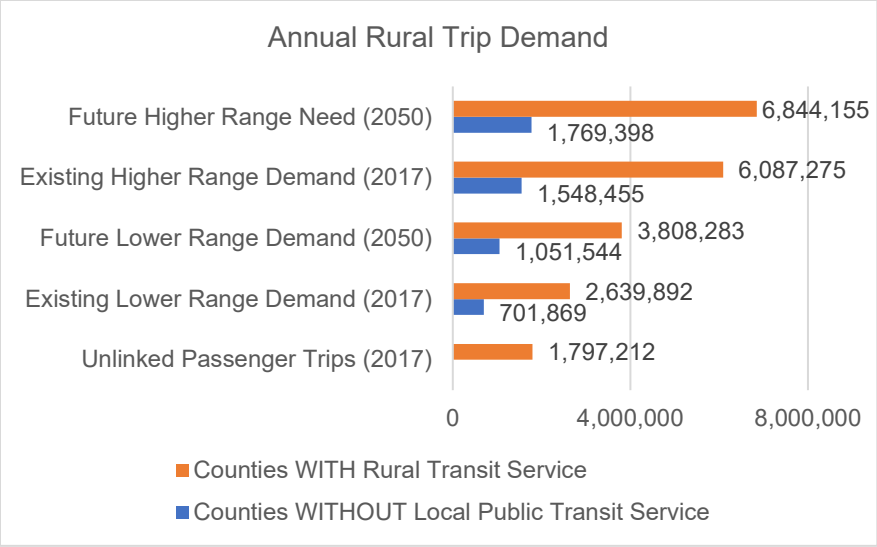

Figure 2: Annual Statewide Rural Trip Demand

1.2 Summary of Urban Needs

Urban public transit services are provided by 17 agencies in Georgia serving diverse urbanized areas throughout the state. Unlike rural demand response forecasted trip demands, due to differences in the service models, urban transit forecasts are not based on number of trips but on locally identified needs and projects.

Agencies within the Atlanta-Region Transit Link Authority (ATL) region submitted their projects to be included in the ATL Regional Transit Plan (ARTP), and therefore, the ARTP is incorporated in this statewide plan by reference and informs statewide service expansion and service enhancement project needs.

Outside the ATL region, published Transit Development Plans (TDPs), feasibility studies, and other transportation plans inform the capital and operational needs for other urban regions.

For this report, urban transit forecasts have been summarized separately between the 13-county ATL region and the remainder of the state. Outside the ATL region, the urban transit forecasts identified at the time of this writing include an average of $244.6 million in annual service expansion needs, $17.4 million in in annual enhancement needs.

Within the ATL region, urban transit forecasts identified include an average of $763.2 million in annual service expansion, and $425.8 million in service enhancement needs, including $285.8 million in SGR needs identified in TAM plans available at the time of writing.

In total, there is a locally identified need of $1 billion in annual service expansion funding, and $443.2 million in annual service enhancement funding is needed for urban transit systems statewide.

1.3 Strategies

Strategies included in the SWTRP address specific locally-identified needs, support the GDOT Transit Program, and support state and regional service enhancements and expansions. **Section 3.0** of this report includes planning-level annual investment estimates with subtotals for each strategy and a grand total for all.

A total of 35 strategies have been placed into three overarching categories. It is important to note that many of the individual strategies could fit under multiple categories. For example, increasing an agency's vehicle fleet can both expand service capacity while also enhancing service with higher route frequency. For the purposes of this report, each strategy is included under just one overarching category.

The three strategy categories are described below:

- **Administrative Tools and Guidance** strategies assist with planning support, transit program delivery support, transit workforce development, and new programs to improve mobility and support reliable rural transit service statewide.
- **Transit Service Expansion** strategies increase service coverage through the implementation of new transit services. These include adding additional routes, coordination between adjacent service, formation of regional systems, additional vehicles, expanded hours of service, and higher service frequencies.
- **Transit Service Enhancement** strategies improve the rider experience by enhancing transit system safety, ease-of-use, efficiency and reliability, and pedestrian and bicycle connections.

The American Public Transit Association (APTA) has calculated the potential economic impacts, or return on investment, of investing in public transportation. They find that for every $1 million invested generates $4 million in economic return, including 50 jobs and $3.1 million in increased local business sales.[1]

APTA's findings are outlined in **Figure 3**. Based on these general guidelines, the potential economic impacts were calculated for both the transit service expansion and enhancement strategy categories.

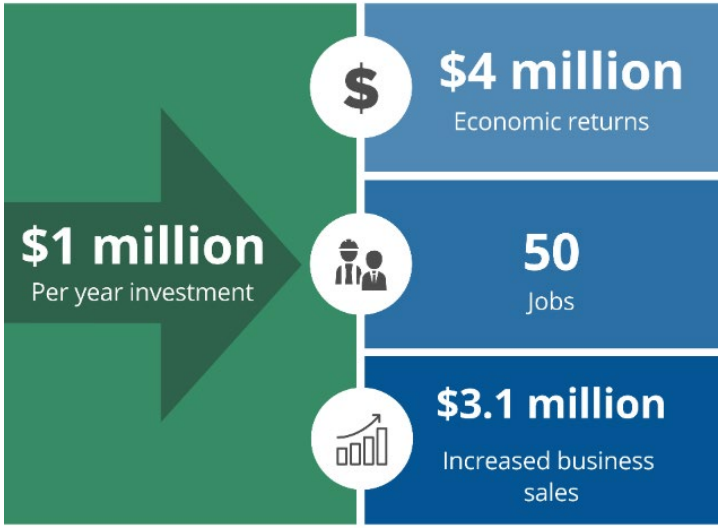

Figure 3: Transit Return on Investment

1.3.1 Administrative Tools and Guidance

Administrative Tools and Guidance strategies contain projects that assist in the operations of transit systems and the GDOT Transit Program. They include planning support, transit program delivery support, transit workforce development, and new programs. The strategies are fully described in **Section 3.1**.

The required investment to fully implement all of these strategies is estimated at $3.3 million annually. These strategies will primarily support rural and small urban providers, as well as providers located outside of the ATL region.

1.3.2 Transit Service Expansion

Transit service expansion refers to increasing service coverage through the implementation of new transit services. These include adding additional routes, coordination between adjacent service, formation of regional systems, additional vehicles, expanded hours of service, and higher service frequencies. The strategies are fully described in **Section 3.2.**

The required investment to fully implement each of these nine strategies is estimated at $1.2 billion annually, including $415.5 million outside the ATL, and $172.7 million for rural transit. **Figure 4** illustrates the potential economic impacts if all expansion strategies are implemented.

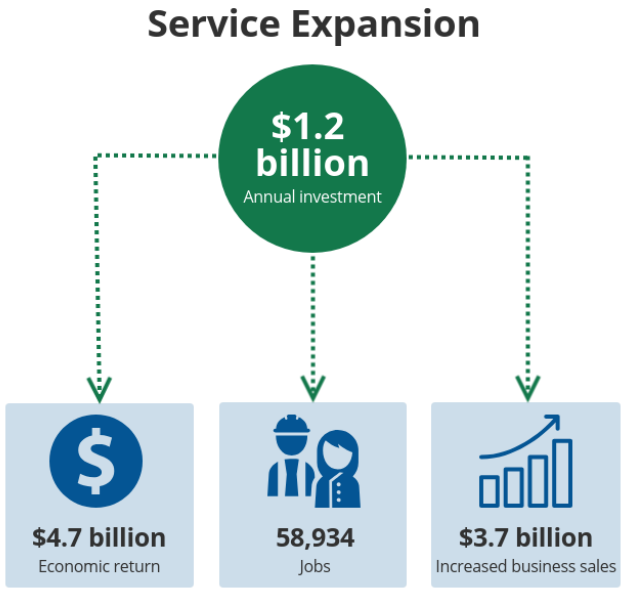

Figure 4: Transit Service Expansion Potential Economic Impacts - Statewide

1.3.3 Transit Service Enhancements

Transit service enhancements improve the rider experience by enhancing transit system safety, ease-of-use, efficiency and reliability, SGR, pedestrian and bicycle connections, and other improvements that are not explicitly expanding transit service. The strategies are fully described in **Section 3.3**.

The required investment to fully implement each of these eleven strategies is estimated at $515.5 million annually, including $89.4 million outside the ATL region, and $23.9 million for rural providers. **Figure 5** illustrates the potential economic impacts if all expansion strategies are implemented.

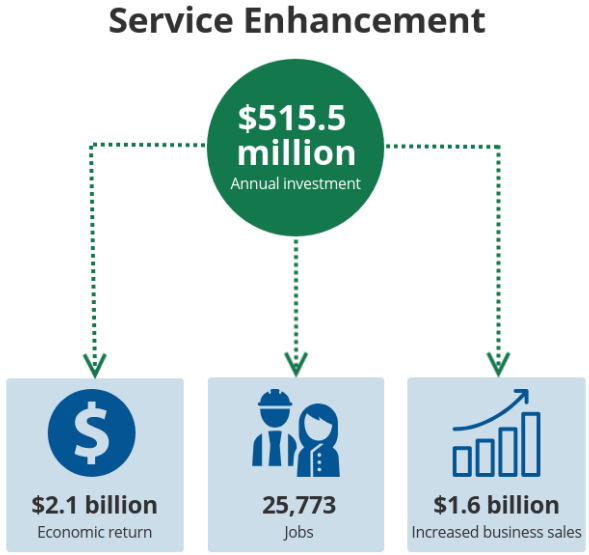

Figure 5: Transit Service Enhancement Potential Economic Impacts - Statewide

1.4 Universe of Funding Sources

Section 4.0 presents the universe of potential funding sources available at the federal, state, and local levels. The section presents existing funding sources available for transit in Georgia, eligible uses of the funding. The section also outlines historical funding sources, and sources considered or used in other states. A summary of the funding sources and what types of projects are applicable can be found in **Section 6.2** of the **Appendices**

1.5 Funding Scenarios

After presenting the transit funding needs, required investment to implement, and potential funding sources; the report concludes with a section showing four different potential funding scenarios and their associated potential economic impacts based on APTA's guidance. The Baseline conditions represent today's current funding level from all sources (federal, state, and local, including fees and fares).

The first new funding scenario is the "Low-Level Scenario." This scenario maintains the baseline funding level for transit systems in Georgia, and adds additional resources to expand rural service into the 37 counties currently without local public transit (**Section 3.2.1.1**), address SGR needs outside the ATL (**Section 3.3.2.1**) and implement the 15 Administrative Tools and Guidance strategies (**Section 3.1**).

The Mid-Level Scenario includes the Low-Level Scenario plus implementation of all service enhancement strategies, all rural service expansion strategies, and 30% of urban service expansion strategies, including coverage for the six cities without transit (**Section 3.2.1.2**).

Finally, the "High-Level Scenario" represents fully implementing all strategies identified. This will ensure full transit service coverage for all rural and urban areas, as well as all needed enhancements and SGR needs. **Figure 6** illustrates the Baseline and three new funding scenarios.

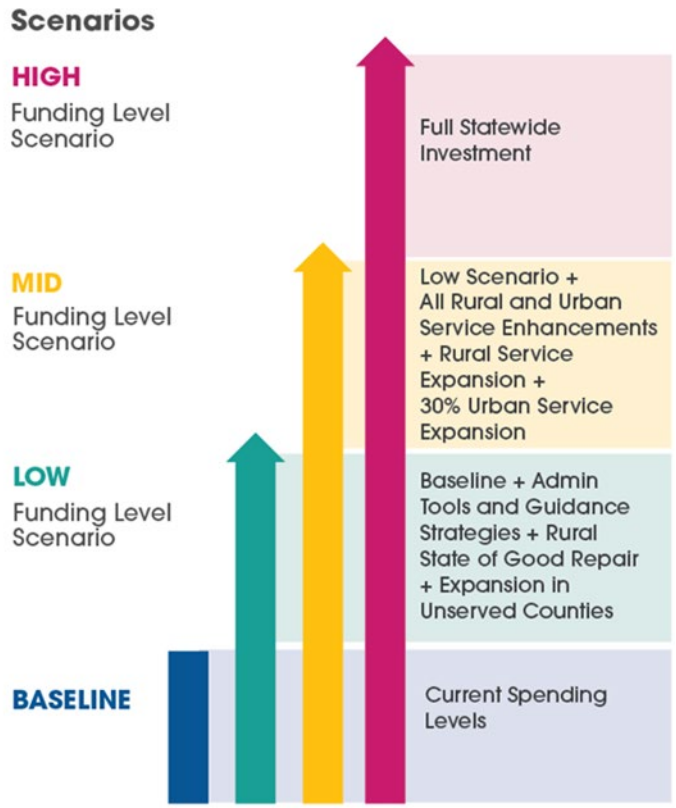

Figure 6: Funding Scenario Descriptions

Scenarios were calculated statewide; because of ongoing planning efforts in the ATL region, funding scenarios were also calculated for agencies within the Atlanta region with funding administered by GDOT (e.g., Cherokee, Coweta, Forsyth, Henry, and Paulding).

Table 1 shows the funding scenarios and potential economic impacts for each. Scenarios for rural providers and projects for transit systems outside of the ATL Region are separated out to understand the impacts of focusing on those areas alone.

Section 6.2 includes a list of all available funding sources and their applicability to public transportation (capital, operating, bicycle, pedestrian, other). **Section 6.3** also includes a table provided by the American Association of State Highway Transportation Officials (AASHTO) of each state's investment in public transit. The table illustrates that Georgia invests a fraction of state funds in transit as compared to peer states such as Pennsylvania, Illinois, and Texas.

Table 1: Summary of Investment Scenario Results

Funding Scenario	Total Cumulative Required investment to Implement	Additional Funding Needs (Gap)	Potential Economic Impacts
Low-Level	$1.1B	$55.4M	• $208.3 million in economic return • 2,604 jobs • $161.4 million in business sales
Low (Outside Atlanta)	$166.2M	$55.1M	• $207.3 million in economic return • 2,591 jobs • $160.6 million in business sales
Mid-Level	$2.1B	$993.3M	• $4 billion in economic return • $49,498 jobs • $3.1 billion in business sales
Mid (Outside Atlanta)	$449.3M	$338.3M	• $1.3 billion in economic return • 16,749 jobs • $1 billion in business sales
High-Level	$2.7B	$1.7B	• $6.8 billion in economic return • 84,707 jobs • $5.3 billion in business sales
High (Outside Atlanta)	$619.3M	$508.2M	• $2.2 billion in economic return • 25,245 jobs • $1.6 billion in business sales

2.0 Summary of Quantified Needs

This section summarizes the needs identified in the *SWTRP Transit Needs Assessment Report*. The needs are grouped and discussed in the following order: Rural Transit Systems, Counties Without Transit, and Urban Transit Systems. Where applicable, locally-identified needs are specifically referenced.

Needs were gathered through a variety of sources, including quantitative methods for estimating rural forecasted trip demand, the SWTRP Provider Questionnaire, Statewide Steering Committee (SSC) meetings, Technical Advisory Committee (TAC) meetings, and a Public Survey. The SWTRP Provider Questionnaire was conducted in the summer of 2019, where providers were given three weeks to prepare and submit responses. Topics included planning priorities, service hours, future needs, SGR, and meeting rider expectations.

GDOT convened a series of TAC meetings with specific subgroups of the committee to capture the challenges and needs of each group. These meetings included separate sessions for both rural and urban providers, regional commissions, and metropolitan planning organizations (MPO). Additionally, focus groups were held to garner input from communities without transit, equity, and community advisory stakeholders, and to explore transit technologies.

As part of the SWTRP development, GDOT sought input from all Georgians across the state to document the need for public transit and establish a vision for future investment. The SWTRP Public Survey was distributed via multiple platforms and mediums throughout the state to engage both transit riders and non-riders to better understand how and for what purpose riders use transit services statewide. Survey objectives included assessing the public's priorities for transit statewide and gaining awareness of issues and barriers to the public's use of transit statewide.

2.1 Rural Transit

The SWTRP Quantitative Assessment is designed to estimate the rural transit forecasted trip demand in each transit system and each county currently without transit service two methods detailed in the Transit Research Board's Transit Cooperative Research Program (TCRP) *Report 161: Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation*, (*TCRP Report 161)*. These two calculations together present a range of estimated rural forecasted trip demand.

The first technique, known as the Mobility Gap Method, typically yields the larger trip estimates produced in this report and are referred to as the "higher range estimates." The mobility gap is defined as the difference in number of trips taken by individuals with access to a personal vehicle as compared to individuals without access to a personal vehicle.

The second technique, known as the Non-Program Demand Method, typically yields the smaller trip estimates produced in this report and are referred to as the "lower range estimates." The method is specifically designed to estimate trip demand for general public transit service, not trips for various human services transportation programs, which are often coordinated with rural public transit. TCRP developed this method following a thorough analysis of NTD data, and workshops with rural transit providers. The method accounts for and individually weights certain demographic factors of the transit service area's population that are strong indicators of transit demand, including population age 60+, limited mobility population, and individuals without access to a personal vehicle.

Refer to the *SWTRP Transit Needs Assessment Report* for a full description of the methods and equations used.

2.1.1 Quantified Demand: Counties with Rural Transit Services

As shown in **Table 2**, based on 2017 population data, the estimated total statewide rural transit trip demand for counties that offer rural demand-response services ranges from approximately 2.6 to 6.1 million annual trips. The NTD data indicate that statewide, Georgia's rural transit agencies provided a combined 1.79 million trips in 2017.

Table 2: Rural Transit Forecasted Trip Demand Estimates – Counties with Rural Transit Service

	Existing (2017)	Future (2050)
Existing Trips Provided	1,797,212	N/A
Rural Transit Forecasted Trip Demand		
Total Rural Forecasted Trip Demand	2,639,892 – 6,087,275	3,808,283 – 6,844,155
Unmet Rural Forecasted Trip Demand	842,680 – 5,244,595	N/A
Additional Investment to Meet Rural Transit Forecasted Demand		
Additional Vehicles – One-Time Fleet Expansion Purchase	$5.4 M – $13.4 M	N/A
Additional Operating Demand from Current Operations	$23.7 M – $86.5 M	N/A
Total Investment to Meet Rural Transit Forecasted Demand		
Total Annual Demand	$59.5 M – $127.6 M	$87.3 M – $146.0 M
Capital Demand	$6.9 M – $8.5 M	$11.9 M – $13.1 M
Operating Demand	$52.5 M – $119.1 M	$75.4 M – $132.9 M

To address the current unmet trip demand, an initial one-time capital investment of $5.4 million to $13.4 million is needed to expand the existing vehicle fleets by 101 to 248 vehicles, as well as $23.7 million to $86.5 million in additional annual operating funds to provide the service. Sustaining the expanded fleet and meeting estimated forecasted trip demand will require sustained annual capital funding of $6.9 million to $8.5 million, and $52.5 million to $119.1 million per year in operating funding.

The population for the State of Georgia is expected to grow by approximately 32.7 % between 2017 and 2050. Similarly, rural transit demand in counties not currently offering rural transit services is projected to grow, ranging from 3.8 to 6.8 million annual trips in 2050. Annual capital needs are expected to grow to a range of $11.9 million to $13.1 million, while annual operational needs are expected to grow to a range of $75.4 million to $132.9 million in 2050.

2.1.2 Quantified Demand: Counties without Public Transit

Local public transit service is currently not available in 37 Georgia counties. These counties are heavily concentrated in the Heart of Georgia Altamaha, Southern Georgia, Northeast Georgia, and River Valley regions of the state.

As shown in **Table 3**, based on 2017 population data, the estimated statewide rural transit demand in counties not currently offering rural demand-response services ranges from approximately 702,000 to 1.5 million annual trips.

To address the current unmet rural trip demand, an initial one-time capital investment of $7.4 million to $10.7 million is needed to buy vehicle fleets (134 to 196 vehicles) for all rural areas currently without local public transit (36 counties without transit plus Rockdale County which is currently served by SRTA Xpress but not local transit services). Sustaining the new vehicle fleets and meeting forecasted trip demand will require sustained capital funding of approximately $1.4 million to $2.1 million per year, and $13.2 million to $29.1 million per year in operating funding.

Based on population growth projections through 2050, rural transit demand in counties not currently offering rural transit services is projected to grow, ranging from nearly 1.1 to nearly 1.8 million annual trips. By 2050, annual capital costs are expected to grow accordingly to a range of $3.0 million to $3.4 million, while annual operational costs are expected to grow to a range of $19.8 million to $33.3 million.

Table 3: Rural Transit Trip Demand Estimates - Counties without Transit Service

	Existing	Future (2050)
Rural Transit Demand		
Total Rural Trip Demand	701,869 – 1,548,455	1,051,544 – 1,769,398
Investment to Meet Rural Transit Demand		
Vehicles – One-Time Fleet Expansion Purchase	$7.4 M – $10.7 M	N/A
Total Annual Demand	$14.7 M – $31.3 M	$22.8 M – $36.7 M
Capital Demand	$1.4 M – $2.1 M	$3.0 M – $3.4 M
Operating Demand	$13.2 M – $29.1 M	$19.8 M - $33.3 M

2.1.3 Locally-Identified Needs: Rural Transit Services

Locally developed transit plans were reviewed to ensure locally-identified needs were captured in the SWTRP. Plans for four rural jurisdictions identified specific facility needs or SGR needs of non-vehicular assets.

Five new park-and-ride lots are proposed in Oglethorpe and Troup Counties. Southern Georgia Regional Commission aims to develop a new app with the potential launch of a regional system there. Bulloch County has expressed a need for a fixed-route system in Statesboro, currently a non-urbanized area. Finally, the GDOT TAM Plan has prioritized SGR needs for existing non-vehicle assets of rural transit agencies across the state.

2.2 Urban Transit

Urban public transit services are provided by 17 agencies in Georgia serving diverse urbanized areas throughout the state. Unlike rural demand response systems, urban transit service is typically provided via fixed route (bus or rail), and needs are quantified in terms of routes, infrastructure, and required capital and operating investments rather than individual trips. Many urban agencies have published TDPs or other planning documents that outline proposed capital and operational improvements to their respective systems. The required investment levels needed to implement those improvements were incorporated into this report.

Agencies within the Atlanta-Region Transit Link Authority (ATL) region submitted their projects to be included in the ATL Regional Transit Plan (ARTP), and therefore, the ARTP is incorporated by reference and informs capital and operational project needs in this statewide plan. In addition, six jurisdictions currently not offering urban transit services have conducted feasibility studies aiming to introduce urban fixed-route transit service to their communities: Brunswick, Cartersville, Griffin, Dalton, Valdosta, and Warner Robins. At the time of this report, Forsyth County is initiating planning work for urban service as well.

In addition to capital and operational investments associated with urban transit services, some agencies have also laid out SGR investment needs, generally in their Transit Asset Management (TAM) Plans, which focus on maintenance, rehabilitation, and replacement of existing assets. In general, locally identified investment needs tended to vary between reviewed plans by assumed timeline; in other words, some plans cited required investments on a per-year basis, while others cited required investments over a time period of five years, ten years, 20 years, and so on. Because of this, all future investments reported in this section are calculated as per-year averages.

For this report, urban transit forecasts have been summarized separately between the 13-county ATL region and the remainder of the state. Outside the ATL region, the urban transit forecasts identified at the time of this writing include an average of $244.6 million in annual service expansion needs, $17.4 million in in annual enhancement needs.

Within the ATL region, urban transit forecasts identified include an average of $763.2 million in annual service expansion, and $425.8 million in service enhancement needs, including $285.8 million in SGR needs identified in TAM plans available at the time of writing.

In total, there is a locally identified need of $1 billion in annual service expansion funding, and $443.2 million in annual service enhancement funding is needed for urban transit systems statewide.

2.3 Needs Assessment Conclusions

In addition to the quantified needs, through the SWTRP's extensive stakeholder and public engagement program, a series of qualitative needs were also identified. Examples include the need for better coordination among systems, more reliable service, access to jobs, and healthcare. The SWTRP project team summarized these needs into a series of conclusions for rural transit systems, counties without transit, and urban transit systems. Those conclusions are summarized in the sections below. The strategies including in this report, aim to address each of the needs identified.

2.3.1 Conclusions for Rural Transit Systems

- **Additional, sustainable, and diversified funding opportunities are needed to mitigate currently limited resources and address unmet forecasted trip demand.**
  - Rural transit providers stated they are challenged with the need to expand services to more areas of their community, extend service hours, and offer better frequency or capacity in their service to meet rider needs.
  - There is a mobility gap across the state and particularly in rural areas of the state. Rural transit agencies cover broad areas with low residential and employment densities, and myriad rider needs. It is a challenge for many rural providers to identify adequate funding to meet their riders' needs.
  - Additional and sustainable funding is needed for expansion of rural services; to increase capacity and hours of service; to train and retain quality staff; and to maintain/replace vehicles and facilities.

- **Transit service needs are regional and multi-jurisdictional.**
  - Feedback from localities and transit providers recognizes that commuting or medical trips are usually not made within a single county; yet most of Georgia's rural transit systems are single-county, making it difficult for riders to navigate and for agencies to pool resources to provide more efficient cross-jurisdictional services.
  - Regional coordination or implementation of regional systems is needed to connect areas of high travel demand with surrounding communities.
  - There is a particular need to coordinate with regional employers to provide linkages with the workforce in surrounding communities.
  - Pilot projects, intercounty commuter services, and regional employer shuttles between adjacent counties could be potential first steps to meet regional transit need that exists.
  - There is also a need to reduce administrative burdens; regional systems can centralize administrative tasks and reduce related operational costs.

- **Partnerships are needed to optimize service to meet rider needs.**
  - Many stakeholders identified a mismatch between transit operating hours and workforce hours. In many industries, night and weekend work is standard. Extended operating hours are needed to make transit a viable mode for workers.
  - Providers need to partner and coordinate with medical facilities, employers and other institutions, for scheduling and funding of services, and to improve service opportunities.
  - Coordination with employers and institutional schedules can help optimize operating hours to meet commuter transit demand.

  - Many providers are interested in asset sharing partnerships between other providers, and with other public or private entities. Such interagency partnerships for facilities and services may result in cost-sharing opportunities.

- **Rural transit systems would benefit from enhanced administrative guidance, training, and technical assistance.**
  - Many providers identified a need for additional or enhanced trainings that could minimize burdens on local entities, in addition to the numerous annual trainings, guidance, and technical assistance currently offered by GDOT. Providers specifically requested additional assistance with regard to:
    - Maintenance staff training to ensure SGR and preventative maintenance for facilities and vehicles.
    - Administrative training to ensure compliance with state and federal requirements and funding administration and reimbursements.
    - Technical assistance for operations, scheduling, and dispatching software to increase efficiency of services and increase reliability of service schedules.
  - Many providers in urbanizing areas need guidance and assistance to prepare for a transition from Rural to Urban transit programs, or the Small to Large Urban program.

- **Increased public education and awareness of available rural transit services is needed.**
  - Numerous local planning documents and stakeholders identified the need to improve public perception and awareness of transit, potentially through educational campaigns highlighting the safety and benefits of transit.
  - Providers identified a need to quantify and promote workforce and economic benefits of transit at local, regional, and state levels; inform elected leaders on the forecasted investments as well as the range of benefits transit provides.
  - There is a need for state, regional, and local entities to highlight rural transit success stories and facilitate positive community relationships and involvement.
  - Providers need to collaborate with schools, employers, medical centers, senior centers, etc. to increase awareness of transit services and promote ridership.
  - Many providers are interested in programs that offer free or reduced rides for seniors, students, veterans, and other populations as a means to encourage increased ridership and build positive community relationships.
  - Marketing tools and website templates are needed for many providers with limited technical capabilities.

- **Enhanced pedestrian, bicycle, and multimodal transit accessibility is needed.**
  - Many local and regional plans or stakeholders identified the need for transit connections with bicycle and pedestrian facilities, and intercity or passenger rail services to help increase transit access.
  - Local planners identified a need to encourage development that includes pedestrian and bicycle infrastructure and amenities, particularly where existing or future transit service is planned or anticipated; land use planning, zoning and building codes are needed to support pedestrian and bicycle accommodations in new developments.
  - Transit services and connecting infrastructure need to be fully ADA compliant and accessible to all users, regardless of age or physical abilities.

- **Local transit planning assistance is needed.**
  - Most of Georgia's rural counties do not have a recent TDP prepared identify local needs.
  - Many stakeholders identified the need for state or regional level assistance for local communities to quantify the transit needs in their community.
  - Improved coordination between transit planning and regional or local land use planning could promote better linkages between transit service and future growth and development areas.

- **Funding and/or training is needed for new software and technology that improves transit operations and rider experiences.**
  - There is significant interest in rider amenities and the implementation of a trip planning application.
  - Many providers need on-board security video systems.

2.3.2 Conclusions for Counties without Transit

- **Establishment of rural transit services is needed in 37 counties currently without local public transit offerings.**
  - These counties are heavily concentrated in the Heart of Georgia Altamaha, Southern Georgia, and Northeast Georgia Regions, in largely rural areas of the state. The following provides the number of counties without transit services by region:
    - Heart of Georgia Altamaha – 11
    - Southern Georgia – 7
    - Northeast Georgia – 6
    - River Valley – 4
    - Georgia Mountains – 4
    - Middle Georgia – 2
    - Central Savannah River – 1
    - Atlanta – 2
  - Initiating service to fill Geographical gaps will require technical and funding assistance, and/or the expansion of existing systems into unserved regions.
  - Local communities need adequate capital resources to procure needed vehicles, equipment and facilities, based on identified demand.
  - Local communities and providers also need adequate operating budgets to ensure long-term success and existence of new systems.
  - Technical and budgetary support is needed to train and retain administrative, operating, and maintenance staff.

- **Regional and multi-county service needed**
  - The required investment to initiate a new service can be minimized and shared through regional or multi-county service as compared to individual services.
  - Counties exploring new service need to coordinate with adjacent counties, particularly where there is significant travel demand between counties.
  - Counties and new providers need to identify regional workforce transit demand and link regional employers with outer or surrounding counties where employees may be concentrated.

- **Community partnerships are needed.**
  - Partnering with medical facilities, employers, and other regional entities can facilitate efficient scheduling, grow ridership, support funding of services, and meet commuter demand.
  - Asset sharing partnerships between providers and other organizations may minimize costs for new systems.

- **Strong marketing and educational campaigns needed to launch new rural transit services.**
  - Engaging with local leaders and the community can help highlight the widespread benefits of transit services, including safety, congestion mitigation, affordability, and diversity of communities served.
  - Identification and promotion of the commuter, workforce, and economic benefits of transit at local, regional, and state levels can facilitate community support.
  - Highlight success stories and working with schools, employers, medical centers, senior centers, and others is needed to increase awareness of new transit services and promote ridership.

- **Local transit planning assistance is needed.**
  - Most counties without service also do not have a recently developed TDP. TDPs are needed to identify local transit existing resources and determine required investments.
  - Many communities identified the need for state or regional level assistance as they do not yet have local transit expertise.
  - Coordination between transit planning and local land use planning is needed to promote linkages between transit service and future growth or targeted economic development areas.

2.3.3 Conclusions for Urban Transit Systems

- **Additional, sustainable, and diversified funding opportunities are needed to maintain and improve existing service level and launch new urban systems.**
  - Urban transit providers stated they are challenged with the need to expand services to new areas, extend service hours, and improve the capacity or frequency of service.
  - There is a need for additional and sustainable operating, capital, and SGR funding to meet rider needs.
  - Many providers find it challenging to retain their transit workforce, particularly drivers and maintenance staff, who can seek higher pay in the private sector. These providers identified a need for additional budget to better train and retain quality administrative, operating, and maintenance personnel.

- **Regional transit service and strategic connections are needed.**
  - Approximately one-third of daily commute trips cross county lines. Areas with high cross-county commuter trips present an opportunity for regional commuter transit service, and connections between multiple providers to ease transfers for riders.
  - Urban connections are needed between demand-response or fixed-route bus services with higher capacity and intercity bus and passenger rail services.
  - Improved planning support is needed for intercity bus and passenger rail infrastructure and transit services at the local, regional, and state levels.
  - Evaluations of regional and on-demand commuter services are needed.
  - Many areas have a need for planning and quantifying the required investment to implement regional transit services that meet the workforce needs of urban to rural commuters.
  - Some areas need an evaluation of additional park and ride lots and services into larger urbanized areas from outer commuter sheds.

- **Implementation of fixed-route service is needed in several urbanized areas where urban service has not yet been established.**
  - Several urbanized areas, such as Brunswick, Cartersville, Dalton, Griffin, Warner Robins, Valdosta, and the outer Chattanooga area in Georgia, have the demand and need for fixed route service.
  - State or regional technical and financial assistance is needed to help plan and implement new smaller urban fixed route systems.
  - State or regional assistance to help aid and train demand-response providers in transitioning to fixed route service.
  - State or regional assistance is needed in the transition from Small to Large Urban providers, where applicable.
- **There is a need for enhanced outreach and marketing efforts to increase awareness of urban transit services**.
  - Improving public awareness is needed with regard to the widespread benefits of transit, including safety, congestion mitigation, affordability, and diversity of communities served.
  - Agencies can work with schools, employers, medical centers, senior centers, and others to increase awareness of transit services, promote ridership, and build positive community relationships.
  - Support for transit may improve by highlighting the positive workforce and economic impacts of transit at local, regional, and state levels.
  - Programs that offer free or reduced rides for seniors, students, and other segments of the population may encourage increased ridership, result in positive community benefits and relationships.

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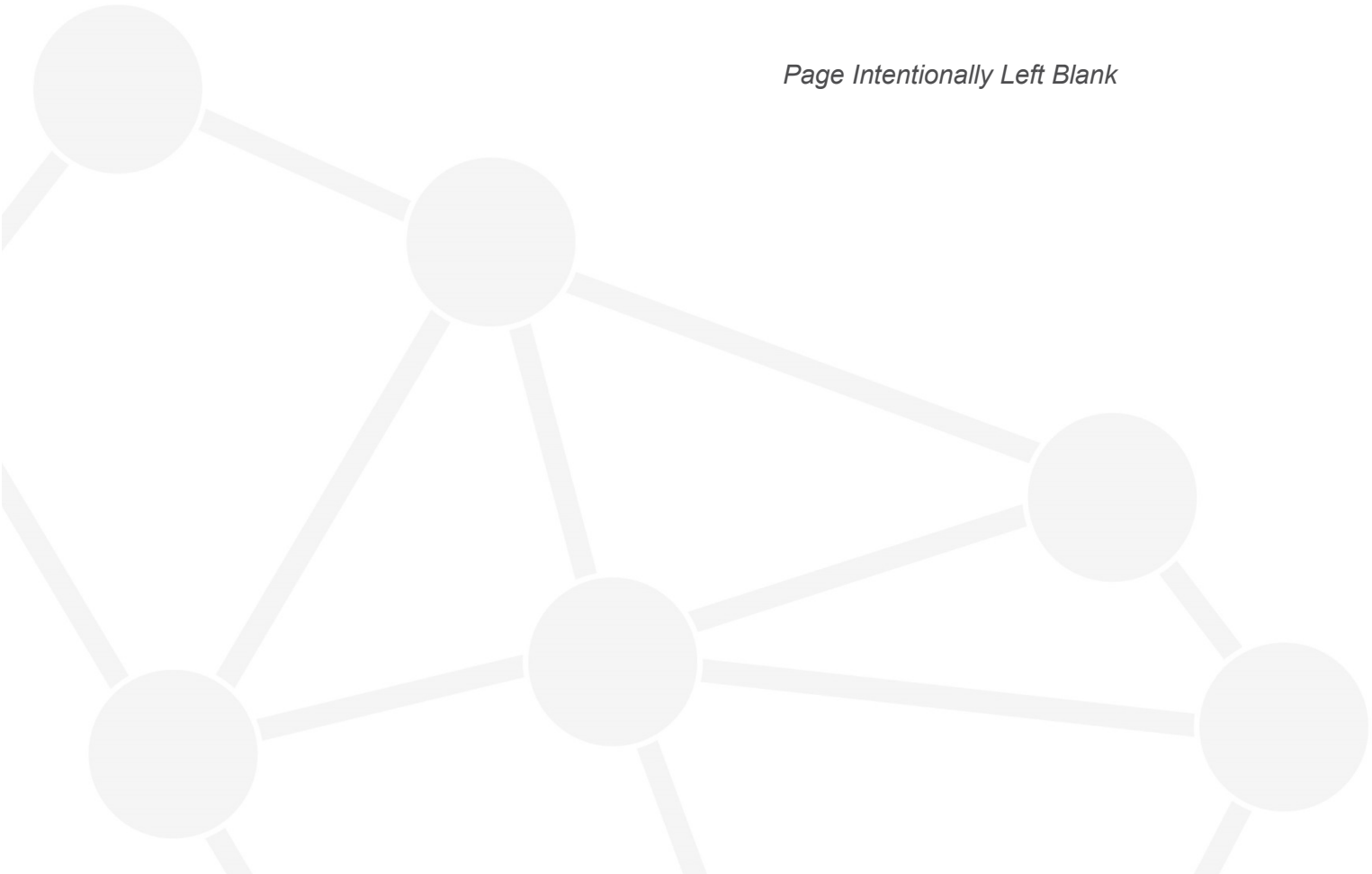

3.0 Strategies

A total of 35 strategies were identified with the goal of satisfying transit needs detailed in the *SWTRP Transit Needs Assessment Report*. Needs were identified based on provider and stakeholder input, as well as a review of locally developed planning documents.

In Georgia, the Atlanta-Region Transit Link Authority (ATL) is responsible for developing and regularly updating a transit plan for the 13-county Metro-Atlanta region. Transit projects must be included in the plan to be eligible for federal funds, state bond funding, and Transit Special Local Option Sales Tax (TSPLOSTs) funds. In 2019, agencies within the ATL's jurisdiction submitted 192 such projects for inclusion in the ATL Regional Transit Plan (ARTP). Transit Asset Management (TAM) Plans further identify comprehensive SGR needs for agencies within the ATL. The SWTRP and this report incorporate the ARTP by reference and includes the required investment levels of included projects within **Section 3.2.2.4 Implement Other Locally Identified Projects**. TAM Plan derived SGR needs for the ATL region are included within **Section 3.3.2.1 Maintain State-of-Good-Repair Statewide**. All other required investment level estimates for strategies included in this report are applicable to only rural transit providers and agencies outside the ATL region.

Outside the ATL region, published Transit Development Plans (TDPs), feasibility studies, other transportation plans, and stakeholder input inform the capital and operational needs and required investment estimates. Where available, locally developed and project specific required investment estimates are included for each strategy. Where local estimates are not available, GDOT developed estimates to implement each strategy outside the ATL region.

Figure 7: Categories of Strategies

Strategies are grouped into the three overarching categories shown in **Figure 7** and described below.

- **Administrative Tools and Guidance** strategies assist with planning support, transit program delivery support, transit workforce development, and new programs to improve mobility and support reliable rural transit service statewide.
- **Transit Service Expansion** strategies increase service coverage through the implementation of new transit services. These include adding additional routes, coordination between adjacent service, formation of regional systems, additional vehicles, expanded hours of service, and higher service frequencies.

- **Transit Service Enhancement** strategies improve the rider experience by enhancing transit system safety, ease-of-use, efficiency and reliability, and pedestrian and bicycle connections.

Many of the individual strategies could fit under multiple categories. For example, increasing an agency's vehicle fleet can both expand service capacity while also enhancing service with higher route frequency. For simplicity, each strategy is included under just one overarching category in this report.

Similarly, common themes for improving transit span multiple overlapping categories and multiple strategies, including:

- Regionalization;
- Coordination and Mobility Management;
- Service Efficiency;
- Adding Capacity;
- New Services;
- Maintaining State-of-Good-Repair; and
- Transit Technology and Innovation.

Regionalization of transit planning and service delivery can both improve service for riders and realize efficiencies for providers. Travel demand is not bound by county or city lines, yet individual transit system service boundaries often are, limiting the ability of transit to meet the day-to-day transportation needs of many Georgians. Regional transit better connects both rural and urban riders with surrounding job centers, healthcare, and educational opportunities. Potential efficiencies from collaboration or regionalization of neighboring providers can include shared fleets, driver and mechanic sharing, centralized scheduling and dispatching, and consolidated administrative tasks.

Numerous SWTRP strategies, spanning each of the three categories, address various stages of transit regionalization. These strategies include regional TDPs, a state mobility management program, a mechanic and driver sharing program, shared stops or facilities, regional fleets and dispatching, and a statewide trip planning app.

The theme of coordination and mobility management is closely related but extends beyond the provision of transit service to include collaboration with intercity services, human services transportation, healthcare providers, major employers, educational institutions, and other key stakeholders. A mobility management program and similar efforts will facilitate coordination among modes and providers, allowing Georgians to better travel between different communities and within them.

Improving service efficiency is about doing more with less. Fiscal constraints prevent all needs from being met, so implementing policies and best practices that improve transit service efficiency will allow providers to maximize their system's limited resources. Maintaining SGR, optimizing routes, coordinating service and co-locating stops with neighboring providers, right-sizing fleets, and matching service hours with major employers are strategies to improve transit service efficiency.

Adding capacity, particularly for rural providers, is a primary strategy to address unmet transit need. There is demand for transit across Georgia that is going unmet due to a lack of capacity from transit providers. Vehicle and staffing limitations mean that rural transit trip schedules are fully booked a week or more in advance. Urban fixed route systems do not have the resources to run higher frequency service that meets rider needs. Adding capacity to the rural fleet will allow unmet trips to be completed, while additional urban capacity will facilitate higher route frequencies and more convenient service.

New services go hand in hand with adding capacity and regionalization. 37 counties currently lack local public transit service, and six cities have planned, but not yet implemented urban service. Initiating rural transit service in all unserved counties, and urban transit in unserved cities will ensure that all Georgians reside within a transit service area. Further, many areas of the state need commuter transit service to facilitate daily cross-jurisdictional travel between suburban and rural areas and urban centers. Each of these new transit services could be achieved through regionalizing existing systems and adding capacity, or by standing up new regional providers.

Maintaining the existing transit service, fleet, and assets is critical to expanding service and capacity. Vehicles and facilities must be maintained within SGR to ensure safe and efficient operations. As services expand, those assets must also be maintained if they are to meet the ongoing needs of riders.

Interwoven with each of these themes are transit technologies and innovation. Transit signal priority, automated stop announcements, real-time vehicle tracking, mobile apps, asset management software, zero-emission electric buses, and mobile fares are all examples of innovative technologies that exist today and can be deployed to enhance safety, improve reliability and the rider experience, regionalize service, and make transit more accessible to all Georgians.

While these technologies are ever-evolving, with new or enhanced products coming out every year, providers should not hesitate to delay in deploying the best available technologies available today. The promised future development of revolutionary technologies, such as automated vehicles, is often used as an excuse for inaction or delayed transit investment.

Transit providers should not substitute meeting the transportation needs of their communities today for the promise of technologies still under development. Instead, they should invest in proven technologies that meet their riders' needs, while also keeping an eye to the future. Generally, open standards, interoperable systems, built-in upgrade capabilities can help to future-proof technology investments, fostering competition among suppliers and allowing individual components to be upgraded with new innovations over time.

Implementation of the strategies included in this report will achieve the SWTRP vision statement, to:

"*Improve quality of life and economic opportunities for all Georgians by supporting an innovative, connected, reliable, and accessible multimodal public transportation network*."

The collective economic benefits could far exceed any implementation costs.

According to the American Public Transportation Association (APTA), every $1 million of annual public transit investment yields $4 million back in economic return, supports 50 jobs, and increases local business sales by $3.1 million.[2] These potential economic impacts, or return on investment, are shown graphically in **Figure 8**. All categories of strategies identified in this report will also be expressed in terms of potential economic impacts.

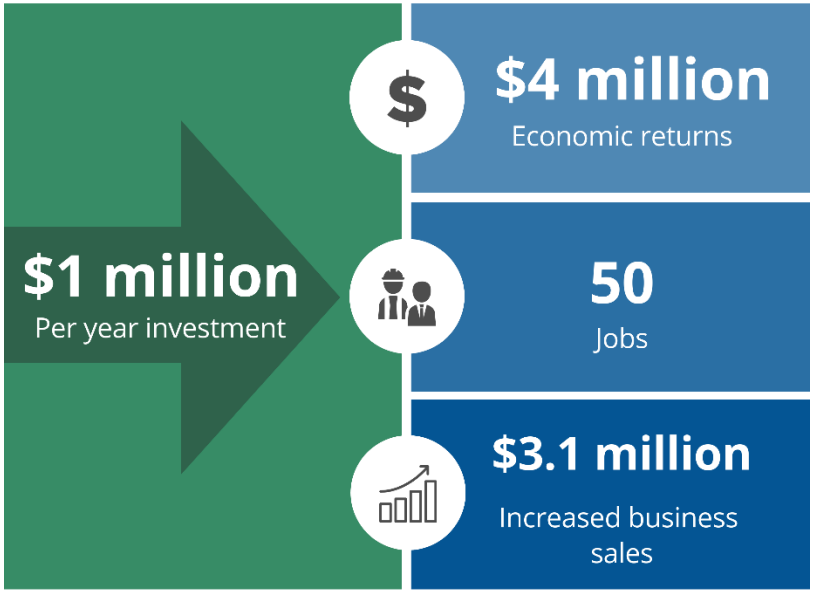

Figure 8: Public Transportation Return on Investment

Further detail on each of the 35 strategies identified and their respective potential benefits are documented in **Sections 3.1**, **3.2**, and **3.3**. The following sections provide a general description, needs addressed, applicable context, approximate required investment to implement, and qualitative benefits of each investment strategy.

3.1 Administrative Tools and Guidance Strategies

Administrative Tools and Guidance strategies are those that assist in planning, policies, marketing, employee training and retention, funding, data analysis, and providing guidance and assistance for specific transit technology integration such as General Transit Feed Specifications and on-board units. These 15 strategies have a relatively low total required investment of $3.3 million, collectively accounting for under one percent of the total annual investment across all three categories.

This lower required investment results in easier implementation, making these strategies attainable in the short-term.

It is anticipated that Administrative Tools and Guidance would be made available to all transit agencies across the state but would primarily be utilized by GDOT to assist counties with rural transit, small urbanized areas, and counties without public transit. Other agencies such as existing providers, regional commissions, and MPOs could assist in administering these strategies, particularly for counties without public transit.

As shown in **Figure 9**, these 15 strategies are categorized into the following four subsets:

- Planning Support;
- Program Delivery Support;
- Transit Workforce Development; and
- New Programs.

Figure 9: Administrative Tools & Guidance Strategies

3.1.1 Planning Support

The Planning Support strategies, and their estimated required investment to implement are shown in **Figure 10** and described below:

Figure 10: Planning Support Strategies

3.1.1.1 *Develop Transit Development Plan Guidance and Regional TDPs*

Description: Transit Development Plans (TDPs) support the development and provision of effective public transit service in both rural and urban communities. A guidance document or handbook for TDP development will support effective transit planning by providing agencies and communities with an outline to follow, core components, and considerations for TDP development, as well as best practices and other supportive tools.

Typically, TDPs are strategic plans with a ten-year planning horizon, and are updated on a five-year cycle. TDP scopes can be customized to meet the needs of each system, but they usually include an overview of an area's demographics and existing transportation network, a projection of future needs, including a budget, and a series of strategies to enhance public transit.

Single county TDPs are the norm in Georgia. Though not required, GDOT currently supports TDP development through policy and planning grants and encourages updates to TDPs every 5 years. These TDPs serve as the backbone of transit planning by providing strategic planning support for service and capital investments that meets the provider and community goals.

Moving from single-county to regional TDPs allows counties and their respective Regional Commissions to pool resources and manpower, creating plans at a level large enough to consider regional needs and travel patterns, but still granular enough to focus on local transportation issues and concerns. Planning and coordination among systems within a region helps to ensure that transportation needs are met while promoting accountable and transparent decision making. GDOT will support the development of regional TDPs to facilitate more efficient and effective cross-jurisdictional transit service. Development of regional TDPs should be considered the first step toward regionalizing transit service in Georgia, as discussed in **Section 3.2.3.1**.

The TDP guidance document will support regional TDPs, and provide agencies with resources to:

- Assess existing conditions and identify emerging trends;
- Seek stakeholder and community input;
- Market and promote services;

- Coordinate with related planning efforts (i.e., land use, transportation, etc.), community partners, and other agencies;
- Optimize existing routes or demand response services;
- Assess demand and plan new transit services;
- Identify funding sources and develop a budget; and
- Implement and update the plan.

The implementation of GDOT-hosted training sessions and webinars will be used to guide transit providers and planners through the TDP development process.

Needs Addressed: Additional local transit planning assistance is needed. The *SWTRP Needs Assessment Report* determined that most of Georgia's rural counties do not have a recent TDP prepared and that many parts of the state would benefit from increased options for coordinated regional transportation. Regional TDP guidance encourages communities to conduct local and regional transit planning and provides the necessary tools, resources, and support.

Applicable Context: Existing and future transit systems (rural and urban).

Approximate Required investment to Implement: The approximate investment for creating and annually updating a Regional Transit Development Plan Policies and Guidance Manual is $45,000. Additionally, the approximate investment for developing regional TDPs is $250,000 each. Three regional TDPs are to be developed annually, ensuring all regions of Georgia will have an updated TDP every 5 years.

The total approximate investment for this strategy is $795,000 annually.

Benefits:

- Assists transit service providers in identifying and documenting transit needs to support effective decision making;
- Guidance highlights the importance, purpose, and steps in developing a regional TDP;
- Encourages jurisdictions to develop and adopt their own customized plans while maintaining a standard of consistency for data collection, planning methods, and coordination between local and statewide goals;
- Supports local transit needs assessments and planning for all regions of the state, including currently unserved communities; and
- Supports public awareness of available transit services.

3.1.1.2 *Develop Fleet Right-Sizing Guidance*

Description: The development of fleet right-sizing guidance will support providers in planning transit vehicle purchases and optimizing their services. Fleet right-sizing is the process of adjusting the size, extent, function, and composition of existing or planned transit assets and services in response to changing needs over time.[3] Transit agencies find it challenging to meet ridership demands with limited funding. Ensuring that the proper number and type of vehicles are in use can help to address some capacity issues while preserving financial sustainability.

Right-sizing opportunities may exist for systems or routes with persistent over or under capacity issues. Depending on the circumstances, higher or lower capacity vehicles may be more appropriate to meet a system's needs. The development of guidance, training, and other support for appropriately sizing vehicles and overall fleets can help ensure transit systems operate as efficiently as possible.

Needs Addressed: Responses to the SWTRP Provider Questionnaire cited the need for a variety of vehicle types, including some smaller ones that can navigate narrow roads.

Applicable Context: Existing and new systems (rural and urban).

Approximate Investment to Implement: The investment to develop and update a fleet right-sizing guidance document is estimated at $36,000.

Benefits:

- Supports transit providers in finding a balance between meeting transit needs and financial sustainability;
- Helps optimize existing transit operations; and
- Facilitates more efficient budgeting by identifying volume goals and thresholds, resulting in the freeing or redirecting of funds to where they are needed.

3.1.1.3 *Enhance Guidance for New Transit Providers*

Description: Starting a new transit service from the ground up presents many challenges, including identifying funding, service planning, vehicle purchases, and service implementation. The development of a guidance document specifically tailored for initiating new transit service will assist unserved communities, many of which have limited local transit expertise, to overcome those challenges. This new service guidebook will be developed in addition to and in coordination with the TDP guidance (**Section 3.1.1.1**) and the technical assistance GDOT already provides communities interested in initiating transit service,

The new service guidebook will provide assistance to communities without transit service in identifying transit needs, creating a capital and operations plan, identifying available funding sources, and applicable state and federal compliance issues.

Needs Addressed: Ensuring statewide transit service coverage was among the top needs and priorities identified by the SWTRP SSC and TAC meetings, public input, and other stakeholder outreach activities. Input received specifically from counties and communities currently without transit service indicated they have limited local transit expertise and would benefit from additional state or regional assistance in planning and initiating new service.

Applicable Context: Counties and cities currently without transit service (rural and urban).

Approximate Investment to Implement: The investment to develop and update enhanced guidance documents for initiating new transit service is estimated to be $90,000.

Benefits:

- Reduces barriers to transit service expansion;
- Enhances technical capacity of local governments and communities;
- Encourages and assists communities in planning new transit service; and
- Supports statewide transit service coverage.

3.1.1.4 *Develop Guidance for Urbanizing Systems*

Description: Due to urbanization in communities across Georgia, it is anticipated that following the 2020 Census Georgia's overall apportionment of the FTA's Section 5311 Rural Transit program funds will decline, and that several transit providers may need to transition from the FTA's Section 5311 Rural Transit program to the Section 5307 Urban Transit program. Additionally, urban systems may transition from the Small to Large Urban funding and compliance requirements.

The transition between programs has complicated funding and compliance implications for transit providers (discussed further in the *SWTRP Existing Conditions and Future Trends Analysis Report - Part I*). Development of administrative and guidance resources for urbanizing communities will help support affected agencies, easing the administrative burdens associated with unfamiliar compliance requirements and reducing the likelihood of service disruption to customers.

GDOT's current research indicates that statewide, Section 5311 apportionments may decline by up to $5.3 million, and that seven rural communities currently eligible for Section 5311 Rural Transit funding may be reclassified under Section 5307 Large Urban Transit funding.[4] If these projections are realized, there may be a future need for state-level financial support to offset reductions in federal rural transit funds and assist with transitions from rural to urban transit services.

At the time of this writing, there is still significant uncertainty as to the outcome of the 2020 Census results, and how FTA funding will be impacted in future years. GDOT will continue to monitor urbanization trends, as well as potential regulatory and legislative changes that could affect funding allocations for Georgia.

Needs Addressed: Rural and small urban TAC stakeholders identified the need for technical support, and potentially financial support, to prepare for meeting the new funding match and reporting requirements associated with transitioning between rural and urban programs.

Applicable Context: Urbanizing areas currently with transit service or interested in initiating service (rural and small urban).

Approximate Investment to Implement: The approximate investment to develop guidance and technical assistance for transitioning systems is $75,000. Potential transitions will not occur until after the 2020 Census. Additional direct financial assistance may be required to support affected systems following the results of the 2020 Census.

Benefits:

- Assists affected providers in meeting compliance and funding requirements of the FTA's Section 5307 Urban Transit Program;

- Helps ensure an effective and efficient transition between programs; and
- Supports the continuation of transit service during transition period.

3.1.1.5 *Enhance Support for Pursuing Competitive Grants*

Description: Competitive Federal grants are a major source of funding for local transit agencies, and providers seek to maximize these opportunities when they are available. Though, federal grant applications are complex and require local matching funds. When a competitive grant opportunity becomes available, it is often challenging for providers to compile all application components, and seek approval for the local matching funds from their county board or local governing authority, before the application deadline.

GDOT currently provides rural and small urban operators technical assistance in pursuing competitive grants, and has had success winning awards for GDOT subrecipients. Enhancing current assistance for transit providers in pursuing competitive grants, and managing the grants awarded, will allow Georgia's providers to implement locally identified projects faster and at a lower local level of investment by leveraging federal funds.

This report contains a description of all relevant local, state, and federal funding opportunities, including several discretionary grant programs administered by USDOT (**Section 4.0**). GDOT will work to hold regular webinars with detailed information on existing and anticipated funding resources, which includes federal FTA competitive grants, other federal competitive grants, federal FTA formula funds, federal flexible funding formula programs, state, and local funding.

The Department will also proactively work with providers to identify potential funding sources for each of their locally identified and planned projects and initiate the application process before a federal grant opportunity becomes available.

To further assist providers in pursuing competitive federal funding, GDOT will create a five-year pilot program designed to reduce the local funding share, and allow Georgia's providers additional time to seek local approval for expending funds. Under the pilot program, a $5 million pool of state funding would be set aside to help pursue competitive federal transit grants. Funding from the pool would be eligible to commit as the local matching share for federal grant applications, essentially serving as a line of credit for Georgia's transit providers. This will allow providers to meet tight application deadlines, while they continue to seek official funding approval from their local board or governing body. Providers would need to reimburse the funding pool for the local share of any grants awarded.

Needs Addressed: Transit providers indicated a need for additional funding to meet their communities' needs, and difficulty meeting local match requirements and deadlines when federal competitive grant opportunities become available. Some providers also indicated a need for administrative support in pursuing and managing federal grants as they do not have experience or technical expertise with federal grant writing.

This strategy leverages the experience and expertise of GDOT to support providers with grant writing, management, and reporting. It also provides financial assistance to assist providers in meeting application deadlines.

Applicable Context: Existing and future transit systems (rural and urban).

Approximate Investment to Implement: Accounting for the additional staff time required of GDOT personnel, the approximate investment to enhance technical and administrative support for pursuing federal grants is $60,000 annually, the equivalent of one full-time employee.

The proposed pilot program will not result in additional levels of investment beyond those quantified in other sections of this report. The program would not change the overall project investment level; it would simply make it easier for transit providers to leverage competitive federal funding support.

Benefits:

- Enhances technical capacity of transit providers;
- Supports local project delivery for needed transit improvements;
- Assists in leveraging federal funds, reducing the local investment for implementing projects; and
- Improves Georgia's competitiveness for federal discretionary programs.

3.1.2 Transit Program Delivery Support

The Transit Program Delivery Support strategies, and their estimated required investment to implement are shown in **Figure 11** and described below:

Figure 11: Transit Program Delivery Support Strategies

3.1.2.1 *Enhance Grant Administration and Reimbursement Guidance*

Description: GDOT currently provides support and assistance to its subrecipients, including assistance with grant administration and funding reimbursements. Department staff also review the reimbursement process and provide updates at GDOT's annual Subrecipient Workshop. The reimbursement process is complicated, and many providers indicated a need for additional guidance and support.

Developing and regularly updating a Grant Administration and Reimbursement Guidance Manual and corresponding web video training program will further enhance the support GDOT provides. The guidance manual and web videos will provide step-by-step instructions to subrecipients for funding reimbursements, serving as a convenient resource for transit providers.

Needs Addressed: Approximately 30% of the SWTRP Provider Questionnaire respondents indicated that the funding and reimbursement process was challenging. Clear and uniform guidance will address common misunderstanding and make it easier for agencies to submit their annual funding applications. TAC meeting participants also cited funding and reimbursement as a top concern.

Applicable Context: GDOT subrecipients (rural and urban).

Approximate Required investment to Implement: The required investment to develop a guidance manual and instructional web videos, including periodic updates, is estimated at $45,000.

Benefits:

- Reduces administrative time spent on reimbursement forms; and
- Provides resource to train or update provider personnel on the funding and reimbursement process.

3.1.2.2 *Develop Transit Technologies Guidance and Enhance Coordination*

Description: Connected vehicle (CV) and other transit technologies are rapidly evolving, with new products or enhanced features and functionality routinely released. These technologies (discussed further in **Section 3.3.1**) offer many potential transit benefits, including safety, on-time performance, and more.

Implementing technologies like transit signal priority requires the installation of road-side units (RSUs) at traffic signals, as well as on-board units (OBUs) on each transit vehicle. It can be challenging for transit providers to keep pace with technology development, evaluate the technologies best for their agency, coordinate with other agencies (i.e., traffic signal operators), and ensure their transit workforce is adequately trained to use the new technologies.

To better prepare Georgia's transit agencies for the latest transit and CV technologies, GDOT will develop and routinely update guidance materials for evaluating transit technologies. The Department will also proactively work with providers around the state to inform them of available technologies, coordinate implementation, and adequately train provider personnel.

GDOT is already working with rural transit providers to implement and train their staff on a new trip scheduling and dispatching system, including teaching drivers how to use on-board tablets. Further, the software for all of the state's approximately 6,000 traffic signals owned by GDOT are transit signal priority capable. RSUs have been installed at more than 50 intersections in metro-Atlanta, with additional installations planned. GDOT will coordinate with interested transit providers statewide to implement transit signal priority (discussed further in **Section 3.3.1.3**) and related technologies.

As technologies continue to develop, there will be additional opportunities for GDOT-led trainings and guidance throughout the state. GDOT will work with providers to identify their interest in various technologies, and help coordinate trainings and implementation as needed.

Needs Addressed: About one-third of SWTRP Provider Questionnaire responses expressed that implementing new technologies was challenging. Understanding CVs and OBUs were also a significant discussion topic during the TAC Technology Focus Group. Transit systems as a whole are moving towards CVs, and in order to prevent delays, training and assistance is needed.

Applicable Context: Existing transit systems (rural and urban).

Approximate Required Investment to Implement: The approximate statewide required investment to develop and update technology guidance materials and training manuals is $140,000 annually.

Approximately 50 training events will be held each year, with a total estimated required investment of $100,000. This assumes one training event per quarter in each of Georgia's 12 regions.

The total estimated required investment for this strategy is $240,000 annually.

Benefits:

- Enhances the technical capacity of transit operators and improves interagency coordination; and
- Supports technology deployments that enhance efficiency, safety, and reliability.

3.1.2.3 *Develop Fare Policy Toolkit*

Description: Each provider has the ability to set their own fare policy. Fares can be a single flat fare for all riders and trips, a variable fare by distance or destination, or include discounts for certain ridership groups (i.e., seniors, students, individuals with disabilities, etc.). Providers must take many factors into account when setting their fares, including the needs of the community, ridership projections, and system finances. Fare adjustments can help providers achieve certain goals, such as increased ridership or revenue.

The development of fare policy toolkit and associated training will support transit service providers in understanding issues associated with various fare policies, including discounted fares, pricing strategies, payment options, the required investment and benefits of collection methods, fare equity issues, outreach methods, and coordination of fares among multiple providers. The toolkit will be developed based on national best practices and input from Georgia's transit providers.

Needs Addressed: Many providers, particularly smaller agencies, indicated that setting or adjusting fares can be challenging, and they would benefit from a toolkit to help establish internal policies and fare structures. The toolkit will also assist in optimizing and integrating fare policy among multiple providers resulting in more user-friendly, cost-effective, and economically inclusive service (a separate strategy discussed in **Section 3.3.2.3**).

Applicable Context: Existing transit systems (rural and urban).

Approximate Required investment to Implement: The required investment to develop and update a fare policy toolkit is estimated at $45,000.

Benefits:

- Supports transit providers in developing an equitable and effective fare policy for their region and riders; and
- Facilitates fare coordination between transit providers, to aid riders crossing multiple jurisdictions.

3.1.2.4 *Provide Marketing Support and Toolkit*

Description: In many parts of Georgia, particularly rural areas, the availability of local transit service is often not widely known. Further, misconceptions exist about transit being a mobility and accessibility service for all Georgians. There is a need for improved public awareness of the benefits of transit and the diverse populations it serves.

The use of messaging, marketing, and information campaigns will improve the public's understanding of public transportation and its benefits to the entire community. GDOT is working with local providers to develop marketing plans and toolkits for their agencies, including social media and graphical support, to help enhance providers' on-line presence. As part of the SWTRP, GDOT developed individual profile sheets for each transit agency in the state, highlighting service hours and areas, fares, contact information, and key operating statistics.

The profiles are available at the following website (http://www.dot.ga.gov/IS/Transit/TransitPlan) and are meant to serve as a tool to inform potential riders of available services.

GDOT will also work to develop a transit website template for providers to better inform their community of services offered and how to ride. The template will meet FTA guidelines, including Title VI information. Public transportation is a customer-driven industry, communications should be clear and widely available to riders. Websites and social media can be convenient outlets for real-time service updates and transit information, improving public relations, customer engagement, and branding.

Needs Addressed: There is a clear need for improved public awareness of transit service availability across Georgia. Approximately one-third of responses to the SWTRP Provider Questionnaire indicated that gaining public support for transit investment was challenging. Further, 20% of responses identified the need for assistance to increase awareness and support for transit. Similar feedback was received during TAC meetings and through the SWTRP Public Survey, indicating that more education and awareness is needed for both public and political transit support.

Some transit providers in Georgia do not currently have a website, while many others are updated infrequently and include outdated information. A website template and marketing support from GDOT would address these needs.

Applicable Context: Existing transit systems (rural and urban) and communities interested in implementing transit service.

Approximate Required investment to Implement: The required investment for developing and updating a transit marketing plan for the state is estimated at $57,500, based on a review of public transit agency marketing plans. Statewide website and social media support required investment is estimated at an additional $45,000 annually.

The total required investment for this strategy is approximately $102,500 annually.

Benefits:

- Helps providers inform to the public about service availability and transit's benefits to the community;
- Enhances the marketing of transit to diverse riders through a digital presence, public relations initiatives, and community outreach;
- Assists providers with improving customer engagement;
- Improves the agency brand as a website or social media page reflects the agency's mission, vision, and goals; and
- Enables more effective and frequent communication and engagement with riders.

3.1.2.5 *Support GTFS Data Development*

Description: General Transit Feed Specification (GTFS) is a data format that allows public transit agencies to publish their route and service data in a manner that can be consumed by a wide variety of software applications.

Uses of GTFS data in both rural and urban areas include trip planning and maps, data visualization, timetables, accessibility, and real-time transit information. In many cases, the GTFS data is posted on third-party trip planning websites such as Google Transit. GTFS data is most widely useful when datasets are consistent among agencies.

Many larger transit agencies internally develop GTFS data, which is technically complex and requires ongoing maintenance with route or service changes. Providing agencies with support and technical assistance in GTFS data development and maintenance will help to ensure consistency among systems and facilitate the development of trip planning applications for all of Georgia's providers (see **Section 3.3.3.1**). Such applications will also facilitate rider transfers between providers at shared facilities.

Needs Addressed: The majority of Georgia's transit providers, both urban and rural, have not developed or made publicly available GTFS data for their systems. As a result, only a handful of transit trip planning applications are available in the state. Planning a trip that utilizes multiple providers is difficult in most areas. Public availability of GTFS data will facilitate trip planning applications and improve transit ease of use for riders, inform riders on available services, and make transit more visible to the general public.

Applicable Context: Existing transit systems without GTFS data (rural and urban).

Approximate Required investment to Implement: Rural GTFS data development is already included within the GDOT procured scheduling and dispatching software.

The approximate required investment to support the development and maintenance of a GTFS dataset for the ten urban systems outside Metro-Atlanta is $5,000 per agency, "ranging from $950 for simplest networks to $9,400 for the agency with the most complex network."[5]The total annual required investment for this strategy is estimated at $50,000, covering data development and maintenance support for ten agencies per year.

Benefits:

- Supports trip planning, maps, data visualization, timetables, accessibility, real-time transit information, and other GTFS data applications;
- Facilitates trip planning with connections between providers, making cross-jurisdictional travel easier; and
- Improves rider information and visibility of available transit services.

3.1.2.6 *Support NTD Data Development*

Description: The National Transit Database (NTD) supports local, state, and regional planning through analysis of financial, operations, and asset conditions of transit systems in the United States.[6] Each urban agency is responsible for reporting their service data annually. The data is complex and can be difficult to compile and submit in the required format.

Providing technical assistance and support for NTD resources to Georgia's 7 small urban providers will alleviate some of the local reporting burdens and allow providers to focus on service delivery. The support provided may include technical assistance and small-urban forums to discuss common data issues. GDOT already provides NTD reporting for rural agencies.

Needs Addressed: Approximately 20% of SWTRP Provider Survey responses indicated that data collection and reporting was challenging. Multiple providers specifically requested support and training for NTD reporting. The provision of ongoing support will help transit agencies to ensure accurate and consistent data is submitted to the NTD.

Applicable Context: Existing small urban transit systems.

Approximate Required investment to Implement: The estimated annual required investment for additional GDOT staff support to assist with 7 small urban providers with NTD reporting is $30,000.

Benefits:

- Enhances technical capacity of transit providers; and
- Ensures accurate and consistent data reporting for use in Georgia's transit planning and funding decisions.

3.1.3 Transit Workforce Development

The Transit Workforce Development strategies, and the estimated required investment to implement each are shown in **Figure 12** and described below:

Figure 12: Transit Workforce Development Strategies

3.1.3.1 *Enhance Bus Driver and Mechanic Training Programs*

Description: Hiring, training, and retaining employees can be a major challenge for transit operators. Training is a major time and fiscal investment, and transit agencies often face competition from private logistics companies and other public agencies, which can make retaining skilled drivers and mechanics difficult.

The SWTRP public involvement process revealed a number of areas where GDOT can expand upon existing offerings to help agencies to enhance bus driver and mechanic training. Areas identified for more and enhanced training offerings include:

- Provide GDOT-led trainings for drivers;
- Training kits (e.g., videos, handouts, workbooks, readings); and
- Financial support for degree or certification programs (paired with transit employment commitments).

GDOT currently offers its subrecipient agencies multiple training programs each year, though the trainings are generally focused on administrative needs. Driver and mechanic training is typically handled by local agencies and can be a burden for smaller providers. GDOT will expand its training offerings to include support for drivers and mechanics.

For drivers, GDOT will facilitate quarterly Passenger Assistance Safety and Sensitivity (PASS) training in each region of the state, as well as trainings on safety protocols, and how to use on vehicle software (OBU tablets). Offering trainings once per quarter in all 12 regions will make them more accessible to the transit workforce across the state, and help ensure bus drivers are up-to-date on the latest regulations, safety, passenger assistance, and technology applications.

Corresponding training kits will include training videos, workbooks, reading guides, and tests. These kits would be made available online as reference material, and utilized during training sessions.

In addition to GDOT led trainings, providing financial assistance for mechanic certification or degree programs will help ensure providers can hire and retain qualified workers. Similar to many tuition reimbursement programs, utilizing GDOT financial assistance for certification or degree programs would be dependent upon a commitment to work for a transit agency for a set amount of time after the certification or degree is received.

GDOT will initiate a pilot program under which $40,000 annually will be made available to support transit mechanic training. Funds will be made available on a competitive basis, with applicants from rural communities, areas with mechanic shortage, and long-term commitments to working for a transit agency given priority.

Applicants receiving support for their mechanic training will be required to work for a transit agency for at least the amount of time specified in their application or reimburse their Department for their training support.

Needs Addressed: Transit providers indicated through the SWTRP Provider Questionnaire and TAC meetings that they had difficulty retaining skilled drivers and mechanics, and needed increased access to trainings and additional assistance with aspects of training programs. Enhancing training materials, increasing the frequency and availability of mechanic and driver training programs, and supporting mechanic certifications will help with transit employee retainment and morale, as well as the ability to enhance SGR of vehicles and other assets.

Applicable Context: Existing transit systems (rural and urban).

Approximate Required investment to Implement: Approximately 50 training events will be held each year with a total estimated required investment of $100,000. This assumes one training event per quarter in each of Georgia's 12 regions.

The anticipated average cost for developing each of the three proposed training toolkits is approximately $6,900, for a total required investment of $20,700. This would be an annual investment to update each training kit and make them available to all providers.

Up to $40,000 will be made available annually to support transit mechanic training on a competitive basis.

The total estimated required investment for this strategy is approximately $160,700 annually.

Benefits:

- Improves employee satisfaction and transit agencies' ability to attract and retain workforce;
- Supports transit reliability and safety by providing training necessary to repair and maintain vehicles and operations;
- Improves transit workforce performance;
- Improves safety of employees and passengers;
- Enhances soft skills involving interactions with passengers, traffic, and possibly occasional disruptions on and off the bus;
- Ensures drivers are equipped with the expertise in passenger assistance techniques and sensitivity skills appropriate for serving individuals with disabilities;
- Supports more positive rider-driver interactions, particularly among seniors and the disabled; and
- Makes training more accessible to providers, reducing the burden of travel or missed shifts.

3.1.3.2 *Implement Best Practices for Scheduling, Dispatching, and Asset Management Technologies*

Description: Training materials and best practices information for scheduling and dispatching, and asset management is currently available through GDOT. Some of GDOT's subrecipients do not utilize these resources. Fully implementing and utilizing available scheduling and dispatching technologies (provided by GDOT) can realize operational efficiencies for providers. Further, recognized best practices for asset management, such as implementing routine vehicle maintenance schedules, can improve SGR, system reliability, and the lifespan of vehicles.

Needs Addressed: Some rural providers have not fully implemented or utilized available scheduling and dispatching technologies and software, resulting in less efficient operations. Best practices for asset management are not always followed, reducing asset lifespans. There are resources and trainings available through GDOT today that can be applied to help with some of these issues.

Applicable Context: Existing transit systems (rural and urban).

Approximate Required investment to Implement: No investment level is associated with this strategy. Transit agencies should work with GDOT staff to review best practices and implement those strategies using existing labor and materials.

Benefits:

- Reduces administrative time and costs; and
- Increases operating efficiencies.

3.1.4 New Programs

The New Programs strategies, and the estimated required investment to implement each is shown in **Figure 13** and described below:

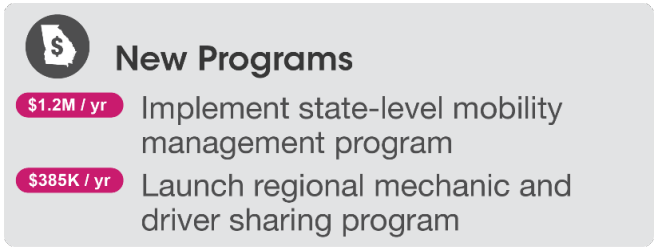

Figure 13: New Program Strategies

3.1.4.1 *Implement State-Level Mobility Management Program*

Description: A Mobility Management Program provides regional coordination among transit agencies, employers, healthcare providers, and educational institutions, with the goal of linking community members with available transportation services. Mobility managers will provide guidance, planning assistance, and other resources to transit providers as needed. They will also work with employers on Transportation Demand Management (TDM) initiatives. Outside Metro-Atlanta, there will be one Mobility Manager per Regional Commission, for 11 managers total.

Needs Addressed: Locally developed plans identify the need for mobility management, and the need for improved coordination with human services transportation (HST) services. TAC stakeholders also cited a need for coordinating regionally for greater connectivity, enhancing awareness, exploring new funding sources, and exploring opportunities for partnerships. Mobility Managers will help address each of these needs.

Applicable Context: Existing transit systems (rural and urban).

Approximate Required investment to Implement: A statewide Mobility Management program with 11 full-time staff is estimated to require an investment of $1.1 million annually. Approximately 50 TDM training events will be held each year, with a total estimated investment level of $100,000. This assumes at least one training event per quarter in each of Georgia's regions.

The total estimated required investment for this strategy is $1.2 million annually.

Benefits:

- One-stop shop for information about available transit and HST services;
- Enhanced coordination among providers, other local, state, and regional agencies, and the private sector; and
- Improved service delivery to those needing transportation for employment, healthcare, and quality of life trips.

3.1.4.2 *Launch Regional Mechanic and Driver Sharing Pilot Program*

Description: Transit agencies often face high employee turnover. Jobs in the private sector among commercial drivers and mechanics typically offer more competitive wages compared to public transit agencies. Many smaller providers do not have substitutes readily available if there is a vacancy or an employee cannot work due to illness. A shared mechanic and driver pilot program could help alleviate these difficulties, helping staff agencies facing temporary labor shortages.

This program would assign substitute drivers when regular employees either go on leave or vacate a position, ensuring labor shortages do not negatively affect reliability and consistency in transit service.

Needs Addressed: 36% of responses to the SWTRP Provider Questionnaire expressed difficulty in attracting, training, and/or retaining qualified personnel. The Rural TAC stakeholders echoed these comments stating that “recruiting personnel with transit expertise is difficult” as many well-trained employees leave to find more lucrative positions in urban areas. This program would address these needs by assigning substitute drivers when employees either take time off or leave a position.

Applicable Context: Existing transit systems (rural and small urban).

Approximate Required investment to Implement: The approximate required investment assumes five full-time mechanics and five full-time drivers. Based on current labor rates of $22/hour for mechanics and $15/hour for drivers, the total annual investment would be approximately $384,800.

Benefits:

- Attracts more potential candidates and helps increase worker retention rates;
- Improves transit workforce performance, satisfaction, and morale by allowing them to take sick leave or use vacation time without disrupting service; and
- Ensures reliability and consistency in transit services for systems with staffing shortages.

3.2 Service Expansion Strategies

This subsection discusses the strategies, required investment to implement, and benefits of expanding service to meet the transit needs summarized in **Section 2.0**. Some investments and benefits are quantifiable (e.g., serving an additional number of people), whereas others are more qualitative.

The required investment to fully implement each of these nine strategies is estimated at $1.2 billion annually, including $415.5 million outside the ATL, and $172.7 million for rural transit. The responses to the SWTRP Provider Questionnaire indicated the service expansion needs in order of priority as hours of service, geographic coverage, and capacity.

Service expansion opportunities include the strategies listed in **Figure 14**.

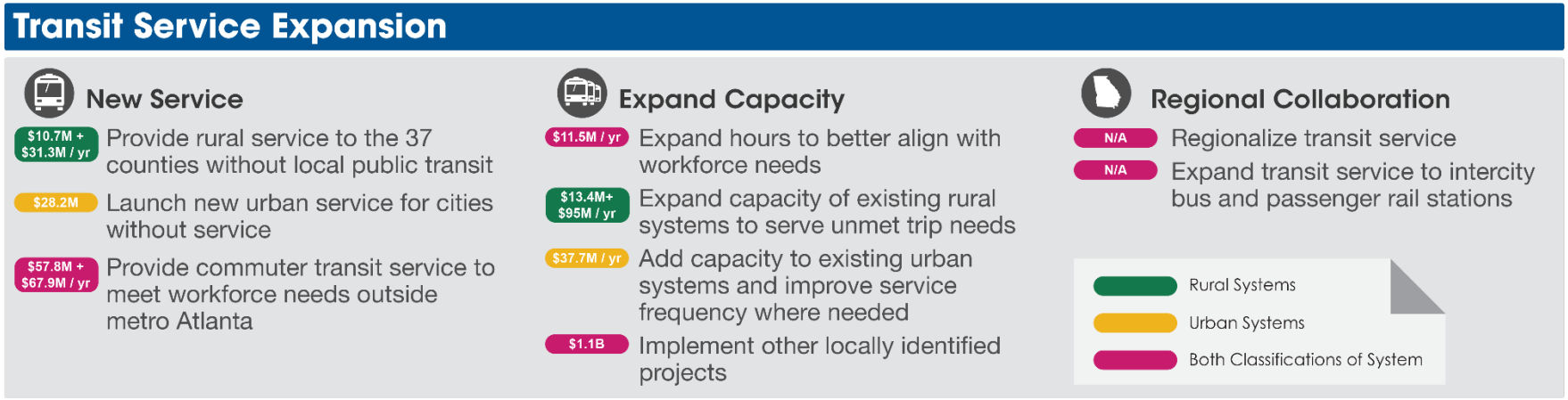

Figure 14: Transit Expansion Strategies

Using metrics from APTA, the potential economic impacts of investing $1.2 billion in transit service expansion are shown in **Figure 15**.

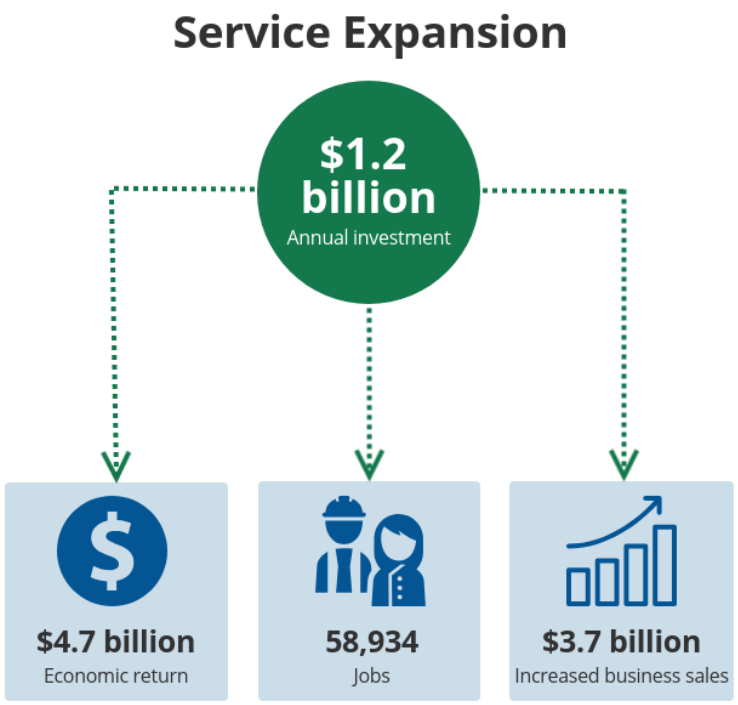

Figure 15: Service Expansion Potential Economic Impacts - Statewide

Of the $1.2 billion in Service Expansion, $444.6 million is targeted at rural and urban systems located outside the ATL region. **Figure 16** illustrates the potential economic impacts of those specific projects.

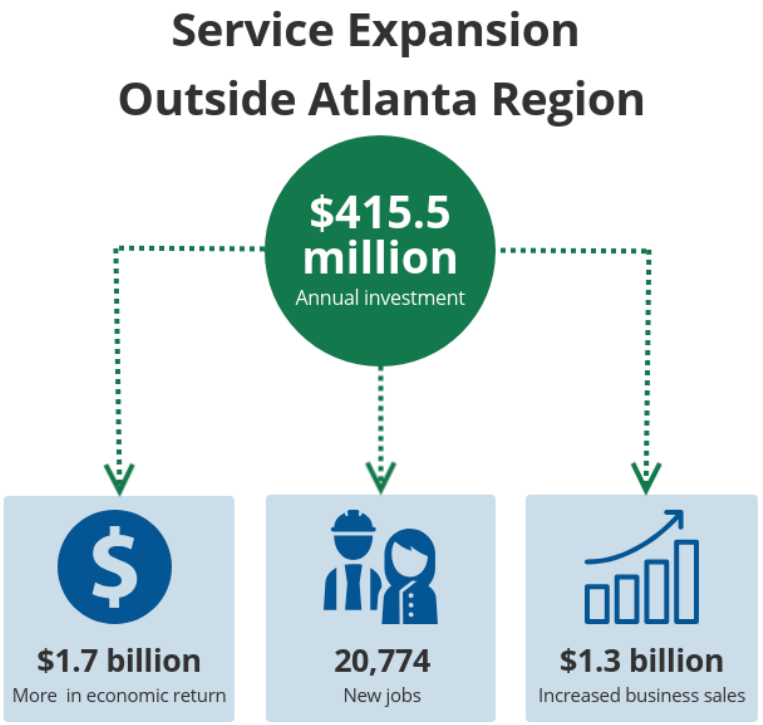

Figure 16: Service Expansion Potential Economic Impacts - Outside Atlanta Region

Further detail on each strategy is provided in the following sections.

3.2.1 New Service

The New Service strategies, and the estimated required investment to implement each are shown in **Figure 17** and described below:

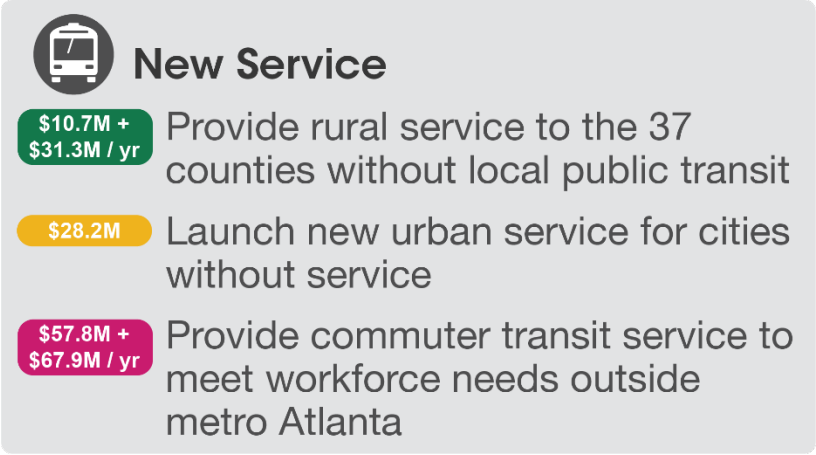

Figure 17: New Service Strategies

3.2.1.1 *Rural Service to the 37 Counties without Local Public Transit*

Description: Implementing rural transit service in the 37 Georgia counties currently without local public transit will help ensure all Georgians have access to public transportation. Each of the counties currently without transit contains rural areas with significant unmet transit forecasted trip demand, as previously quantified in **Section 2.1.2**.

Many of the unserved counties are heavily concentrated in the Heart of Georgia Altamaha, Southern Georgia, Northeast Georgia, and River Valley regions of the state. Regional transit service, as described and recommended in **Section 3.2.3.1**, would be a cost-effective and rider focused means of providing transit to these unserved communities. Regional service could be established in multiple ways, including through a new provider, expanding the service areas of existing neighboring systems, or through partnerships between existing providers to create consolidated regional rural transit providers.

The expansion of rural transit service to the 37 unserved counties should incorporate partnerships with medical, educational, and job training facilities, as well as the business community.

Needs Addressed: Currently, rural counties in Georgia without local public transit services have a higher range unmet trip demand of 1.5 million annual trips, as previously described and quantified in **Section 2.1.2**. By 2050, this need is projected to grow by approximately 20%, resulting in nearly 1.8 million annual trips.

Applicable Context: 37 counties without local public transit service.

Approximate Required investment to Implement: As presented in the *SWTRP Transit Needs Assessment Report*, an initial one-time capital investment of $10.7 million is needed to purchase transit fleets (196 vehicles) for the 37 counties without local public transit to address the current higher range unmet rural forecasted trip demand. Sustaining the new vehicle fleets and meeting estimated forecasted trip demand will require approximately $2.1 million per year in annual capital funding and $29.1 million per year in operating funding for a total of approximately $31.2 million per year.

By 2050, annual capital investment needs are expected to grow to $3.4 million, while annual operational investment needs are expected to grow to $33.3 million.

The required investment to implement rural transit service in each county varies depending on the quantified rural forecasted trip demand calculated as a part of the *SWTRP Transit Needs Assessment Report*.

Benefits:

- Expands transit service to all 159 counties in Georgia;
- Ensures transportation accessibility and improves mobility for all rural Georgians;
- Improves access to jobs, healthcare, education, and other opportunities for rural communities;
- Provides 1.5 million trips in unmet demand today; and
- Provides 1.8 million annual trips in unmet demand by 2050.

3.2.1.2 *Launch New Urban Service for Cities without Service*

Description: Six urbanized areas in Georgia currently do not have urban transit systems but have locally identified a need for it. These areas include Brunswick, Cartersville, Griffin, Dalton, Warner Robins, and Valdosta. Locally developed plans identify their transit needs and proposed urban transit services for each city. Launching urban transit service and implementing the local transit plans for all six areas will help ensure the communities' public transportation needs are met.

Needs Addressed: Locally identified public transit needs in Brunswick, Cartersville, Griffin, Dalton, Warner Robins, and Valdosta. The services outlined in the locally developed transit plans are designed to connect riders to healthcare, employment, educational, and other economic opportunities.

Applicable Context: Six urbanized areas without local urban transit service (Brunswick, Cartersville, Dalton, Griffin, Warner Robins, and Valdosta).

Approximate Required Investment to Implement: Investment levels needed for this strategy were compiled locally by MPOs, governments, or existing rural transit agencies, and documented in the *SWTRP Transit Needs Assessment Report*. To establish urban transit systems in six urbanized areas currently without transit service, the total annual required investment is approximately $28.2 million.

Benefits:

- Expands Georgia's population served by transit by providing reliable service to six growing urban areas with a combined population of nearly a half-million people;
- Improves economic investment and development potential of the six cities; and
- Connects workers with jobs, and provides options for healthcare, education, shopping, and quality-of-life trips.

3.2.1.3 *Provide Commuter Transit Service to Meet Workforce Needs Outside Metro Atlanta*

Description: Provide commuter services to more areas across the state, connecting rural communities to job centers. The *SWTRP Transit Needs Assessment Report* estimated the top areas of demand for county-to-county commuter trips statewide. Seven county pairs outside the ATL district were identified as having significant demand for new commuter transit service:

- Columbia and Richmond
- Hall and Gwinnett
- Effingham to Chatham
- Chatham to Bryan
- Bibb and Houston
- Barrow and Gwinnett
- Newton and Rockdale

SRTA Xpress operates 27 commuter routes in 12 metro Atlanta counties, connecting riders to job centers and other local transit providers. Park and ride facilities in more rural and suburban communities allow riders to catch an Xpress bus to the urban core in the morning, then make the reverse commute in the evening. The proposed new commuter service in areas outside Metro Atlanta would operate similar to the SRTA Xpress system. Mobility Managers, as discussed in **Section 3.1.4.1**, will undertake TDM outreach and education with local employers to promote the service and educate riders on how it can be used.

Commuter services can also be achieved through vanpools, which provide transportation to a group of individuals traveling directly between their homes and a regular destination within the same geographical area. Vanpool differs from carpool in that they are publicly sponsored.

Prior to implementing new commuter service, a feasibility study for each county pair will determine routes, park-and-ride locations, and types of vehicles to be used.

In addition to the top county pair commutes listed above, Athens has identified the need for commuter services to Atlanta, and Chattanooga Area Regional Transportation Authority (CARTA) also locally identified and documented the need for new commuter services. While based outside of Georgia, CARTA currently has routes that extend up to the Georgia state line and has identified the need for a commuter route connecting Chattanooga with Ringgold, Georgia.

Needs Addressed: Implementing new commuter transit services will address the need to better link the workforce with employment centers. The service will provide better access to jobs and improved connectivity between rural communities and urban job centers. The service will also provide an additional and reliable commute option.

Applicable Context: Areas with high cross-jurisdictional commute patterns (urban and rural).

Approximate Required investment to Implement: Specific investment levels needed for new commuter transit will vary by location. Planning-level estimates for each of the county pairs include:

- $250,000 for a feasibility study and route planning;
- Construction of park and ride lots able to accommodate 80% of daily commuters at an approximate investment level of $8,200 per parking space;
- Over-the-road commuter coaches at $562,000 each (feasibility studies will determine appropriate vehicle size for each system);

- Ongoing capital investment needs of up to $441,718 per year to maintain SGR of the coaches; and
- Ongoing operating investment needs of up to $5.1 million per year (assumed 2017 operating cost per trip equal to that of SRTA Xpress).

Based on ridership estimates documented in the *SWTRP Needs Assessment Technical Report*, to implement the seven recommended commuter transit services not already locally identified, an initial one-time investment of $57.8 million is needed to plan routes, purchase over-the-road transit vehicles, and construct park-and-rides to provide the service. Sustaining the new vehicle fleets and meeting estimated forecasted trip demand will require sustained annual capital funding of approximately $2.4 million per year, and $27.0 million per year in operating funding. By 2050, annual capital investment needs are expected to increase slightly to $2.5 million, while annual operational investment needs are expected to grow modestly to $29.4 million.

CARTA identified the need for a commuter route into Georgia and estimated the approximate required investment to implement at $24 million annually. Athens-Clarke identified the need for commuter service to Atlanta with an estimated annual investment of $14.7 million.

The total estimated annual required investment for this strategy is $67.9 million annually.

Benefits:

- Improves access to jobs by linking workforce to employment centers;
- Enhances regional transit connections, particularly between rural communities and urban centers;
- Provides reliable commute options; and
- Mitigates congestion and emissions in growing urban areas of the state.

3.2.2 Expand Capacity

The Expand Capacity strategies, and the estimated investment needs to implement each are shown in **Figure 18** and described below:

Figure 18: Expand Capacity Strategies

3.2.2.1 *Expand Hours of Service to Better Align with Workforce Needs*

Description: Provide longer service hours to account for the transportation needs of early morning and late-night shift workers.

Typically, Georgia's rural transit providers offer service hours beginning between 7:00 and 8:00 AM and the final pickups for passengers occur between 4:00 and 5:00 PM. Most rural systems operate weekday service only. Nine rural systems offer Saturday service while two offer service 24 hours per day, 7 days per week. Evening and weekend trips must be scheduled and confirmed several days in advance to ensure driver availability.

Outside Metro-Atlanta, service hours for urban providers vary more significantly, and can vary further by route within each system. Only three offer late night and early morning service.

Extending service hours by 20% would better meet the transportation needs early morning and late shift workers by allowing all operators to begin providing service between 5:00 and 6:00 AM, and ending service after 11:00 PM. It is expected that early-morning and late-night service would be less robust than during peak periods of the day. Such service schedules should be coordinated with major employers, as discussed in **Section 3.1.4.1**. Extended service hours would also assist other ridership segments, such as those needing access to early morning healthcare appointments and those attending night school.

Needs Addressed: More than 17% of SWTRP Public Survey respondents stated that transit does not operate during the time of day or week that they need it. Feedback from TAC meetings similarly indicated that in many areas, the transit service hours do not match workforce transportation needs.

If an employee needs to be at work by 8:00 AM, transit service that begins operating at 8:00 AM is not a viable mode of transportation. Similarly, if a work shift begins at 4:00 PM and ends at midnight, the employee may be able to use transit to get to work, but no means of returning home after the shift. This issue is especially evident in areas with warehousing and distribution that employ overnight shift employees.

Extending transit hours of operation to accommodate late night and early morning work shifts would make transit a more viable mode of transportation for such workers.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: Expanding service hours will require additional staff time and additional operational investment levels. The average investment to operate one vehicle (or passenger car for rail service) for one hour of passenger service (revenue hour) ranges from approximately $20 to $80 for rural systems and $64 to $154 for urban systems.[7]

With an average statewide rural operating investment level of $32.19 per vehicle revenue hour reported to NTD in 2017, increasing revenue hours by 20% for all of Georgia's rural providers would require an investment of approximately $6.8 million annually. For urban systems outside the ATL region, the average operating investment level is $76.20 per vehicle revenue hour. Eight of these agencies currently do not provide both early morning and late-night service. The estimated additional investment required to increase revenue hours for those eight agencies by 20% is $4.7 million.

The total approximate required investment for this strategy is $11.5 million annually.

Benefits:

- Better meets the transportation needs of all workers, making transit a viable workforce mode;
- Improves accessibility to night school and other opportunities available during non-traditional hours; and
- Promotes economic development by connecting Georgians to jobs.

3.2.2.2 *Expand Capacity of Existing Rural Systems to Serve Unmet Forecasted Trip Demand*

Description: Within the service boundaries of Georgia's current rural transit providers, there is a total need for approximately 6.1 million trips annually. As previously shown in **Section 2.1.1**, Georgia's current rural transit systems provide approximately 1.8 million trips annually, meaning there is an unmet rural transit trip demand of 5.2 million trips each year. Expanding the capacity of existing rural systems will allow them to improve mobility, accessibility, and economic opportunities for rural communities across the state, and fully deliver on the unmet forecasted trip demand quantified in the *SWTRP Transit Needs Assessment Report*.

Capacity expansion can include adding vehicles, hours of service, and enhancing operational staff. The expansions should also be paired with several of the administrative tools, guidance, and best practices described in **Section 3.1**, including marketing support and mobility management, to ensure riders are aware of the services offered and that those services are coordinated for efficient operations. The transit workforce will also need to implement best practices for scheduling and dispatching, and asset management to ensure the expanded fleets are maintained in a state-of-good-repair.

Needs Addressed: The *SWTRP Transit Needs Assessment Report* found that as many as 5.2 million rural transit trips are currently going unmet each year by existing rural systems. Many rural transit agencies are operating at or near capacity; they struggle to meet trip demand during peak periods. About 50% of respondents to the SWTRP Provider Questionnaire stated that providing more frequent or higher capacity service was challenging. Expanding capacity will provide those systems with the resources to meet the full rural trip demand within their communities.

Applicable Context: Existing rural transit systems.

Approximate Required investment to Implement: To address the current higher range unmet forecasted trip demand in areas with existing rural service, an initial one-time capital investment of $13.4 million is needed to expand the existing vehicle fleets by 248 vehicles, as well as $86.5 million in additional annual operating funds to provide the service. Sustaining the expanded fleet and meeting estimated unmet forecasted trip demand will require sustained annual capital funding of $8.5 million. The total initial annual required investment for this strategy is approximately $95 million annually.

Note that the required investment to expand rural transit service in each county appears to vary from those calculated as a part of the *SWTRP Transit Needs Assessment Report*. This is because that report considered total transit need, both met and unmet. In contrast, this report considers transit need met by existing transit providers as part of the baseline scenario. Thus the numbers reported above account only for the portion of trip demand currently unmet.

By 2050, annual capital investment to meet unmet forecasted trip demand is expected to grow to $13.1 million, while annual operational investment is expected to grow to $99.7 million.

Benefits:

- Provides 5.2 million rural transit trips that are currently going unmet;
- Provides more reliable service; and
- Enables providers to deliver public transit for all needed trip types, expanding access to healthcare, education, and economic opportunities in rural communities.

3.2.2.3 *Add Capacity to Existing Urban Systems and Improve Service Frequency Where Needed*

Description: Similar to rural systems, many urban transit providers are constrained in their ability to fully meet transit ridership needs. Adding capacity to existing urban systems will allow providers to better meet the needs of their communities.

For fixed route providers, there are multiple ways in which capacity can be constrained, and multiple avenues to expand capacity. can be expanded to better accommodate peak ridership on popular routes. Additional vehicles can improve service frequency, increasing capacity and reducing wait time for riders. New or extended routes into unserved areas will also add capacity to a system and better meet rider demand and needs.

Providers with capacity constraints should document the need as part of the TDP process (**Section 3.1.1.1**) and follow best practices for fleet procurement and right-sizing (**Section 3.1.1.2**).

Needs Addressed: More than 17% of SWTRP Public Survey respondents stated that transit does not operate during the time of day or week that they need it. Feedback from TAC meetings similarly indicated that in many areas, the transit service hours do not match workforce transportation needs.

If an employee needs to be at work by 8:00 AM, transit service that begins operating at 8:00 AM is not a viable mode of transportation. Similarly, if a work shift begins at 4:00 PM and ends at midnight, the employee may be able to use transit to get to work, but no means of returning home after the shift. This issue is especially evident in areas with warehousing and distribution that employ overnight shift employees.

Extending transit hours of operation to accommodate late night and early morning work shifts would make transit a more viable mode of transportation for such workers.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: In Georgia, the approximate required investment for a typical urban transit bus is $503,000. Annual operation and maintenance investment in each vehicle is approximately $195,000. Given urban population projections in Georgia, to keep pace with population growth and improve capacity and frequency, the urban transit fleet outside Atlanta needs to expand by approximately 5 percent, or 14 buses, each year.

Initial capital investment needs are estimated at $7.1 million, with $2.7 million in annual operating and maintenance investment needs for a total annual investment level of $9.8 million.

In addition, Albany Transit, CARTA, and Macon-Bibb County Transit Authority have each identified specific projects to add capacity or improve service frequency for their systems. The total annual investment level of these projects is approximately $27.9 million. Descriptions of each project can be found in the *SWTRP Transit Needs Assessment Report*.

The total required investment to implement this strategy is approximately $37.7 million annually.

Benefits:

- Provides more reliable service to high-demand locations, including: employment centers, healthcare, and educational institutions, and shopping and community centers;
- Improves the users' experience by making transit more available, convenient, and reliable; and
- Higher frequency and capacity supports transit availability and accessibility to current and potential riders.

3.2.2.4 *Implement Other Locally Identified Projects*

Description: Many projects identified in locally developed plans do not fit neatly within just one strategy category of this report. Local and regional plans recommend various multi-faceted projects to expand and enhance service to meet the needs of their community.

Within this report, such projects and their investment levels are captured in this section. All expansion and enhancement projects included in the ARTP are captured in this section. When developing implementation scenarios for the strategies of this report (**Section 5.3)**, investment levels for Metro-Atlanta projects are split between enhancement and expansion as defined in the ARTP, while the investment levels for projects outside Atlanta are split with 70% of the investments classified as Service Expansion, and 30% allocated to the Service Enhancements category.

The projects identified under this strategy include both urban and rural systems.

Needs Addressed: The projects included in this strategy all address one or more locally identified need. Needs addressed include, but are not limited to, replacing or rehabilitating vehicles and transit facilities, maintaining assets with SGR, improving ADA accessibility of service, optimizing service and routes, coordinating transit with other transportation services, and expanding capacity. A full list of all locally identified projects can be found in the *SWTRP Transit Needs Assessment Report*.

Applicable Context: Existing urban and rural systems

Approximate Required investment to Implement: Statewide, the total required investment to implement locally identified projects as described in this section is estimated at $1.1 billion. Outside Metro-Atlanta, the total required investment to implement locally identified projects is approximately $205.7 million annually, including $39.7 million annually in rural areas. In this report, $144.0 million (70%) is categorized as Service Expansion, while $61.7 million (30%) is categorized as Service Enhancement outside the ATL region.

Benefits:

- Meet locally identified transit service needs;
- Expand capacity of existing systems;
- Additional coordination between transit and other transportation services;
- Improve asset SGR; and
- Enhance service offerings for riders.

3.2.3 Regional Collaboration

The Regional Collaboration strategies, and the estimated required investment to implement each are shown in **Figure 19** and described below:

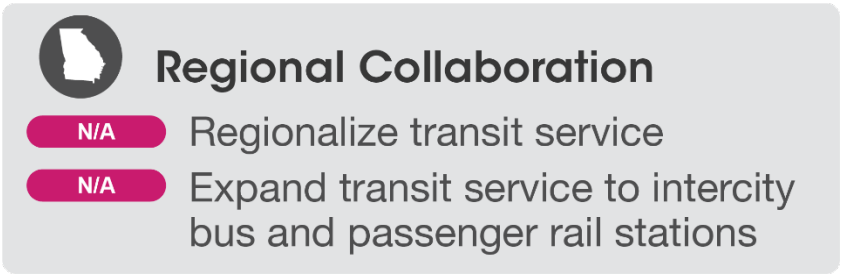

Figure 19: Regional Collaboration Strategies

3.2.3.1 *Regionalize Transit Service*

Description: Encourage and incentivize coordinated, regional or multi-county transit systems. Regional and multi-county systems offer many efficiencies over single county systems, including ease of use for riders and the centralization of administrative tasks. Regionalizing existing county systems could provide seamless mobility for customers needing services in nearby counties while also likely reducing operating and maintenance costs to the transit providers involved.

Regionalization of service can be achieved in many ways, and will take multiple steps to plan and implement. This report includes numerous strategies to assist at various points in the regionalization process, from planning to consolidation and implementation. Similarly, examples of regionalization and the benefits it provides are demonstrated around the state.

The first step toward regional rural service is the development of regional TDPs (discussed in **Section 3.1.1.1**). Southern Georgia Regional Commission recently completed a regional TDP to consolidate existing providers and expand service to the unserved communities. Coordination among stakeholders is critical, and Mobility Managers (discussed in **Section 3.1.4.1**) or regional commission planning staff can play an integral role. Funding and fare policies will also need to be set and coordinated among existing systems (discussed in **Sections 3.1.2.3** and **3.3.2.3**).

For riders, regional service means convenience and access to more destinations. Creating connections between neighboring systems is an interim step toward regional systems. This can include shared stops for neighboring agencies and trip transfers at coordinating locations for demand response systems. A statewide trip planning app and website (discussed in **Section 3.3.3.1**) can help facilitate these connections and regional service by linking riders with providers for trips across existing service areas. It will also facilitate backend coordination of fare payments and rider transfers between systems. For rural systems, GDOT is implementing scheduling and dispatching software and a trip planning app that will enable such backend coordination among providers.

Consolidating vehicle fleets, maintenance facilities, dispatching services, and transit workforces can realize operational efficiencies through economies of scale and more optimal use of resources. A consolidated regional ridership pool and regional dispatching service (discussed in **Section 3.3.2.5**) will expand opportunities for shared rides, increasing the number of passengers served per vehicle trip.

A larger regional vehicle fleet can better meet variable transit demand, and overcome unforeseen mechanical issues when compared to a single county fleet. Similarly, consolidated regional transit workforce or shared staffing (discussed in **Sections 3.1.4.2)** means that a larger pool of drivers and mechanics can be called upon to cover vacancies or temporary staffing shortages.

By reducing the overall number of transit providers, administrative and reporting responsibilities can also be centralized under consolidated regional entities, reducing the overall administrative and compliance burdens. Currently, Coastal Regional Commission, Southwest Georgia Regional Commission, Three Rivers Regional Commission, Lower Chattahoochee Regional Transit Authority, and Mountain Area Transit System provide regional rural transit services and realize these operational efficiencies.

Needs Addressed: The need for cross-jurisdictional transit service was repeatedly heard from the public and stakeholder input. The dispersed nature of rural Georgia results in longer distances between hospitals, education and other critical services.

Cross-jurisdictional or regional transit service is particularly important to providing access to critical goods and services in rural areas. 12 of 80 rural providers currently do not offer any cross-jurisdictional service. The providers that do often limit the available destinations to nearby cities, regional healthcare centers, or other critical social services. More regional service is needed to expand economic, education, healthcare, and quality of life opportunities.

Regionalizing systems and better coordinating among transit providers will help to meet that need. Further, the coordination could assist in reducing costs for service and administration through more efficient operations. As noted in **Section 3.2.1.1**, Regional service could also be used to expand coverage to jurisdictions without public transit today.

Applicable Context: Regions with multiple providers or significant cross-jurisdictional travel demand.

Approximate Required investment to Implement: No specific investment level is associated with regionalization. The initial investment for implementing regional service will vary depending on the size of the region and existing services in place. After implementation, cost efficiencies are expected to be realized compared to multiple single-county systems.

Benefits:

- More cost-efficient administration and delivery of transit;
- Provides a one-stop shop for customers needing to travel across a region;
- Enhances coordination between transit agencies;
- Improves reliability of service through pooling assets and transit workforce; and
- Expands the reach of transit and improves mobility options.

3.2.3.2 *Expand Transit Service to Intercity Bus and Passenger Rail Stations*

Description: Linking local public transit service with intercity bus and passenger rail stations facilitates easier cross-jurisdictional travel and, in doing so, can promote tourism and other economic development opportunities. Such connections can be established by moving current stops or extending local transit service to an existing intercity bus or passenger rail station. The construction of multimodal facilities is another option for collocating local transit with intercity services.

Needs Addressed: Georgia has 27 intercity bus stops and five Amtrak passenger rail stations. Only five intercity bus stops are not collocated with a transit stop or within a rural transit service area. Two are located in communities without any transit service, while the other three are located within a quarter-mile of local transit.

Only one Amtrak station is located in a community without local transit service. Three are collocated with fixed-route or rural service while one is within a quarter-mile of a transit line.

The lack of direct transit connections for certain intercity bus and rail stops limit mobility options for intercity travelers. There is a need to link local transit with intercity services in areas that lack such connections.

Applicable Context: Five intercity bus stops and two passenger rail stations.

Approximate Required investment to Implement: There is no investment level associated with this strategy. It is assumed that future transit expansions (discussed in **Sections 3.2.1.1** and **3.2.1.2**) will be coordinated to serve intercity bus and rail stations. There is a negligible cost associated with re-routing existing transit service less than a quarter mile to be co-located with intercity bus and rail station.

Benefits:

- Expands access to intercity services; and
- Improves connections between services.

3.3 Service Enhancement Strategies

Service enhancement opportunities include eleven strategies listed in **Figure 20**. Transit service enhancements improve the rider experience by enhancing transit system safety, ease-of-use, efficiency and reliability, SGR, pedestrian and bicycle connections, and other improvements that are not explicitly expanding transit service.

The overall required investment to fully implement the eleven Service Enhancement Strategies is approximately $515.5 million per year, including $89.4 million outside the ATL region, and $23.9 million for rural providers.

Figure 20: Transit Service Enhancement Strategies

Using metrics from APTA, **Figure 21** illustrates the potential economic impacts that can be expected from this investment statewide.

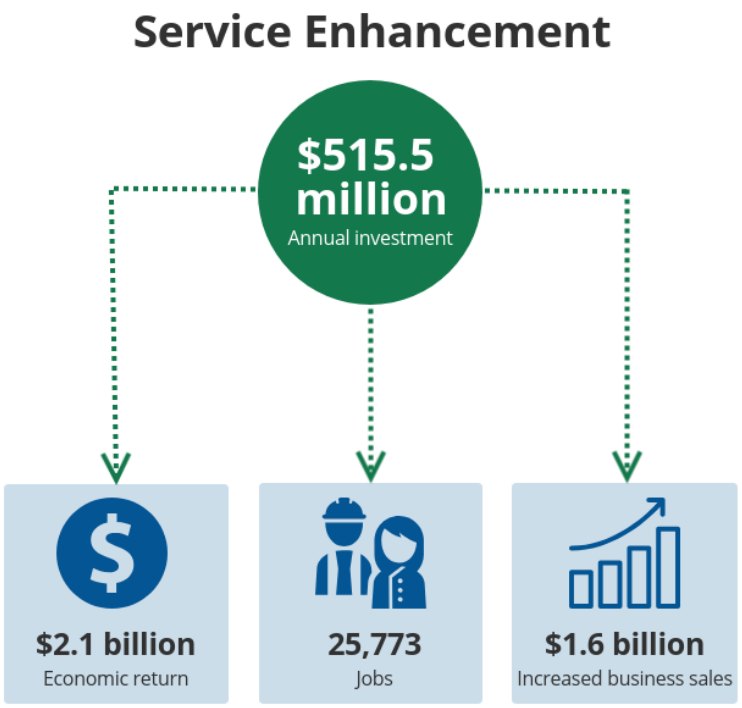

Figure 21: Service Enhancement Potential Economic Impacts - Statewide

Figure 22 illustrates the potential economic impacts of transit service enhancements for rural systems and systems located outside the ATL region.

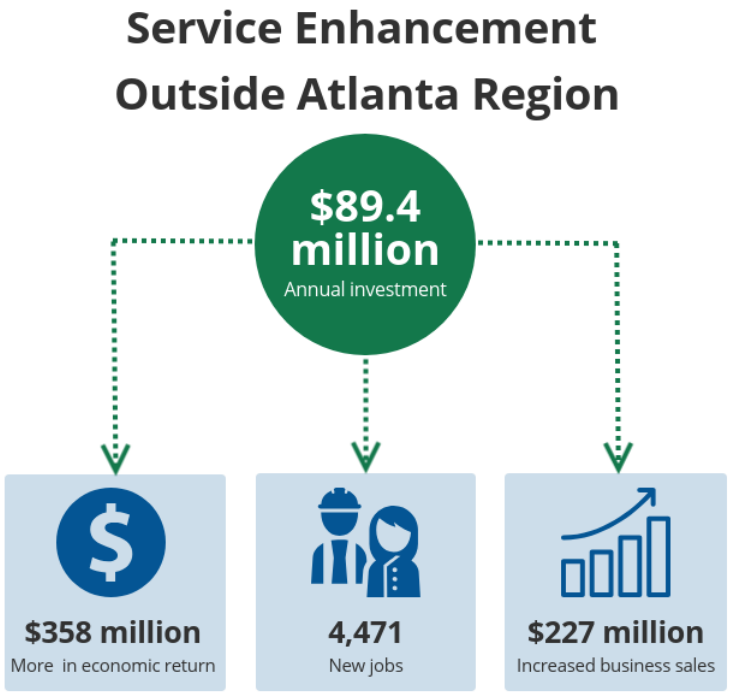

Figure 22: Service Enhancement Outside Atlanta Region Potential Economic Impacts

Further detail on each service enhancement strategy is provided in the following sections.

3.3.1 Transit Vehicle Technologies

The Transit Vehicle Technologies strategies, and their estimated required investment to implement are shown in **Figure 23** and described below:

Figure 23: Transit Vehicle Technologies Strategies

3.3.1.1 *Implement Interoperable Automatic Vehicle Locator and Automatic Passenger Counter Systems*

Description: Automatic Vehicle Location (AVL) is a means for automatically determining and transmitting the geographic location of a vehicle. Automatic Passenger Counters (APC) count the number of passengers that board or disembark at every stop. When paired together, these systems can assist transit agencies with service planning and route optimization by providing data on the ridership for each stop.

APCs allow providers to more accurately track ridership, a key system performance measure and required NTD data point. AVLs allow systems to better monitor on-time performance and can help providers target areas of delay.

Vehicle location data, from one or more vehicles, may also be collected by a vehicle tracking system to manage the vehicle fleet or publicly share real-time vehicle location information with riders via an app (discussed in **Section 3.1.2.5**). Ridership and performance data collected by the combination of APCs and AVLs can support the development of TDPs (discussed in **Section 3.1.1.1**).

AVLs also enable automatic stop announcements, improving the user experience, assisting the visually impaired, and improving safety by allowing the driver to focus on the road instead of stop announcements. All existing rural systems utilizing the GDOT procured QRyde scheduling and dispatching software have AVLs installed via on-board tablets. Most urban providers also have AVL equipped vehicles.

Needs Addressed: Both the SWTRP Public Survey and Provider Questionnaire identified the need for mobile apps to support trip planning. The Provider Questionnaire also identified challenges with data collection and reporting.

Implementing AVL systems is a step towards implementing and improving better mobile apps for riders, allowing them to plan trips and track vehicle progress along a route.

For transit providers, AVLs and APCs help address the need for improved data collection, and facilitate monitoring of on-time performance. This allows providers to measure the performance of their system better and optimize routes accordingly, making transit more reliable and user friendly.

Applicable Context: Existing fixed-route systems without AVLs and APCs (urban). Existing demand-response systems without AVLs (rural).

Approximate Required investment to Implement: AVL systems cost approximately $2,480 per vehicle while APCs cost approximately $7,200 per vehicle. Outside the ATL, to equip Georgia's fixed-route fleet currently without these systems, there is a need for 12 AVLs and APCs per year at an annual required investment of $116,160.[8]

Albany Transit has also identified a project to equip its vehicles with AVLs and other technologies with an annual required investment of $200,000.

The total estimated required investment to implement this strategy is $316,160 annually.

Benefits:

- Transit Operations Managers can quickly respond to disruptions and delays;
- Improves transit planning and service evaluations via monitoring of on-time performance and ridership at each stop;
- Automated dispatch systems can optimize trip distribution based on past and current trip performance;
- Automatic stop announcements, allowing bus drivers to focus on safety; and
- Improves safety and security by allowing dispatch and emergency services to locate a vehicle in real-time in the event of an incident or silent alarm activation.

3.3.1.2 *Implement Fleet-Wide On-Board Security Features, Including Cameras*

Description: Provide on-board surveillance equipment, including cameras to all transit vehicles for the purpose of improving safety and perception of safety for transit riders and operators.

Needs Addressed: Some rural transit providers indicated additional security features are a priority for them. Installation of security cameras on all transit vehicles will provide enhanced safety measures for both passengers and drivers. While new buses now typically come with cameras already installed, approximately 25% of the rural fleet does not currently have cameras.

Applicable Context: Existing transit systems without cameras on all vehicles (rural).

Approximate Required investment to Implement: The required investment to provide on-board surveillance equipment to one transit vehicle is $9,700. Based on this required investment, $281,300 is needed annually to equip 29 rural vehicles per year. This will allow rural vehicles currently without cameras to be equipped within 5 years (the useful life benchmark of a cutaway bus).

Benefits:

- Improves safety for passengers and drivers.

3.3.1.3 *Leverage Signal Technology to Improve Transit Operations*

Description: Transit Signal Priority (TSP) is a technology that reduces the delay to transit vehicles at signalized intersections. Implementing TSP along fixed-route transit lines will improve on-time performance and reliability of service.

Where implemented, buses equipped with TSP technology wirelessly communicate with upcoming traffic signals. The signals can then temporarily extend a green phase to allow the bus to clear the intersection. By reducing the number of red lights buses encounter, TSP facilitates faster and more reliable transit service.

To work, compatible TSP technology must be installed at each traffic signal, called road-side units (RSUs), and on each bus, called on-board units (OBUs). The traffic signals must also utilize software that is compatible with TSP operations. RSUs have non-transit related capabilities and benefits as well, including signal preemption for emergency vehicles, safety applications, and intelligent signal timing to improve traffic flow and reduce congestion.

Of the approximately 10,000 signalized intersections in Georgia, approximately 6,000 are owned by GDOT. All 6,000 of GDOT's intersections utilize software that is TSP capable. GDOT has deployed RSUs at 54 signalized intersections in Metro-Atlanta and will deploy over 1,000 more in the coming years. Given the numerous benefits of RSUs well beyond their transit applications, it is expected that statewide coverage will ultimately be achieved. Installation of OBUs on all newly procured transit buses, which have a useful life of 10 or more years, will help ensure transit providers future-proof their fleets and can utilize TSP as RSUs are deployed to more areas of the state.

Needs Addressed: More than 30% of SWTRP Public Survey stated that transit schedules are unreliable and a challenge to using transit. TAC input has similarly indicated that on-time performance can be challenging, particularly during rush hour. TSP systems help to reduce transit vehicle delays, improving on-time performance and reliability of service.

Applicable Context: Existing or new fixed-route transit systems (urban).

Approximate Required investment to Implement: RSUs cost approximately $10,000 each, while OBUs cost approximately $5,000 each, including software, updates, and maintenance. As Georgia's existing bus fleet is replaced, new buses should come equipped with OBUs installed. This will ensure that as more RSUs are deployed around the state for safety, traffic improvements, and other CV projects, Georgia's transit vehicle fleet will be ready to capitalize on the upgraded infrastructure utilize TSP.

Typically, transit buses have a useful life of approximately 10 years. If 10% of the vehicle fleet is replaced each year, the annual required investment to equip new vehicles outside Atlanta with RSUs is approximately $135,000 annually.

Benefits:

- Reduces travel time for riders;
- Increases operating capacity during peak periods by facilitating higher frequency services; and
- Reduces delays, improves on-time performance, and service reliability.

3.3.2 Efficiency and Reliability Improvements

The Efficiency and Reliability Improvement strategies, and their estimated required investment to implement are shown in **Figure 24** and described below:

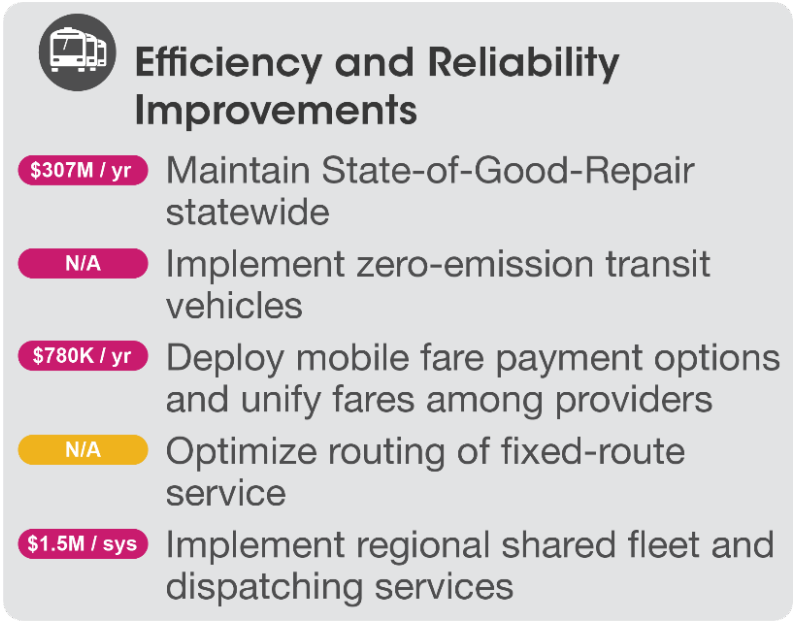

Figure 24: Efficiency and Reliability Improvement Strategies

3.3.2.1 *Maintain State-of-Good-Repair Statewide*

Description: The FTA establishes State-of-Good-Repair (SGR) performance measures for capital assets and requires agencies to set performance targets for each of these measures. For transit vehicles and equipment, SGR performance is measured by comparing a vehicle's age to its Useful Life Benchmark (ULB). FTA provides a ULB for each class of transit vehicle (e.g., city bus, cutaway bus). Facilities are ranked on a scale of excellent condition to critically damaged.

Achieving and preserving SGR will ensure transit assets are maintained to the pre-determined standard for operating quality and within the ULB, as set by the FTA and outlined in each agency's Transit Asset Management Plan (TAM). This helps to minimize any unexpected mechanical issues, allowing transit systems to operate more reliably with few service disruptions.

Needs Addressed: Local transit service providers identified their specific SGR related needs in their TAM Plans. Needs focused on new vehicles, maintenance, rehabilitation, and replacement of existing assets. Achieving full SGR will ensure vehicles are available for service and will allow providers to deliver needed trips in their community without disruption.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: SGR investments for all existing urban and rural systems are documented in six TAM Plans statewide, prepared by: MARTA, SRTA, CobbLinc, Chatham Area Transit, ARC (covers Gwinnett County Transit, Connect Douglas, and Henry County Transit), and GDOT (covers all remaining large urban, small urban, and rural agencies statewide). Based on these TAM Plans, a total annual investment of approximately $306.5 million is required to maintain SGR, including $285.7 million within the ATL region and $20.8 million for rural systems and systems located outside the ATL region.

Benefits:

- Improves reliability of transit operations;
- Ensures safety; and
- Reduces long-term maintenance and repair costs.

3.3.2.2 *Implement Zero-Emission Transit Vehicles*

Description: As Georgia's existing transit vehicles reach the end of their useful life, providers should consider zero-emission vehicles for replacements. The purchase and implementation of electric or other alternatively fueled zero-emission transit vehicles will improve sustainability and lower operating and maintenance costs of Georgia's transit fleet.

Transitioning from conventionally powered vehicles to battery-electric is becoming increasingly cost-effective as the cost of batteries continues to decline, and their range continues to increase. While electric vehicles (EV) still have a higher up-front purchase cost, they have lower operating and maintenance costs than conventionally powered transit buses.

Electric motors have significantly fewer moving parts than conventional engines, reducing overall maintenance costs. Compared to diesel or other fossil fuels, the price of electricity is stable and not prone to short-term market swings. This provides battery electric fleet managers long term predictability with their energy costs and budgets. Further, in terms of energy use per mile traveled, the cost of electricity is significantly lower than diesel or compressed natural gas (CNG).

The U.S. Department of Energy's GREET Model simulates energy use, emissions, and other costs for different modes of transportation and vehicles.[9] Utilizing current energy rates in Georgia, the lifecycle fueling costs of battery electric transit buses are projected to be approximately $300,000 lower than diesel or CNG bus. Even when accounting for the higher purchase price of the vehicle, the total required investment of owning and operating a battery electric bus is projected to be over $100,000 less than diesel or CNG powered bus.

In addition to lifecycle cost savings, zero-emission vehicles provide other benefits where deployed. EVs produce less vibration and noise, improving rider experience and reducing noise pollution in the community. Zero tailpipe emissions improve air quality and can be particularly beneficial in an urban core. As Georgia's electricity generation continues to transition toward cleaner, renewable, and lower emission energy sources, electric buses deployed today will become more sustainable throughout their operating life.

Zero-emission transit vehicle implementation is not without its challenges. Higher up-front required investments can be a burden for some providers. Charging infrastructure must be installed, and maintenance staff must be trained for electric motors or other types of powertrains. Routes must also be considered to ensure the vehicles will have sufficient range for a full day of operations.

Resources are available to assist in overcoming these challenges. FTA's Low or No Emission Vehicle Program provides financial support for planning, vehicle purchases, supporting infrastructure, and deployments. GDOT successfully partnered with Macon-Bibb County Transit Authority to win a Low-No Grant for two electric buses, which will begin providing service in 2020. Other Georgia providers, including MARTA, have also recently won Low-No grants for deploying electric buses.

Georgia Power works with interested transit agencies to advise and install supporting electric infrastructure. Support for mechanics to work with EVs could be provided through the GDOT led mechanic training enhancements discussed in **Section 3.1.3.1**. The Georgia-based non-profit, Center for Transportation and the Environment, develops transition plans and route modeling capabilities to assist transit providers in transitioning their vehicle fleets and deploying zero-emission vehicles in the most effective manner.

Needs Addressed: Responses to the SWTRP Public Survey indicated that improving air quality was among the top considerations for improving transit. Providers also identified funding limitations as a challenge to providing needed service. Deploying zero-emission vehicles will improve air quality and lower emissions. They will also reduce long-term required investments for transit providers.

Applicable Context: Existing and new transit systems (urban and rural, predominantly urban).

Approximate Required investment to Implement: Electric buses currently have higher up-front purchase costs than conventional buses but lower lifecycle costs. Given the projected lifecycle cost savings of battery electric buses, no additional annual recurring investments are associated with this strategy.

Benefits:

- Increases the overall fleet efficiency;
- Significantly reduces emissions and air pollutants, leading improved air quality and healthier residents;
- Lowers lifecycle operating and maintenance costs; and
- More enjoyable rider experience and reduced noise pollution.

3.3.2.3 *Deploy Mobile Fare Payment Options & Unified Fares Among Providers*

Description: The deployment of mobile fare payment options, paired with the longer-term pursuance of unified fares among providers will improve convenience for riders and facilitate cross-jurisdictional service.

Mobile fare payment systems allow passengers to purchase transit tickets through smart devices. Unlike traditional fare cards, mobile fare payment systems are typically account based and tied to a single user (the owner of the smart device).

Generally, there are three types of mobile payment systems. The first displays a visual electronic "ticket" for inspection by a transit agency employee to confirm the customer has purchased the appropriate fare. The second is a machine-readable Quick Response (QR) Code. The third uses Near Field Communication (NFC), a wireless communication technology that allows data to be exchanged between devices that are a few centimeters apart. Riders "tap" their mobile device and the fare is transferred directly to the provider from a stored payment source.

Some Georgia providers have already, or are actively implementing mobile fare payment systems, including Macon-Bibb County Transit Authority and MARTA. More traditional payment systems are still available for riders who do not have smart phones.

Unified fare systems would require planning and coordination among providers and would simplify transit use across the state. Regional pilots may allow testing of unified fares with incremental expansions across the state. Mobile fare payments are implementable by individual systems in the near-term, and will help facilitate the unification of fares. Specifically, riders transferring from system to system will no longer need to purchase and load separate fare cards from each provider. They will simply download an app, electronically purchase a fare, and ride. Their user accounts will be able to transfer from provider to provider.

Needs Addressed: Responses to the SWTRP Provider Questionnaire and SWTRP Public Survey indicated the need for more simplified and integrated fare collection systems. More than 15% of provider responses identified fare pass sales and farebox collections difficult to manage, while riders found it challenging to understand the various fare structures from system to system.

Mobile payment systems and unified fares will lower the cost of ticket issuance and maintenance of traditional cash or card-based fare payment systems, reducing challenges for providers. Mobile payments will also make transit more convenient for riders, specifically by decreasing boarding time, allowing them to manage and reload fares from their phones, and simplifying cross-jurisdictional travel and transfers between systems.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: The scheduling and dispatch software GDOT has already procured and is implementing for rural transit providers incorporates mobile payment functionality. The required investment to implement mobile fare payment systems for urban systems outside Atlanta will vary by provider.

Utilizing the cost-to-implement figures from the Macon-Bibb County Transit Authority's mobile fare payment system, and scaling based on fleet size, similarly equipping all urban systems outside the ATL, will require an investment of approximately $779,805 annually for five years. Implementing unified fares would be achieved through administrative coordination and planning processes.

Benefits:

- Reduces the intestment required and administrative challenges of fare pass sales and farebox collection for transit agencies, including the costs associated with traditional physical passes;
- Improves transit operations by reducing average boarding time;
- Facilitates easier cross-jurisdictional travel and transfers between transit systems; and
- Provides opportunities for transit agencies to implement digital marketing to attract riders (i.e. frequent rider discounts).

3.3.2.4 *Optimize Routing of Fixed-Route Service*

Description: Transportation conditions change over time; new development, changing travel patterns, and infrastructure investments can impact operations and ridership along existing transit routes and create transit demand in unserved areas. As part of the routine TDP process (discussed in **Section 3.1.1.1**) transit systems should regularly reexamine and evaluate their services, then seek ways to improve or optimize service. Implementing these strategies will enhance fixed-route service efficiency and reliability.

Optimization of fixed-route service can broadly refer to routing buses on major corridors, utilizing managed or dedicated transit lanes, reducing the number of turns, and minimizing unnecessary route redundancy. Dedicated lanes refer to travel lanes dedicated specifically to transit vehicles, separating transit vehicles from other traffic and congestion. Similarly, managed lanes limit congestion by allow only vehicles meeting defined criteria (i.e. high-occupancy, transit, or toll paying vehicles) to use the lanes. In Georgia, transit vehicles can travel in GDOT's managed Express Lanes, which cover more than 66 miles and are being expanded. Queue jumping lanes are a shorter type of dedicated transit facilities that give buses priority position at a signalized intersection, improving service reliability by allowing vehicles to enter and exit traffic flow easily.

In addition to dedicated transit infrastructure, service can be optimized by routing buses along TSP enabled corridors (discussed in **Section 3.3.1.3**), and by limiting the number of turning movements required.

Optimization of transit stops refers to eliminating or consolidating low-ridership stops, or relocating stops to more convenient and in-demand locations. Providers can partner with employers or other external stakeholders to ensure stops and service are optimized for rider needs. Such strategies can improve routing efficiency and ease-of-use for riders.

Needs Addressed: The SWTRP Public Survey and TAC input both identified the need for more reliable service. Stakeholders also identified the need to optimize service to meet rider and worker needs. Regularly evaluating service and implementing route optimization strategies will improve on-time performance and reliability of fixed-route services, especially during peak hours with high levels of congestion.

Applicable Context: Existing fixed-route transit systems (urban).

Approximate Required investment to Implement: The required investment associated with route optimization will vary significantly by route and provider. Certain optimization strategies will reduce costs by improving efficiency. Others could be accomplished via a simple restriping, while some may require more comprehensive infrastructure improvements. Providers should identify and document the costs of any optimization strategies as part of their TDP development and update process.

Benefits:

- Increased efficiency of transit service;
- Reduced travel time, improved convenience and overall rider experience; and
- Improved service reliability.

3.3.2.5 *Implement Regional Shared Fleet and Dispatching Services*

Description: As discussed in **Section 3.2.3.1**, regionalizing transit service is a multi-step process that will offer efficiencies for providers and convenience for riders. Implementing shared and regional fleets is one step in that process. Neighboring systems may enter into agreements to share their existing transit fleets as needed. This could be as simple as loaning a bus to another system to cover a temporary vehicle shortage, or full fleet consolidation, with consolidated maintenance and dispatching.

Similarly, consolidating separate call centers into one shared regional call center can offer efficiencies for dispatching vehicles, and convenience for riders. Providers are better able to dispatch vehicles where they are needed the most. Riders only need to contact one call center to take transit throughout their regions. Existing examples include the Coastal Regional Commission (CRC), which provides rural services to all counties in the region, and Three Rivers Regional Transit, which serves six counties.

Needs Addressed: Many smaller rural providers face service disruptions if a vehicle needs maintenance or is in a collision and out of service. Consolidating fleets will provide a large pool of vehicles to fill any gaps when vehicles are unexpectedly taken out of service. Consolidation will also result in maintenance and operating efficiencies.

Cross jurisdictional travel can be difficult for riders if they must schedule trips through multiple different call centers. Providing a "one-stop-shop" for trip scheduling will make it easier for riders to utilize transit.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: The required investment to implement a regional call center is estimated at $1.5 million per facility, based on review of example projects to consolidate separate call centers into one regional call center.[10] Individual required investments will vary depending on size and number of systems. The regionalization of fleets is expected to realize cost savings over time.

Benefits:

- Improves the reliability, efficiency, and financial sustainability of transit service;
- Creates more convenient trip reservation experiences for riders; and
- Allows for more responsive and efficient vehicle dispatching across a region.

3.3.3 Enhance Rider Experience

The Enhance Rider Experience strategies, and their estimated investment to implement are shown in **Figure 25** and described below:

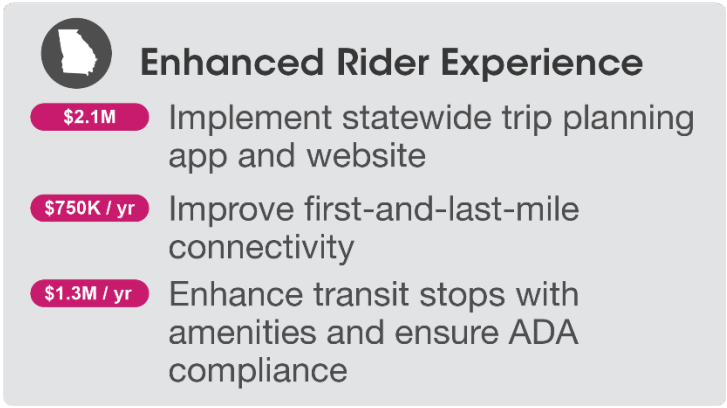

Figure 25: Enhanced Rider Experience Strategies

3.3.3.1 *Implement Statewide Trip Planning App and Website*

Description: Trip planning services provide a platform for passengers to plan their transit trips in advance. Currently, transit trip planners are mostly online platforms available on the web or personal devices that are based off General Transit Feed Specification (GTFS) data.

As discussed in **Section 3.1.2.5**, the development and maintenance of GTFS data for all Georgia providers will be required for a statewide app. The ATL is currently working with Metro-Atlanta providers to develop consistent GTFS data feeds, and is pursuing funding for the implementation of a trip planning app for the ATL region. A statewide trip planning app would build off of the ATL's ongoing efforts. Such an app, integrated with all providers' GTFS feeds, as well as the rural transit scheduling and dispatching services and coordinated HST services, could allow for seamless cross-jurisdictional trip planning as well as booking of rural and paratransit services.

Needs Addressed: The SWTRP Public Survey indicated that many Georgians are interested in using transit but are unaware of existing services or unsure how to use transit. With a statewide app, they can see what is available and book directly through it.

Stakeholder input also indicated the need to reduce the advance booking time required for rural trips. An app that is integrated with rural transit scheduling and dispatching software will help to reduce advance booking times by automatically assigning riders to the optimal vehicle for their trip.

Applicable Context: Existing and new transit systems (urban and rural).

Approximate Required Investment to Implement: Based on a review of similar trip planning applications, the estimated required investment to implement one statewide trip planning service is $2.1 million.

Benefits:

- Improves user experience and convenience;
- Reduces advance trip booking time; and

- Enhances public awareness of available transit option.

3.3.3.2 *Improve First-and-Last-Mile Connectivity*

Description: Improving first-and-last-mile connections to transit through pedestrian and bike infrastructure upgrades can increase the accessibility of transit for all users and make it a more viable modal option. Improvements such as new or rehabilitated ADA-compliant sidewalks, ramps, and crossings, as well as bike lanes, bike racks, and other similar infrastructure increases transit access for everyone, particularly people with physical disabilities and those traveling by bicycle or by foot.

Partnerships with employers, public and private institutions, and Transportation Network Companies (TNCs) or micro-mobility providers can also improve transit connectivity. Examples include employer-sponsored vanpools (such as the shuttle to Jekyll Island provided by the Coastal Regional Commission), and implementation of drop-off zones for TNCs or shuttle services to major employers. Transit providers should utilize existing staff and resources to coordinate partnerships and work out agreements which are beneficial to riders but do not result in a cost burden to the agency.

Needs Addressed: Locally developed planning documents consistently identify improving pedestrian and bicycle connections to transit facilities among the most stated needs. TAC stakeholders and transit providers recognized the need for better bicycle and pedestrian access in their community and the role it plays in promoting access to transit. Responses to the SWTRP Public Survey indicated that many people do not ride transit as the transit system is too far for them to access. Partnerships and improved bicycle and pedestrian connections will help to address each of these needs.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: Most agencies and municipalities do not have sidewalk conditions data available. Where sidewalk need data is available, localities should work to install or repair sidewalks along transit routes. Specific project investment requirements will vary.

Where sidewalk condition data is not available, agencies should initiate sidewalk needs assessment along transit routes and document specific needs and investments required in their local and regional TDPs and other transportation plans.

Sidewalk assessments, including ADA evaluations of transit stops, ramps, curb cuts, and crosswalks cost approximately $1,500 per mile. To evaluate sidewalk needs along the approximately 2,500 miles of bus routes outside the ATL region, the estimated required investment is $750,000 annually for the next five years.

Benefits:

- Expands the reach of existing transit services by improving access to transit stops and stations;
- Increases safety and comfort levels of pedestrians and cyclists accessing transit; and
- Potential health impacts associated with increased physical activity of walking and bicycling.

3.3.3.3 *Enhance Transit Stops with Amenities and Ensure ADA Compliance*

Description: Enhancing transit stops with amenities improves safety, comfort, accessibility, and transit usability for riders. Installation of shelters, signage, and a bench improve safety by improving visibility of the stop to passing drivers. Shelters improve usability and comfort in all-weather environments, while concrete pads and benches improve accessibility, particularly for seniors and those with disabilities. Trash receptacles at stops help to prevent litter.

In addition to the built infrastructure, transit vehicles should also be ADA compliant, ensuring transit service is available to all riders. Vehicles equipped with wheelchair lifts are particularly important for making transit accessible to all. Automated stop announcements (discussed in **Section 3.3.1.1**) are also critical to meeting the needs of the visually impaired.

Needs Addressed: Many existing bus stops have limited accessibility, restricted waiting areas, and unsheltered exposure during inclement weather conditions. Locally developed plans identify needed upgrades to their system's bus stops. TAC stakeholders, particularly those representing underserved and disabled communities, also identified the need for enhanced transit stop amenities.

Applicable Context: Existing transit systems (urban and rural).

Approximate Required investment to Implement: Specific investments required will vary depending on each stop's existing infrastructure. To cover all stops outside Atlanta by 2050, there is an estimated need for enhancing 242 stops per year. The estimated required investment is $3,725 per stop including:

- Concrete pad (10' x 10') at $2,500 per pad;
- Bench at $800 each;
- Sign Pole at $175 each; and
- Trash Receptacle at $250 each.

The estimated total annual required investment for 242 bus stop enhancements is $901,000.[11]

Augusta-Richmond has locally identified the need for stop enhancements along two routes at an estimated annual investments of $49,000. Chatham also has a locally identified project with an annual required investment of $249,688.

In addition, approximately 12% of the rural transit fleet is currently not wheelchair lift-equipped. Lifts cost approximately $5,000 each. It will require an investment of $100,000 annually to equip the full rural fleet with wheelchair lifts within five years.

The total estimated required investment for this strategy is $1.3 million annually.

Benefits:

- Improves safety, comfort, accessibility, and transit usability for riders, particularly seniors and individuals with disabilities; and
- Improves social equity performance of the transit service.

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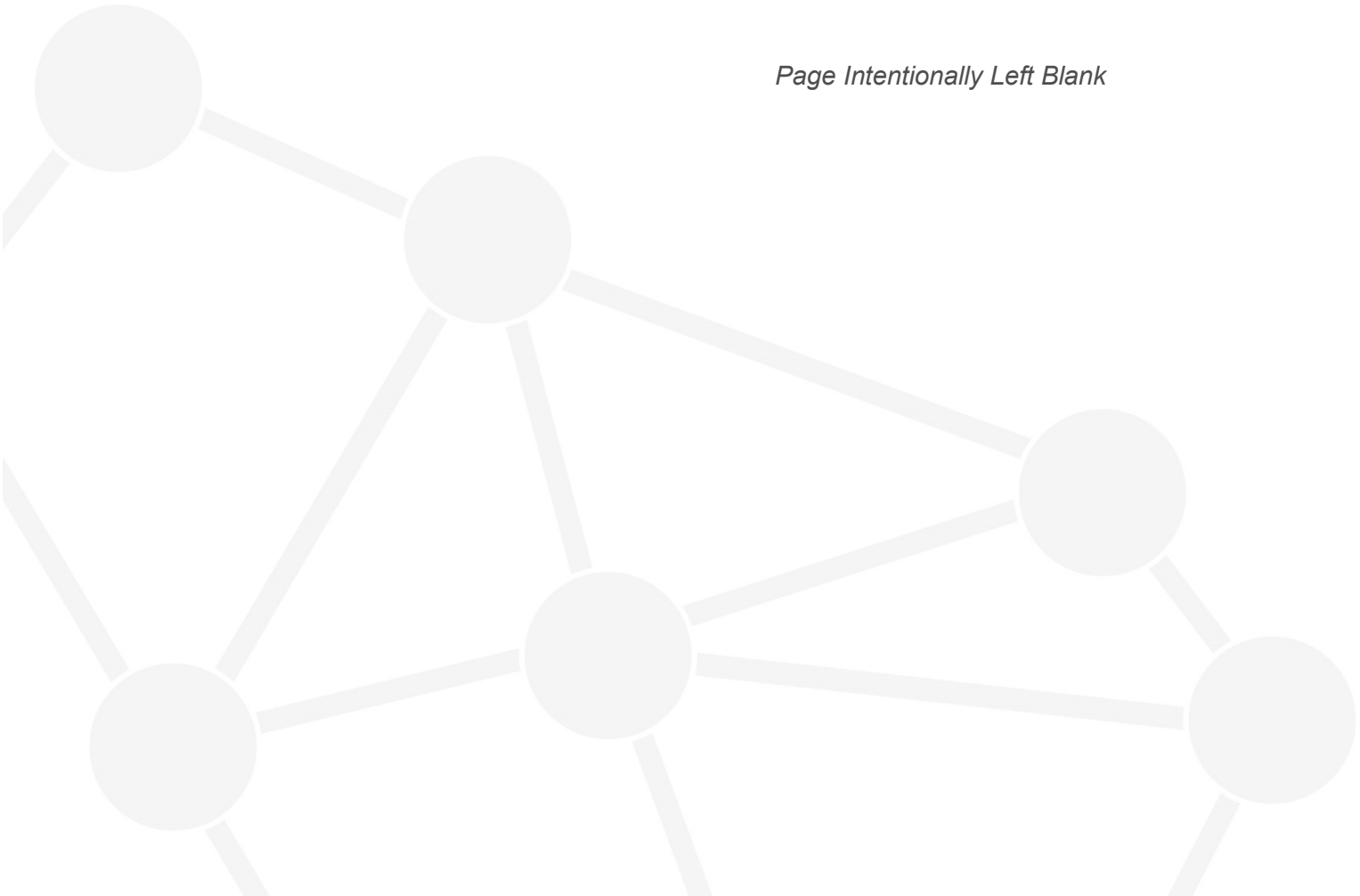

4.0 Universe of Funding Sources

This section presents the universe of potential funding sources available at the federal, state, and local levels. Existing funding sources within Georgia are discussed below, as well as transit funding sources utilized in other states reported by American Association of State Highway Transportation Officials (AASHTO).

4.1 Existing Transit Funding Sources in Georgia

Existing federal, state, and local level funding sources currently eligible to be used for transit projects in Georgia are listed in **Figure 26** and include the following types of funding:

- Federal Transit Administration (FTA) competitive grants;
- FTA formula funds;
- Federal flexible funding formula programs;
- Other federal competitive grants;
- State funds; and
- Local and regional funds and programs, including Community Improvement Districts (CIDs) and the potential for matching public private partnerships.

Further detail on each, including if they can be used for transit capital and/or operating expenses, is provided in the following sections. A table of eligible uses for each funding source is included in the Appendix, **Section 6.0**. Potential funding sources for bicycle and pedestrian projects that could support transit are also included

Figure 26: Potential Grant Opportunities for Transit in Georgia

Potential Transit Funding Sources for Rural and/or Urban Systems

Federal FTA Competitive Grants

- Access and Mobility Partnership Grants
- Better Utilizing Investments to Leverage Development (BUILD) Grants
- Capital Investment Grants – 5309
- Commuter Rail Positive Train Control Grants
- Grants for Buses and Bus Facilities Program
- Human Trafficking Awareness and Public Safety Initiative
- Integrated Mobility Innovation (IMI)
- Low and No-Emission Component Assessment Program (LoNo-CAP)
- Low or No Emission Vehicle Program - 5339(c)
- Mobility on Demand (MOD) Sandbox Demonstration Program – 5312
- Passenger Ferry Grant Program - Section 5307
- Pilot Program for Expedited Project Delivery - 3005(b)
- Pilot Program for Transit-Oriented Development Planning – Section 20005(b)
- Public Transportation Innovation – 5312
- Public Transportation on Indian Reservations Program; Tribal Transit Program
- Rural Opportunities to Use Transportation for Economic Success (ROUTES)
- Safety Research and Demonstration (SRD) Program
- Transit Cooperative Research Program - 5312(i)
- Zero Emission Research Opportunity (ZERO)

Other Federal Competitive Grants

- Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) (FHWA)
- Accelerated Innovation Deployment (AID) Demonstration (FHWA)
- Automated Driving Systems (ADS) Grant (FHWA)
- Senior Corps RSVP Grants (Corp. for National & Community Service)

State

- General Fund
- Bonds (e.g., 2015 Go! Transit Capital Program)
- Hotel Fee (2015 TFA)
- Heavy Vehicle Fee (2015 TFA)

Federal FTA Formula Funds

- Appalachian Development Public Transportation Assistance Program (ADPTA)
- Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310;
- Formula Grants for Rural Areas – 5311
- Grants for Buses and Bus Facilities Formula Program - 5339(a);
- Human Resources & Training - 5314 (b);
- **Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning - 5303, 5304,** 5305;
- Public Transportation Emergency Relief Program – 5324;
- **Rural Transportation Assistance Program (RTAP) - 5311(b)(3);**
- State of Good Repair Grants – 5337;
- Technical Assistance & Standards Development - 5314(a);
- Tribal Transit Formula Grants - 5311(c)(2)(B);
- **Urbanized Area Formula Grants – 5307**

Federal FHWA Formula Funds

- Highway Safety Improvement Program (HSIP)
- National Highway Performance Program - 23 USC 119

Federal Flexible Funding Formula Programs

- Congestion Mitigation and Air Quality Program - 23 USC 149;
- Surface Transportation Block Grant Program - 23 USC 133
- Transporation Alternatives Program
- Transportation, Community, and System Preservation
- Toll or Transportation Development Credits

Local

- Sales Tax (e.g., TSPLOST)
- Gas Tax
- General Funds
- CIDs
- Hotel-Motel Excise Tax
- Private/Community Partnerships (ex. Hospitals, Farmers Markets)

4.1.1 FTA Competitive Grants

The following is a summary of the FTA Competitive Grants available for transit capital and/or operations, as noted in **Figure 26.**[12]

- **Access and Mobility Partnership Grants** – provides funding to support innovative capital projects for the transportation disadvantaged that will improve the coordination of transportation services and non-emergency medical transportation services.
- **Capital Investment Grants (Section 5309)** – provides funding through a multi-year competitive process for large transit capital investments including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit projects.
- **Commuter Rail Positive Train Control Grants** – provides funding to states, local governments, and transit agencies that operate commuter rail systems to install positive train control systems required under 49 U.S.C. 20157 (Implementation of positive train control systems).
- **Grants for Buses and Bus Facilities Program** (Section 5339(b)) – provides funding to states and transit agencies to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. The competitive allocation provides funding for major improvements to bus transit systems that would not be achievable through formula allocations.
- **Human Trafficking Awareness and Public Safety Initiative** – a public safety initiative that supports the Department of Transportation's (DOT) *Transportation Leaders Against Human Trafficking* initiative through transit-focused industry engagement, education, public awareness and outreach, and research and technical assistance to combat human trafficking in transit. The program supports FTA's operator assault and crime prevention efforts and aims to maximize the transit industry's collective impact to address human trafficking and other public safety concerns.
- **Integrated Mobility Innovation (IMI)** – funds projects that demonstrate innovative and effective practices, partnerships, and technologies to enhance public transportation effectiveness, increase efficiency, expand quality, promote safety, and improve the traveler experience.
- **Low and No-Emission Component Assessment Program (LoNo)** – provides funding for testing and assessing voluntarily submitted LoNo components for transit buses, publishing the results of LoNo component assessments, and preparing an annual report to Congress summarizing the results of the component assessments.
- **Low or No Emission Vehicle Program (Section 5339(c))** – provides funding to states and transit agencies to purchase or lease low or no emission transit buses and related equipment, or to lease, construct, or rehabilitate facilities to support low or no emission transit buses. The program provides funding to support the wider deployment of advanced propulsion technologies within the nation's transit fleet. Under the FAST Act, $55 million per year is available until fiscal year 2020.
- **Mobility on Demand (MOD) Sandbox Demonstration Program (Section 5312)** – provides funding for projects that promote innovative business models to deliver high

quality, seamless and equitable mobility options for all travelers.

- **Passenger Ferry Grant Program (Section 5307)** – provides competitive funding to public ferry systems in urbanized areas.
- **Pilot Program for Expedited Project Delivery (Section 3005(b))** – allows FTA to select up to eight capital transit projects for expedited grant awards.
- **Pilot Program for Transit-Oriented Development Planning (Section 20005(b))** – provides funding to local communities to integrate land use and transportation planning with a transit capital investment that will seek funding through the Capital Investment Grant (CIG) Program.
- **Public Transportation Innovation (Section 5312)** – provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers.
- **Public Transportation on Indian Reservations Program: Tribal Transit Program** – provides federally recognized tribes with funding for capital, operating, planning, and administrative expenses for public transit projects that meet the growing needs of rural tribal communities.
- **Rural Opportunities to Use Transportation for Economic Success (ROUTES)** - will analyze USDOT's discretionary funding and financing opportunities to ensure nationwide outcomes for rural communities' transportation infrastructure. The Department will engage rural transportation stakeholders at events over the coming year to educate project sponsors about the funding and finance opportunities at DOT, as well as to receive their feedback.
- **Safety Research and Demonstration (SRD) Program** – provides technical and financial support for transit agencies to pursue innovative approaches to eliminate or mitigate safety hazards. The program focuses on demonstration of technologies and safer designs.
- **Transit Cooperative Research Program (Section 5312(i))** – develops near-term, practical solutions such as best practices, transit security guidelines, testing prototypes, and new planning and management tools.
- **Zero Emission Research Opportunity (ZERO)** – provides funding to conduct research, demonstrations, testing, and evaluation of zero-emission and related technology for public transportation applications.

4.1.2 FTA Formula Funds

The following is a summary of the FTA Formula Grants available for transit capital and/or operations, as noted in **Figure 26.**[13]

- **Enhanced Mobility of Seniors & Individuals with Disabilities (Section 5310)** – provides funding to states for the purpose of assisting private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities.
- **Formula Grants for Rural Areas (Section 5311)** – provides capital, planning, and operating assistance to states 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.

- **Appalachian Development Public Transportation Assistance Program (ADPTA)** - created under MAP‐21 and perpetuated through the FAST Act, is funded with a portion of the Section 5311 program to provide additional funding to states in the Appalachian region. FTA apportions the funds to GDOT for purposes eligible under Section 5311; including capital, operating, planning, and reverse commute projects along with administrative costs.
- The following Georgia counties are eligible for ADPTA funding: Banks, Barrow, Bartow, Carroll, Catoosa, Chattooga, Cherokee, Dade, Dawson, Douglas, Elbert, Fannin, Floyd, Forsyth, Franklin, Gilmer, Gordon, Gwinnett, Habersham, Hall, Haralson, Hart, Heard, Jackson, Lumpkin, Madison, Murray, Paulding, Pickens, Polk, Rabun, Stephens, Towns, Union, Walker, White, and Whitfield.
- **Grants for Buses and Bus Facilities Formula Program (Section 5339(a))** – provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.
- **Human Resources & Training (Section 5314(b))** – provides for grants or contracts for human resource and workforce development programs as they apply to public transportation activities.
- **Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning (Sections 5303, 5304, and 5305)** – provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs reflecting transportation investment priorities.
- **Public Transportation Emergency Relief Program (Section 5324)** – helps states and public transportation systems pay for protecting, repairing, and/or replacing equipment and facilities that may suffer or have suffered serious damage as a result of an emergency, including natural disasters such as floods, hurricanes, and tornadoes. It provides authorization for Section 5307 and 5311 funds to be used for disaster relief in response to a declared disaster.
- **Rural Transportation Assistance Program (RTAP – Section 5311(b)(3))** – provides funding to states for developing training, technical assistance, research, and related support services in rural areas. The program also includes a national program that provides information and materials for use by local operators and state administering agencies and supports research and technical assistance projects of national interest.
- **State of Good Repair Grants (Section 5337)** – provides capital assistance for maintenance, replacement, and rehabilitation projects of existing high-intensity fixed guideway and high-intensity motorbus systems to maintain a SGR. Additionally, SGR grants are

eligible for developing and implementing Transit Asset Management plans.

- **Technical Assistance & Standards Development (Section 5314(a))** – provides funding for technical assistance programs and activities that improve the management and delivery of public transportation and development of the transit industry workforce.
- **Tribal Transit Formula Grants (Section 5311(c)(2)(B))** – provides funding to federally recognized Indian tribes to provide public transportation services on and around Indian reservations or tribal land in rural areas.
- **Urbanized Area Formula Grants (Section 5307)** – provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances.

4.1.3 Federal FHWA Competitive Funds

The following is a summary of the FHWA Competitive Grants available for transit capital and/or operations and/or transit supporting improvements, as noted in **Figure 26**.

- **Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD)** – provides funding for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment.[14]
- **Accelerated Innovation Deployment (AID) Demonstration (FHWA)** – provides funding as an incentive for eligible entities to accelerate the implementation and adoption of innovation in highway transportation. The AID Demonstration program is one initiative under the Technology and Innovation Deployment Program (TIDP) approach providing funding and other resources to offset the risk of trying an innovation.[15]
- **Automated Driving Systems (ADS) Grant**– the ADS Demonstration Grants Program – Public Law 115- 141, Division L, Title I – appropriated funding for a "highly automated vehicle research and development program" to fund planning, direct research, and demonstration grants for Automated Driving Systems and other driving automation systems and technologies.[16]

4.1.4 Federal FHWA Formula Funds

The following is a summary of the FHWA Formula Grants available for transit capital and/or operations and/or transit supporting improvements, as noted in **Figure 26**.

- **Highway Safety Improvement Program (HSIP)** – provides funding to help achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. It requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.[17] Funding could be used to improve pedestrian and bike facilities connecting to transit.

- **National Highway Performance Program - 23 USC 119** – provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.[18] This program could be used to build dedicated managed lanes that are accessible to transit vehicles.

4.1.5 Federal Flexible Funding Formula Programs

The following are flexible funding sources that can be used for transit.[19]

- **Congestion Mitigation and Air Quality Program (CMAQ) - 23 USC 149** – provides funding to areas in nonattainment areas or maintenance for ozone, carbon monoxide, and/or particulate matter. States that have no nonattainment or maintenance areas still receive a minimum apportionment of CMAQ funding for either air quality projects or other elements of flexible spending. Funds may be used for any transit capital expenditures otherwise eligible for FTA funding if they have an air quality benefit.
- **Surface Transportation Block Grant Program - 23 USC 133** - provides funding that may be used by states and localities for a wide range of projects to preserve and improve the conditions and performance of surface transportation, including highway, transit, intercity bus, bicycle, and pedestrian projects.
- **Transportation, Community, and System Preservation (TCSP)** – includes research and grants to investigate the relationships between transportation, community, and system preservation plans and practices and identify private sector-based initiatives to improve such relationships.
- **Transportation Alternatives Program (TAP)** – as a set-aside of the Surface Transportation Block Grant Program, this program funds pedestrian and bicycle facilities, projects that improve non-driver access, safe routes to schools, and other projects that enchance mobility through other modes besides single-occupancy vehicles.
- **Toll or Transportation Development Credits** – allows states or regions that invest toll revenue into transportation infrastructure to use these dollars as "soft match" toward a project's non-federal share, reducing the amount of local funding needed.

4.1.6 Other Federal Competitive Grants

Other Federal Competitive Grants available for transit and/or transit-supportive projects are summarized below:

- **Better Utilizing Investments to Leverage Development (BUILD) Grants** – provides funding for investments in transportation infrastructure, including transit.
- **Senior Corps Retired and Senior Volunteer Program (RSVP) Grants** (Corp. for National & Community Service) – the mission of the Corporation for National and Community Service (CNCS) is to improve lives, strengthen communities, and foster civic engagement through service and volunteering. Healthy futures are one of the goals of the RSVP grant, which includes

assisting with meeting health needs within communities including: access to care, aging in place, and childhood obesity. Activities may include supporting the ability of adults who are homebound or older adults and individuals with disabilities, to live independently and assisting individuals with access to food resources. Awards range from $40,000 to $470,000.[20]

- **Transportation's Federal Motor Carrier Safety Administration (FMCSA) - High Priority (HP) Program Grants** – provides funding for two grant programs: HP-Commercial Motor Vehicle (HP-CMV) grants and HP-Innovative Technology Deployment (HP-ITD) grants. HP-CMV grants are designed to provide financial assistance to state commercial vehicle safety efforts, while HP-ITD grants provide financial assistance to advance the technological capability and promote the deployment of intelligent transportation system applications for CMV operations.[21]
- **FMCSA - Commercial Driver's License Program Implementation (CDLPI) Grants** – provides financial assistance to states to achieve compliance with FMCSA regulations concerning driver's license standards and programs. The goal of the national CDL program is to reduce the number and severity of commercial motor vehicle crashes in the United States by requiring states to conduct knowledge and skills testing before issuing a CDL, maintain a complete and accurate driver history record for anyone who obtains a CDL, and impose appropriate disqualifications against any driver who violates certain offenses. This effort is directly linked to FMCSA's focus on reducing crashes, injuries, and fatalities involving large trucks and buses.[22]
- **Transportation's Federal Motor Carrier Safety Administration (FMCSA) - Commercial Motor Vehicle Operator Safety Training Grants** – awards grants to a variety of educational institutions that provide commercial truck and bus driving training, including accredited public or private colleges, universities, vocational-technical schools, post-secondary educational institutions, truck driver training schools, associations, and state and local governments, including federally recognized Native American tribal governments.[23]
- **U.S. Department of Agriculture (USDA) Rural Business-Cooperative Service (RBCS) Rural Business Development Grant (RBDG) Program To Provide Technical Assistance for Rural Transportation Systems** – provides Technical Assistance for Rural Transportation (RT) systems and for RT systems to Federally Recognized Native American Tribes (FRNAT) for the purpose of improving the economic conditions of Rural Areas.[24]

4.1.7 State Funding Sources

State funding sources used for transit throughout the country are listed in the following **Section 4.2**. Current and recent state funding sources for transit in Georgia include general funds and the $75 million in General Obligation bond funds designated by the Georgia General Assembly for the Go! Transit Capital Program. Administered by the State Road and Tollway Authority (SRTA), this competitive funding program was designed to address some of the critical capital-related public transportation needs throughout the state. The program was open to existing public transportation operators as well as local, regional, and state governmental units, including CIDs. Grants were awarded in June 2016 to 11 transit capital projects across the state, with project costs ranging from $400,000 for a park-and-ride lot redesign and upgrades to $30 million for audio-visual information system upgrades at MARTA's 38 rail stations.[25]

GDOT's annual funding for transit is approximately $3 million per year and comes from the state's general fund, rather than from a dedicated, transit-specific funding source.

Additionally, the state's 2015 Transportation Funding Act included a $5 per night hotel fee and special fees on heavy vehicles, both of which must be used for transportation purposes, which can include transit.[26] [27] [28]

4.1.8 Local Funding Sources & Opportunities

Local sources of transit funding in Georgia primarily include local sales taxes or Transportation Special Local Option Sales Taxes (TSPLOSTs), and city or county general funds.[29] Community Improvement District (CID) funding, hotel/motel excise tax, and public-private partnerships are additional potential local sources of funding and resources for transit.

According to AASHTO's *Survey of State Funding for Public Transportation – Final Report 2019,* city and county general fund allocation were the most frequently reported local funding source, used in at least 28 states. 18 state DOTs reported that local sales taxes were used to fund transit, while 17 indicated local property taxes, and 11 mentioned other local sources such as local gas taxes, rental car fees, and income taxes.

4.2 State Transit Funding Sources Utilized in Other States

According to the same 2019 AASHTO report, all but four states provide some amount of state funding for public transit. The following is an inventory of current state transit revenue sources in place today across the country:

- General funds;
- Bond proceeds;
- Gas tax;
- State transportation fund;
- Vehicle registration / license / title;
- General sales tax;
- Trust fund;
- Motor vehicle / rental car sales tax;
- Lottery;
- Rideshare Tax / Surcharge;
- Toll Revenue;
- Corporate Franchise Tax / Fee;
- Corporate Income Taxes;

- Casino Taxes; and
- Congestion Pricing.

Further detail on each is provided below. A table from the report listing each state's FY 2017 state funding sources for transit is provided in the appendix of this report with permission from AASHTO.[30]

4.2.1 General Funds

Description: In FY 2017, 19 states, including Georgia, reported using general funds as a funding source for public transportation funding, making it one of the most widely used state funding sources for public transit.

Other States: Alaska, Colorado, District of Columbia, **Georgia**, Idaho, Illinois, Indiana, Maryland, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, Ohio, Oklahoma, Oregon, Rhode Island, West Virginia.

4.2.2 Bond Proceeds

Description: In FY 2017, 12 states, including Georgia, reported using bond proceeds as a funding source for public transportation funding. FY 2017 was the year that Georgia implemented the $75 million, bond-funded Go! Transit Capital Program.

Other States: California, Connecticut, **Georgia**, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, Pennsylvania, Rhode Island, Virginia.

4.2.3 Gas Tax

Description: Gasoline taxes are another common state funding source for public transportation, with 12 states using this funding source in FY 2017. In Georgia, the state constitution requires revenue from the state's motor fuel tax to be spent exclusively on public roads and bridges. In Florida, state statute requires 15% of the State Transportation Trust Fund, which is funded largely by the state motor fuel tax, to be used for public transportation.[31] In South Carolina, 100% of state funding for transit ($6.5 M in FY 17) comes from ¼ cent of the South Carolina Motor Fuel User Fee.[32]

Other States: Florida, Illinois, Louisiana, Maryland, Michigan, Montana, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Virginia.

4.2.4 State Transportation Fund

Description: In FY 2017, 11 states, reported using state transportation fund proceeds as a funding source for public transportation funding. States use various revenue sources for their state transportation funds, and in many cases, they use multiple funding sources. In California, the State Transit Assistance (STA) fund is derived from the statewide sales tax on diesel fuel.[33] Missouri provides state-funded operating assistance to transit providers from the general revenue fund and/or state transportation fund program.[34] In North Carolina, 98% ($92 million) of the state transit funding comes from the state transportation fund, which includes multiple funding sources.

Other States: California, Illinois, Kentucky, Massachusetts, Missouri, New Mexico, North Carolina, Rhode Island, Vermont, Washington, Wisconsin.

4.2.5 Vehicle Registration / License / Title

Description: In FY 2017, seven states used vehicle registration, license, and or title fees for transit funding. Colorado generated $15 million for transit in FY 2017 from motor vehicle registration fees, and Iowa generated $14 million for transit from registration fees collected on vehicle sales.

Other States: Colorado, Florida, Iowa, Maryland, Michigan, North Dakota, Pennsylvania.

4.2.6 General Sales Tax

Description: General sales taxes are widely used to fund transit at the local and state level. Statewide sales taxes revenues are used for transit funding in six states.

Other States: California, Illinois, Indiana, Maryland, Massachusetts, Pennsylvania.

4.2.7 Trust Fund

Description: In FY 2017, three states reported having dedicated trust funds for public transportation funding.

Other States: Delaware, New York, Virginia

4.2.8 Motor Vehicle / Rental Car Sales Tax

Description: In FY 2017, two states used taxes on motor vehicle rental or sales to fund public transportation.

Other States: Michigan, Minnesota

4.2.9 Lottery

Description: In FY 2017, two states used lottery proceeds to fund public transportation.

Other States: Arizona and Pennsylvania

4.2.10 Toll Revenue

Description: Some states use toll revenue for transit funding. For example, Delaware's State Transportation Trust Fund, a portion of which funds transit, receives funding from a variety of sources, including bridge tolls. In FY 2017, New Jersey generated $6.8 million in funding for transit from its Toll Authority, New Hampshire generated about $1.2 million in transit funding from toll revenues, and Pennsylvania's Public Transportation Trust Fund received $420 million in funding from toll collections.[35]

Other States: Delaware, New Hampshire, New Jersey, Pennsylvania

4.2.11 Ride-Hailing Tax / Surcharge

Description: Taxes and fees on ride-hailing services, also known as Transportation Network Companies (TNCs), are possible sources of transit funding. These services have expanded rapidly in recent years, and cities and states are currently deciding how best to regulate and tax them. One approach is to issue a per-ride tax or fee, which could be dedicated in part or in full to transit.

As of 2018, at least 12 states levied taxes or fees on TNCs, some of which dedicated a portion to transit or to funds that can be used for transit.[36] Similarly, New York has a per-trip surcharge on medallion taxi service.[37]

Other States that Charge Taxes or Fees on TNCs (not all dedicated to transit): Alabama, California, Connecticut, Hawaii, Maryland, Massachusetts, Nevada, New York, Rhode Island, South Carolina, South Dakota, Wyoming.

4.2.12 Corporate Franchise Tax / Fee

Description: In FY 2017, Arkansas generated $356,000 in transit funding from the state's Corporate Franchise Fee. In New York, the state's Mass Transit Operating Assistance Fund receives funding from a variety of sources, including a portion of the state's Corporate Franchise Taxes collected in the metropolitan transportation commuter district only.[38]

Other States: Arkansas, New York

4.2.13 Corporate Income Taxes

Description: In FY 2017, Maryland generated over $38 million in state transit funding from its corporate income tax.[39]

Other States: Maryland

4.2.14 Casino Taxes

Description: Casinos are not currently permitted in Georgia. In some states that do allow casinos, a portion of the taxes and fees levied on casinos are dedicated to transit from the outset.

In FY 2017, Iowa generated $1.5 million in transit funding from proceeds from its tax on gambling casinos, and New Jersey generated $12.9 million for transit from its Casino Fund.[40]

Other States: Iowa, New Jersey

4.2.15 Congestion Pricing

Description: New York's FY 2020 Enacted Budget included congestion pricing for vehicles entering the Central Business District of Manhattan with the toll revenue dedicated to transit funding. The Central Business District Tolling program will begin in 2021 and be the first such program in the U.S. The state budget requires the program to generate $1 billion per year, which will be placed in a designated Metropolitan Transportation Authority (MTA) "lockbox" to ensure that 100% of the revenue goes to the MTA capital budget. A Traffic Mobility Review Board will advise on tolls, exemptions, and credits to ultimately be determined by the Triborough Bridge and Tunnel Authority. Tolls will be variable.[41]

Other States: New York

5.0 Funding Scenarios

This section outlines historical transit funding in Georgia, describes how the potential funding scenarios were developed, what they include, their funding needs or gaps, and overall potential economic impacts for each scenario.

5.1 Historical Transit Funding Levels in Georgia

Historically, transit systems in the State of Georgia have primarily relied on federal formula and competitive grants, local contributions, taxes and fees, and fares or other revenue streams (e.g., advertising) for funding. Cumulatively, these sources provide approximately $1.05 billion annually for public transit services across the state, including $936 million within the ATL region, and $111 million outside the ATL region, and $38.4 million for rural providers.

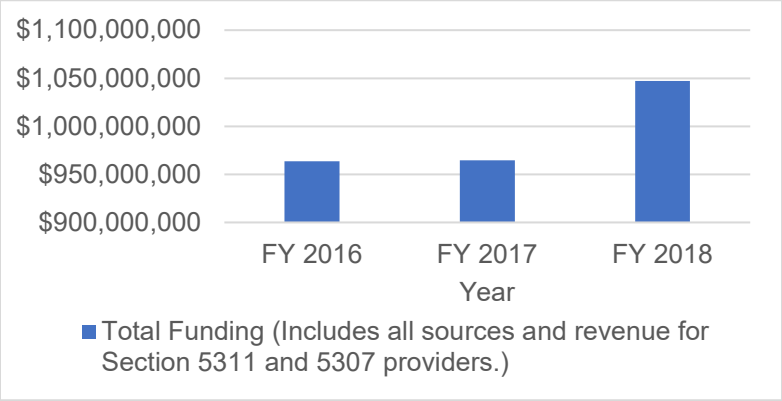

Figure 27: Historical Transit Funding Levels in Georgia[42]

Figure 27 illustrates transit funding levels across Georgia for FY 2016 through FY 2018. For AASHTO's comparison of transit funding levels for all states, see **Figure 40** in **Section 6.3.**

5.2 Economic Benefits of Investing in Transit

Public transportation provides potentially numerous economic impacts, as outlined by the American Public Transportation Association (APTA) in **Figure 28**.[43]

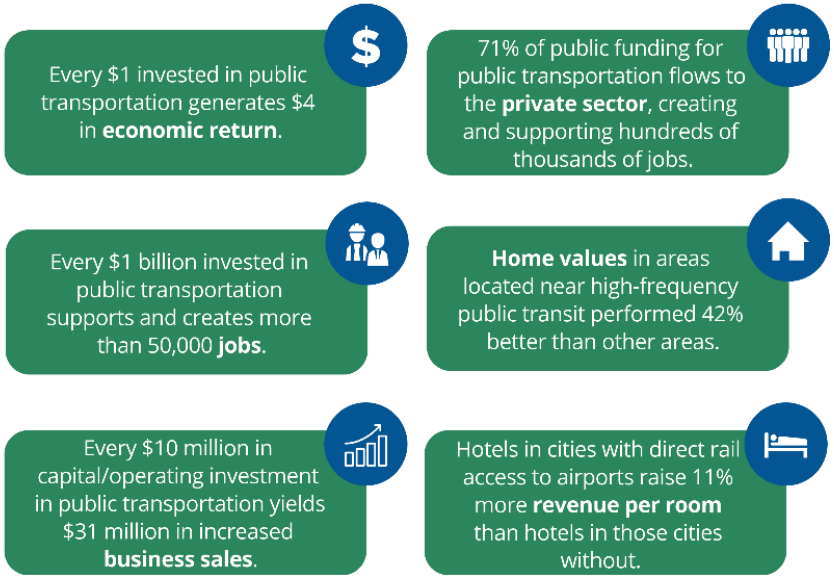

Figure 28: APTA's Transit Return on Investment

5.3 Funding Scenarios

The strategies identified in each of the three categories detailed in **Section 3.0** (Administrative Tools and Guidance, Service Expansion, and Service Enhancements), were used to build four potential funding scenarios. The scenarios range from the Baseline, or current funding situation, to a High-level scenario in which all statewide transit needs are met. The Low and Mid-level scenarios represent situations in which some needs could be met through incremental investment increases.

Input on funding priorities from the TAC and SSC participants directly influenced the mix of strategies applied to each funding scenario. The SWTRP funding scenarios are intended to be used for informational purposes, to demonstrate what could be achieved with various levels of new investment. Ultimately, the specific enhancement and expansion strategies included in each scenario would require support from individual providers. The four scenarios are described below and shown in **Figure 29.**

- **Baseline:** Assumes current funding levels;
- **Low-Level Scenario:** Maintains our current transit system and applies the Administrative Tools & Guidance Scenarios + SGR in rural areas + rural service expansion to the 37 counties currently without local transit service;
- **Mid-Level Scenario:** Low-Level Scenario + Urban SGR + Rural and Urban Service Enhancements + Rural Service Expansion + a portion of Urban Service Expansion (30%) including cities currently without transit; and
- **High-Level Scenario:** Meets full statewide needs.

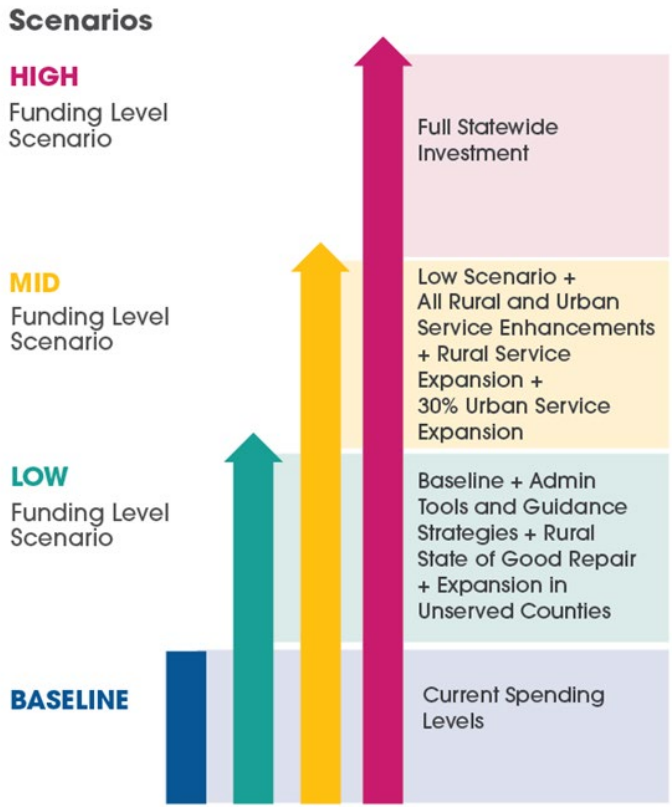

Figure 29: Investment Scenario Descriptions

Scenarios were calculated statewide with specific summaries for impacts to rural providers and agencies outside the ATL region.

Each investment scenario is described in further detail below, including the total required investment for implementation, funding needs or gaps, and the overall potential economic impacts. Additionally, projected benefits of each scenario that can be expected for the types of improvements being made and the level of spending are included.

5.3.1 Baseline Level Scenario

Description: The Baseline represents a "No Build" scenario where no new services or improvements are implemented beyond current transit operations. Current funding levels do not fully cover the cost to maintain SGR for many systems. Rising labor and inflationary costs are expected to reduce future purchasing power of the existing level of annual funding. Therefore, maintaining current funding levels into the future would likely result in service cuts due to lack of funding. Service levels would likely decline as would the benefits of existing transit service.

Currently, the baseline annual funding level is estimated to generate an annual $4.3 billion in economic return, 53,000 jobs, and $3.3 billion in business sales. As the value of that baseline funding amount decreases over time with inflation and rising costs, the level of transit service provided is expected to decline along with the value of these benefits.

Scenario Funding Level: The Baseline scenario is based on current spending levels. The total required investment to implement this scenario is $1.05 billion per year. This amount represents the combined FY 2018 funding level for all of Georgia's rural and urban public transit systems, including $936 million within the ATL, and $111 million for providers outside the ATL. **Table 4** illustrates the funding breakdown by source.

Table 4: FY 2018 Funding of Public Transit in Georgia

Funding Source	FY 2018
Federal	$180 million
State	$27 million
Local	$113 million
Taxes and Fees by Transit Agencies	$505 million
Fares and Other Directly Generated Revenue	$223 million
Total	**$1,047 million**

Funding Needs: The Baseline scenario includes no additional funding and assumes current transit funding levels are maintained.

5.3.2 Low-Level Scenario

Description: The Low-Level Scenario maintains the current baseline funding level for transit systems in Georgia, and adds additional resources to expand rural service into the 37 counties currently without local public transit (**Section 3.2.1.1**), address SGR needs outside the ATL (**Section 3.3.2.1**), and implement the 15 Administrative Tools and Guidance strategies (**Section 3.1**).

Implementation of these strategies would ensure full rural transit service coverage statewide and that transit assets outside the ATL are maintained fully within the SGR. The 15 Administrative Tools and Guidance strategies will provide agencies with planning support, transit program delivery support, transit workforce development, and new programs to support mobility management and reliable service.

The strategies included in the Low-Level Scenario are illustrated in **Figure 30.**

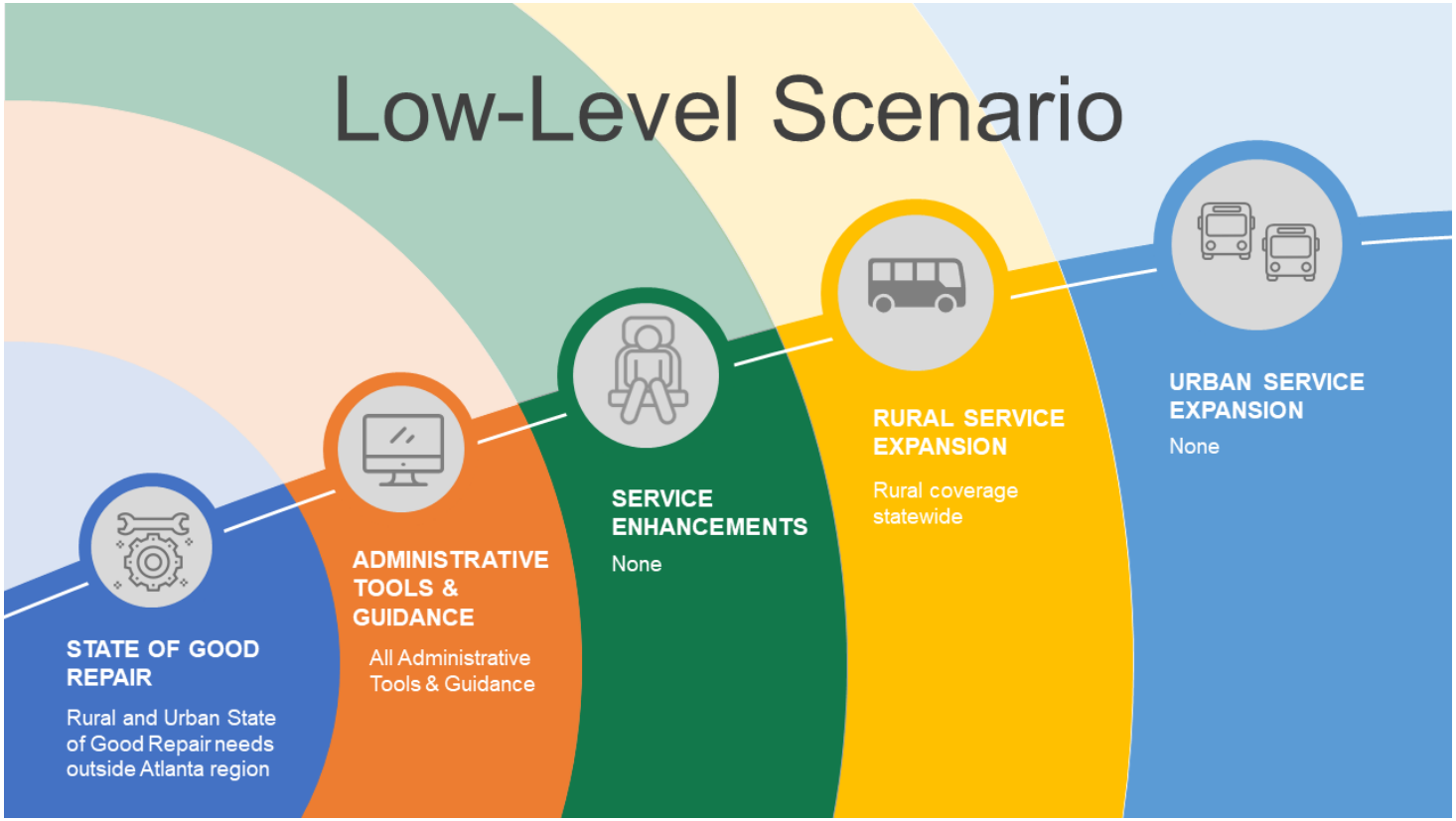

Figure 30. Low-Level Scenario

Scenario Funding Level: The total statewide funding needed for the Low-Level Scenario is $1.1 billion per year. This includes just over $1 billion for Baseline operations and an additional $55.4 million to implement the strategies. Strategies implemented under this scenario include $3.3 million in Administrative Tools and Guidance, $3.9 million in Rural SGR, and $31.3 million for rural service expansion. These figures are shown in **Table 5**.

Table 5: Low-Level Scenario Investment Levels - Statewide

Investment Strategy	Full Investment Required to Implement	Percent Included in Scenario	Low Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	18%	$31.3M
Service Expansion - Urban	$1B	0%	$-
Service Enhancement - Rural	$23.9M	16%	$3.9M
Service Enhancement - Urban	$491.6M	3%	$16.9
Total	**$1.7B**		**$55.4M**

Table 6 illustrates the same information for programs outside of the Atlanta region or with transit funding administered by GDOT.

Table 6: Low-Level Scenario Investment Levels - Outside Atlanta Region

Investment Strategy	Full Investment Required to Implement	Percent Included in Scenario	Low Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	18%	$31.3M
Service Expansion - Urban	$242.9M	0%	$-
Service Enhancement - Rural	$23.6M	16%	$3.7M
Service Enhancement - Urban	$65.8M	26%	$16.9
Total	**$508.2M**		**$55.1M**

Funding Needs: An additional $55.4 million investment is needed on top of the Baseline scenario to implement the Low-Level Scenario strategies.

Potential Economic Impacts: Potential economic impacts associated with this level of additional annual investment in transit include $208.3 million more in economic return, 2,604 new jobs, and $161.4 million in increased business sales statewide, as illustrated in **Figure 31.**

Virtually all of these impacts would be felt outside the Atlanta region, including $207.3 million more in economic return, 2,591 new jobs, and $160.6 million in increased business cells, as shown in **Figure 32**.

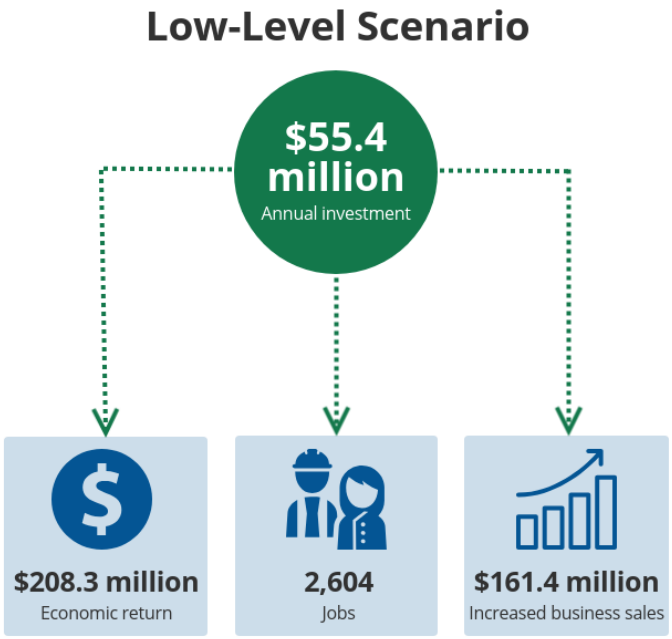

Figure 31: Low-Level Scenario Potential Economic Impacts - Statewide

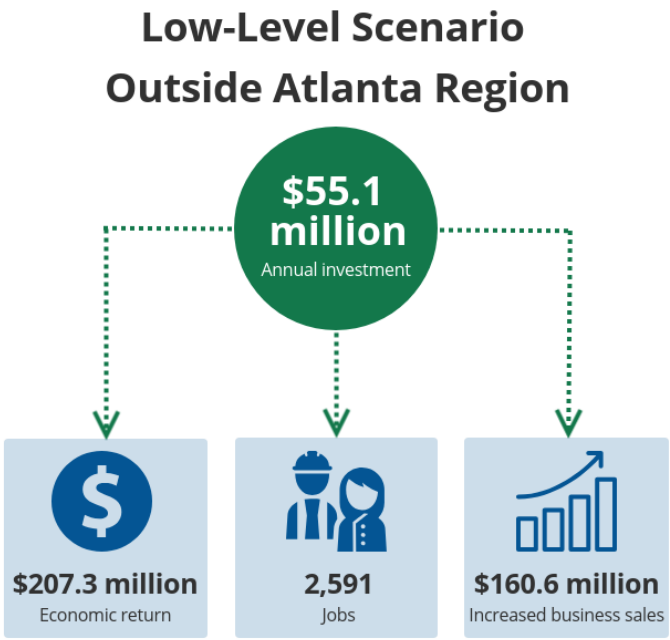

Figure 32: Low-Level Scenario Potential Economic Impacts - Outside Atlanta Region

Performance Measures Impacts:

- Increase trips for employment and education purposes;
- Statewide rural transit service coverage;
- Increase population served (including elderly and disabled, and full rural population);
- Increase rural regional or multicounty system assets;
- Increase DHS coordinated systems;
- Decrease injuries and fatalities;
- Increase counties with Transit Development Plans;
- Increase public-private partnerships;
- Increase agencies with GTFS or Google transit data; and
- Increase agencies with websites and apps.

5.3.3 Mid-Level Scenario

Description: The Mid-Level Scenario includes the Low-Level Scenario plus implementation of all service enhancement strategies, all rural service expansion strategies, and 30% of urban service expansion strategies. This will ensure rural transit service is expanded to statewide coverage and meets the full forecasted trip demand.

The total statewide funding needed for the Mid-Level Scenario is $2.1 billion per year, this includes just over $1 billion for baseline operations and an additional $993.3 million to implement the strategies. $338.3 million would be spent outside the ATL region. This is illustrated in **Figure 33.**

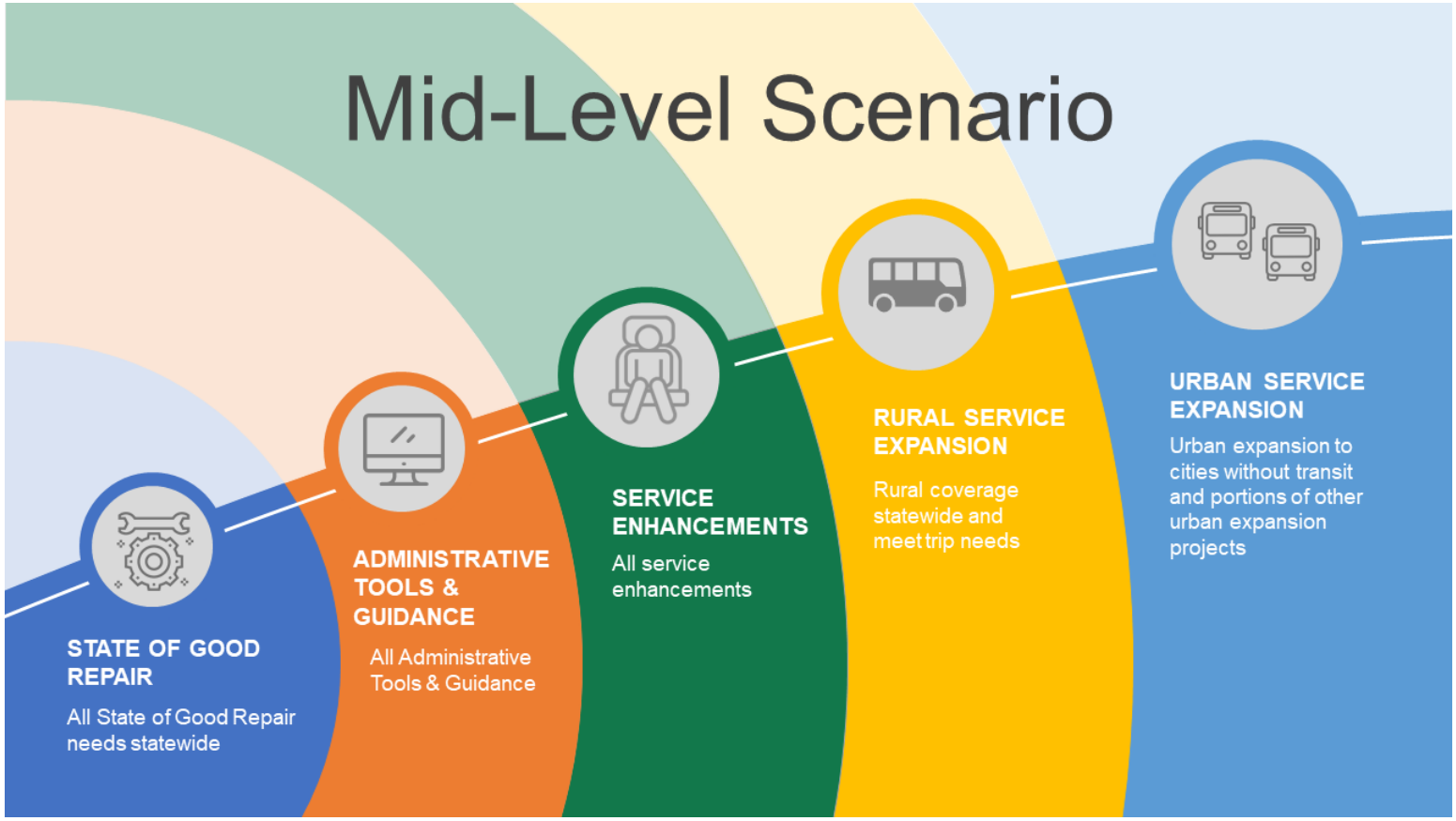

Figure 33: Mid-Level Scenario

The 30% of the urban service expansion strategies implemented would include the six cities currently without service (**Section 3.2.1.2**) at an investment level of $28.2 million, ensuring transit coverage statewide. The remaining expansion strategies would be selected based on the needs and at the discretion of local agencies, whose priorities will vary. This scenario will also all of the urban service ehancement strategies listed in **Section 3.3**.

Scenario Funding Level: As shown in **Table 7**, in addition to baseline funding, the total required investment for this scenario is $993.3 million, which assumes $3.3 million in administrative tools, $515.5 million in service enhancements, $172.7 million in rural service expansion and $301.8 million in urban service expansion.

Table 7: Mid-Level Scenario Invesment Level - Statewide

Investment Strategy	Total Investment Required to Implement	Percent Included in Scenario	Mid-Level Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	100%	$172.7M
Service Expansion - Urban	$1B	30%	$301.8M
Service Enhancement - Rural	$23.9M	100%	$23.9M
Service Enhancement - Urban	$491.6M	100%	$491.6
Total	**$1.7B**		**$993.3M**

Note: Includes Low-Level Scenario plus Rural and Urban Service Enhancement, Rural Service Expansion, and a portion of Urban Service Expansion (30%)

Table 8 details these estimated implementation costs outside the Atlanta region, totally $338.3 million. This includes $172.2 million for rural service expansions and enhancements, and $138.6 million for urban service expansion and enhancements.

Table 8: Mid-Level Scenario Investment Level - Outside Atlanta Region

Investment Strategy	Total Investment Required to Implement	Percent Included in Scenario	Mid-Level Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	100%	$172.7M
Service Expansion - Urban	$242.9M	30%	$72.8M
Service Enhancement - Rural	$23.6M	100%	$23.6M
Service Enhancement - Urban	$65.8M	100%	$65.8M
Total	**$508.2M**		**$338.3M**

Note: Includes Low-Level Scenario plus Rural and Urban Service Enhancement, Rural Service Expansion, and a portion of Urban Service Expansion (30%)

Funding Needs: An additional $993.3 million investment is needed statewide on top of the Baseline scenario to implement the Low-Level Scenario strategies. An additional $338.3 million investment is needed to implement this scenario outside Atlanta.

Potential Economic Impacts: Potential economic impacts associated with this level of additional annual investment in transit include $4.1 billion more in economic return, 49,498 new jobs, and $3.1 billion in increased business sales, as illustrated in **Figure 34**. **Figure 35** demonstrates the same impacts outside Atlanta.

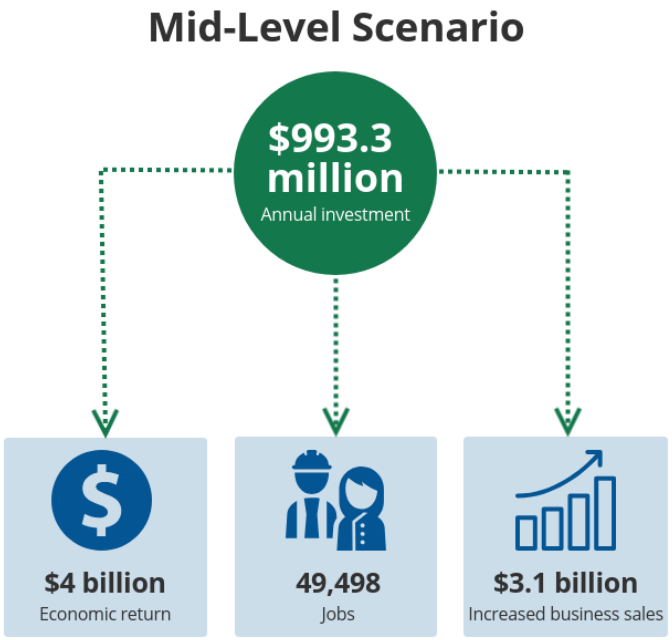

Figure 34: Mid-Level Scenario Potential Economic Impacts - Statewide

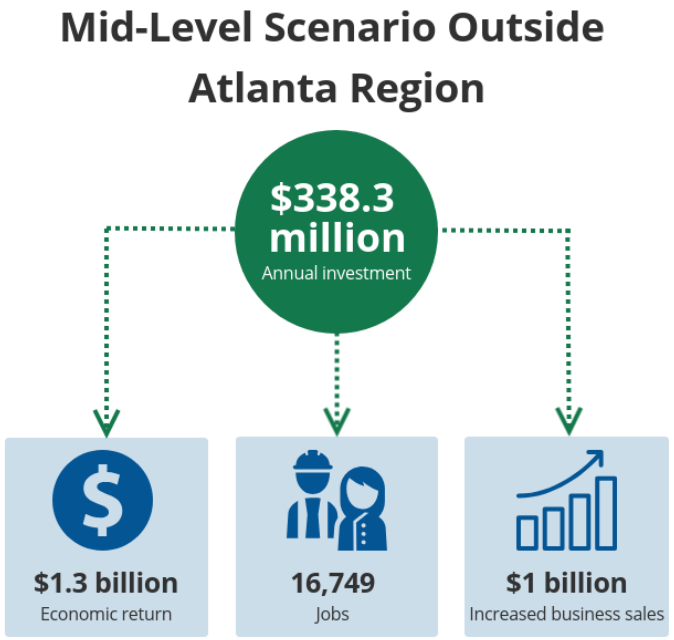

Figure 35: Mid-Level Scenario Potential Economic Impacts - Outside Atlanta Region

Performance Measures Impacts:

- Statewide transit service coverage, including rural and urban systems;
- All Georgians served by transit (including elderly and disabled, and full rural population);
- Fully coordinate transit with HST;
- Increase rural transit providers that cross-service area boundaries;
- Increase multimodal transit centers;
- Increase park and ride lots and total capacity;
- Increase intercity bus stops with local transit service;
- Expand low/no emission vehicle fleet;
- Decrease injuries and fatalities;
- Regional Transit Development Plans statewide;
- Increase trips for employment and education purposes;
- All providers with GTFS or Google transit data; and
- Websites and/or app for all providers.

5.3.4 High-Level Scenario

Description: The High-Level Scenario includes all strategies for all categories statewide.

Under this scenario, all identified transit needs are met throughout the state, as shown in **Figure 36**.

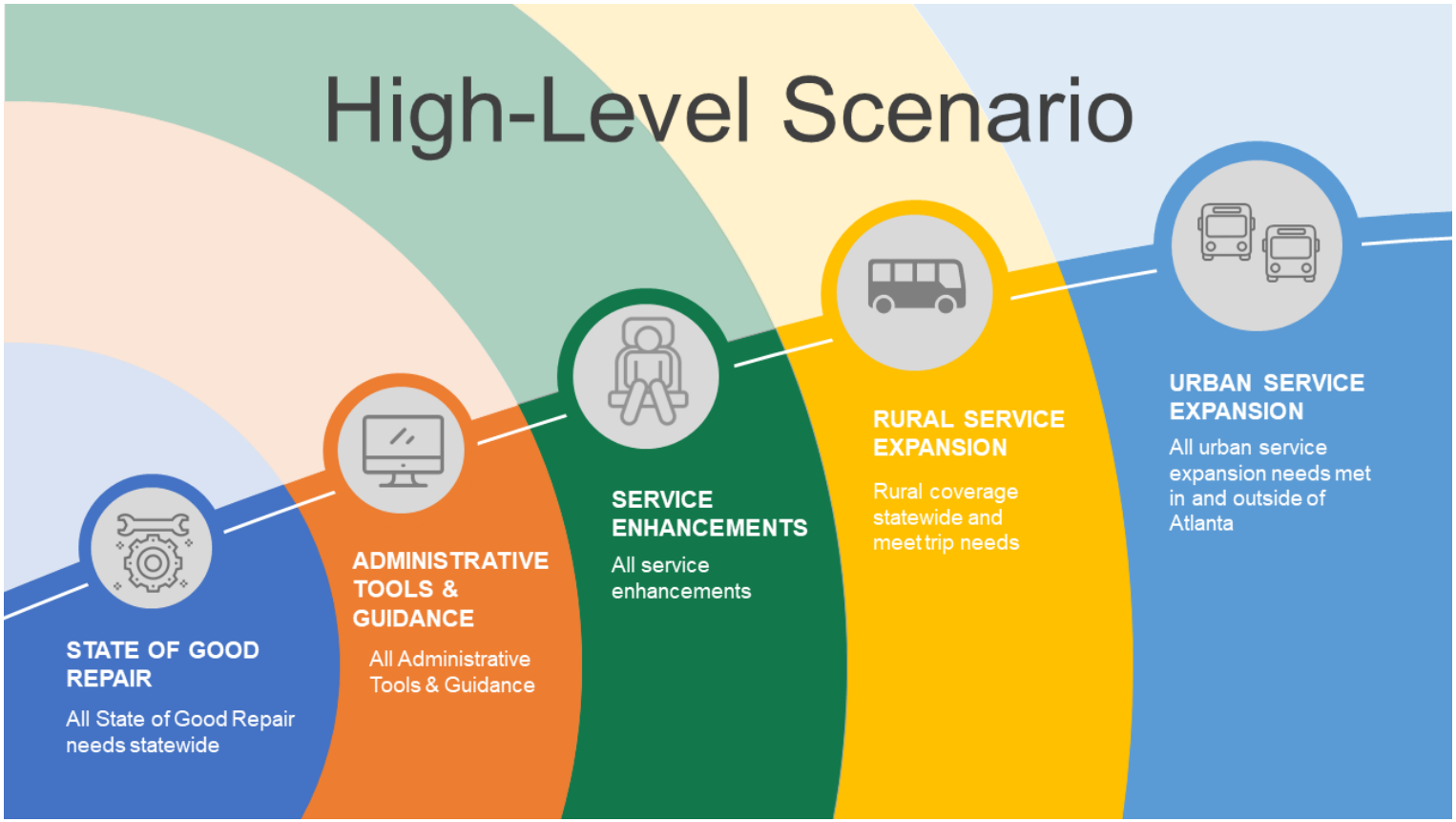

Figure 36: High-Level Scenario

Scenario Funding Level: This scenario represents a total statewide investment level of over $2.7 billion per year, including just over $1 billion in baseline funding and $1.7 billion in additional resources to fully implement all strategies.

As shown in **Table 9**, this scenario assumes $3.3 million in Administrative Tools and Guidance, $515.5 million in Service Enhancements, $172.7 million in Rural Expansion, and $1 billion in Urban Expansion. **Table 10** illustrates the required investment to implement outside the Atlanta region.

Table 9: High-Level Scenario Investment Levels - Statewide

Investment Strategy	Total Investment Required to Implement	Percent Included in Scenario	High Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	100%	$172.7M
Service Expansion - Urban	$1B	100%	$1B
Service Enhancement - Rural	$23.9M	100%	$23.9M
Service Enhancement - Urban	$491.6M	100%	$491.6M
Total	**$1.7B**		**$1.7B**

Note: Includes Mid-Level Scenario plus remaining Urban Service Expansion (70%)

Table 10: High-Level Scenario Additional Cost to Implement – Outside ATL

Investment Strategy	Total Cost to Implement	Percent Included in Scenario	High Scenario Investment Level
Administrative Tools & Guidance	$3.3M	100%	$3.3M
Service Expansion - Rural	$172.7M	100%	$172.7M
Service Expansion - Urban	$242.9M	100%	$242.9M
Service Enhancement - Rural	$23.6M	100%	$23.6M
Service Enhancement - Urban	$65.8M	100%	$65.8M
Total	**$508.2M**		**$508.2M**

Note: Includes Mid-Level Scenario plus remaining Urban Service Expansion (70%)

Funding Needs: Statewide, an investment of approximately $1.7 billion in funding is needed in addition to the Baseline amount of just over $1 billion. Outside the ATL, an investment of $508.2 million is needed to fully meet transit needs.

Potential Economic Impacts: Potential economic impacts associated with this level of additional annual investment in transit include $6.8 billion more in economic return, 84,707 new jobs, and $5.3 billion in increased business sales, as illustrated in **Figure 37**. The benefits for outside Atlanta are shown in **Figure 38**.

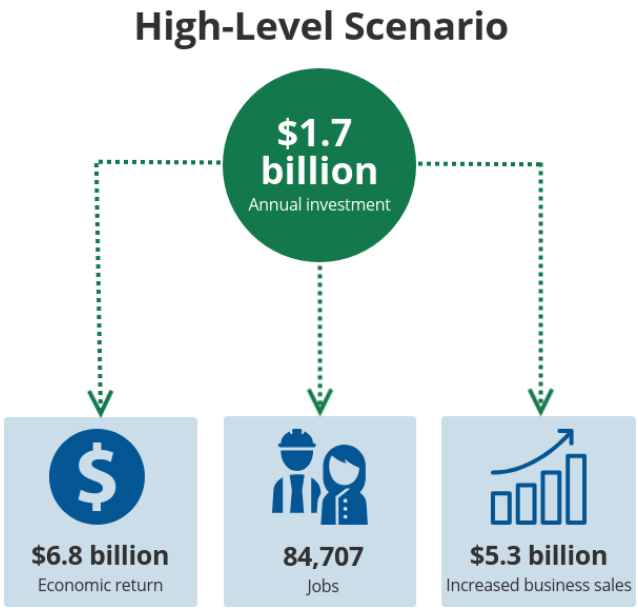

Figure 38: High-Level Scenario Potential Economic Impacts - Statewide

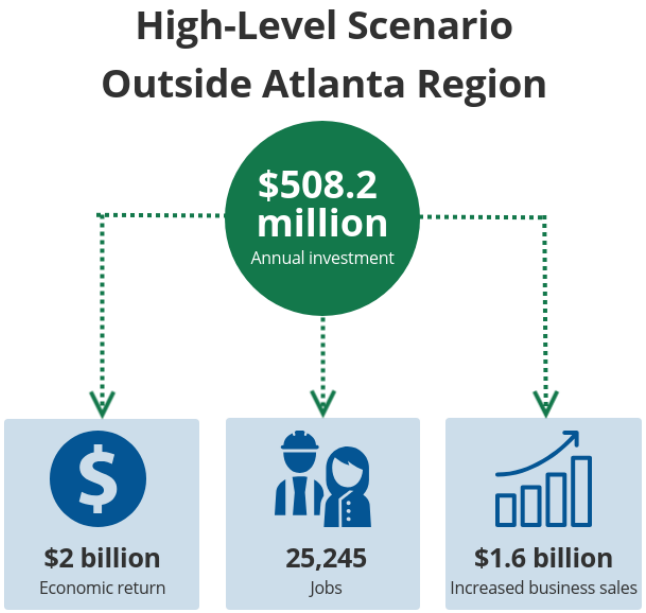

Figure 37: High-Level Scenario Potential Economic Impacts - Outside Atlanta Region

Performance Measures Impacts:

- Statewide transit service coverage, including rural and urban systems;
- All Georgians served by transit (including elderly and disabled, and full rural population);
- Increase rural regional or multicounty system assets;
- Fully coordinated DHS and transit systems;
- All rural transit providers deliver cross-jurisdictional service;
- Increase multimodal transit centers;
- Increase park and ride lots and total capacity;
- Increase intercity bus stops with local transit service;
- Increase dedicated transit facilities;
- Expanded low/no emission vehicle fleet;
- Decrease injuries and fatalities;
- Statewide coverage for Regional Transit Development Plans;
- Increase public-private partnerships;
- Increase trips for employment and education purposes;
- All providers have GTFS data available to third parties; and
- Websites and apps for all providers.

5.4 Funding Scenarios Summary

A comparison of each scenario's required investment, funding needs, and benefits can be found in **Figure 39** for both the entire state and the portion outside the 13-county ATL region.

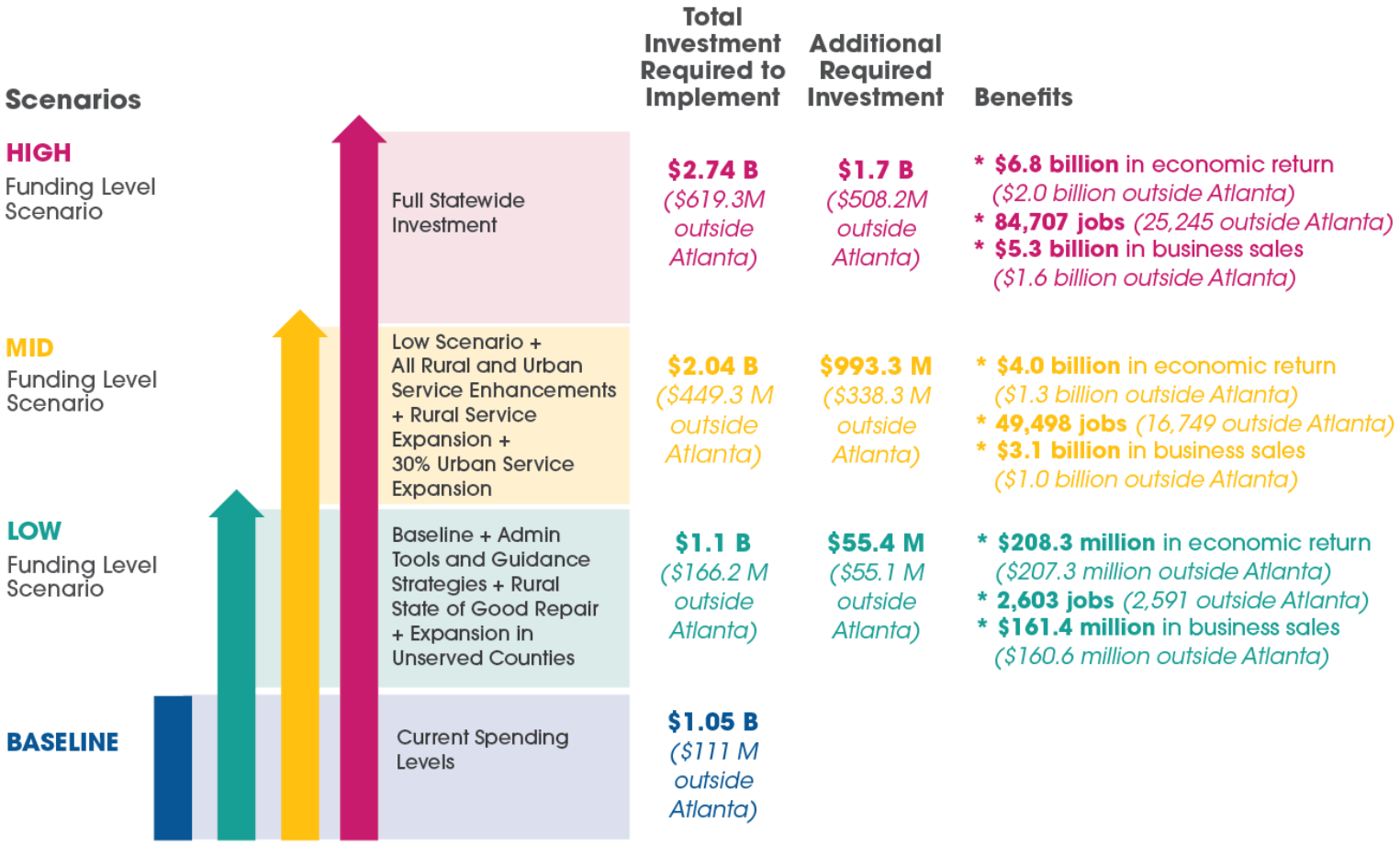

Figure 39: Summary of Strategy Scenario Results

5.5 Conclusions and Next Steps

The *SWTRP Transit Needs Assessment Report* clearly demonstrates a gap in transit need and transit services provided across the state of Georgia. As discussed in **Section 2.0**, needs include expanded transit service coverage and capacity, enhanced service with more collaboration between providers and community partners, and regional transit service.

This *SWTRP Strategies and Funding Scenarios Technical Report* provides strategies for filling those gaps by illustrating various strategy scenarios and funding streams. Using this information, decision-makers can then begin the implementation process and utilize both the *SWTRP Transit Needs Assessment Report* and *Strategies and Funding Scenarios Report* as a blueprint for guidance.

Short of new funding sources to implement the SWTRP's strategies, GDOT, transit agencies, and planning partners can take some interim steps to sustain the momentum of the SWTRP, including:

- Continue to develop regional-level transit development plans (TDPs) that document specific local needs and costs, with emphasis on expanding coverage to unserved counties and coordinating public transit with human services transportation;
- Continue conversations with local or regional governments interested in standing up new service to meet their communities' needs, and encourage partnerships for regional service;
- Leverage existing features of scheduling and dispatching software to enhance the efficiency and operations of rural demand response transit;
- When replacing vehicles, consider branding opportunities, ADA features, security & technology features, and low/no emission vehicle options that meet the needs of local providers;
- Continue to pursue federal discretionary grant opportunities to implement innovative transit enhancements such as: a statewide trip planning application and a regional mobility management program;
- Revisit the performance measures outlined in the SWTRP to document future progress toward statewide transit goals;
- Continue to monitor and participate in the Georgia House Commission on Transit Funding and Governance.

6.0 Appendices

6.1 Strategies Investment Summary Spreadsheet

The *Investment Strategies Technical Report* is supported by a separate Excel document entitled *Strategies Investment Summary*. This workbook includes all backup data and calculations for the Technical Report. Inputs from the *Needs Assessment Report*, such as the quantified needs by county/transit provider and locally identified needs from a review of existing documents and SWTRP Provider Questionnaire are also included.

6.2 Eligible Uses by Funding Source

Section 4.0 in the *Investment Strategies Technical Report* provides an overview of various funding sources that may be available for transit capital, operations, administration, and bicycle and pedestrian accommodations. **Table 11** illustrates which elements of transit are applicable for each of the funding sources.

Table 11: Eligible Use by Funding Source

	Transit		Supporting Improvements			Resource Link
	Capital	Operations	Bicycle	Pedestrian	Other	
Federal						
FTA Competitive						
Access and Mobility Partnership Grants	✓	✓	X	X		https://www.transit.dot.gov/funding/grants/grant-programs/access-and-mobility-partnership-grants
Better Utilizing Investments to Leverage Development (BUILD) Grants (FTA & FHWA)	✓	X	✓	✓		https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/build/114796/fy-2019-Xfo-final-signed.pdf
Capital Investment Grants – 5309	✓	X	X	X		https://www.transit.dot.gov/CIG
Commuter Rail Positive Train Control Grants	✓	X	X	X		https://www.transit.dot.gov/funding/grants/positive-train-control-grants-program
Grants for Buses and Bus Facilities Program	✓	X	X	X		https://www.transit.dot.gov/bus-program
Human Trafficking Awareness and Public Safety Initiative	X	X	X	X		https://www.transit.dot.gov/regulations-and-guidance/safety/human-trafficking-awareness-and-public-safety-initiative
Integrated Mobility Innovation (IMI)	✓	X	X	✓		https://www.transit.dot.gov/IMI
Low and X-Emission Component Assessment Program (LoX-CAP)	X	X	X	X	✓	https://www.transit.dot.gov/research-inXvation/loXcap
Low or X Emission Vehicle Program - 5339(c)	✓	X	X	X		https://www.transit.dot.gov/funding/grants/lowX
Mobility on Demand (MOD) Sandbox Demonstration Program – 5312	✓	✓	X	X	✓	https://www.transit.dot.gov/research-inXvation/mobility-demand-mod-sandbox-program
Passenger Ferry Grant Program - Section 5307	✓	X	X	X		https://www.transit.dot.gov/passenger-ferry-grants
Pilot Program for Expedited Project Delivery - 3005(b)	✓	X	X	X		https://www.transit.dot.gov/funding/grants/pilot-program-expedited-project-delivery-3005b
Pilot Program for Transit-Oriented Development Planning – Section 20005(b)	X	X	X	X		https://www.transit.dot.gov/TODPilot
Public Transportation Innovation – 5312	X	X	X	X		https://www.transit.dot.gov/funding/grants/public-transportation-inXvation-5312
Public Transportation on Indian Reservations Program; Tribal Transit Program	✓	✓	X	X		https://www.transit.dot.gov/tribal-transit
Safety Research and Demonstration (SRD) Program	✓	✓	✓	✓		https://www.transit.dot.gov/research-inXvation/safety-research-and-demonstration-program https://www.govinfo.gov/content/pkg/FR-2016-08-15/pdf/2016-19391.pdf
Transit Cooperative Research Program - 5312(i)	X	X	X	X		https://www.transit.dot.gov/funding/grants/transit-cooperative-research-program-5312i
Zero Emission Research Opportunity (ZERO)	✓	✓	X	X		https://www.transit.dot.gov/zero-emission-research-opportunity-zero
FTA Formula						
Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310	✓	✓	X	✓		https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310
Formula Grants for Rural Areas (including ADPTA) – 5311	✓	✓	X	X		https://www.transit.dot.gov/rural-formula-grants-5311
Grants for Buses and Bus Facilities Formula Program - 5339(a)	✓	X	X	X		https://www.transit.dot.gov/funding/grants/busprogram
Human Resources & Training - 5314 (b)	X	X	X	X	✓	https://www.transit.dot.gov/funding/grants/human-resources-training-5314-b
Metropolitan & Statewide Planning and Xn-Metropolitan Transportation Planning - 5303, 5304, 5305	X	X	X	X	✓	https://www.transit.dot.gov/funding/grants/metropolitan-statewide-planning-and-Xnmetropolitan-transportation-planning-5303-5304
Public Transportation Emergency Relief Program – 5324	✓	✓	X	X		https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program
Rural Transportation Assistance Program (RTAP) - 5311(b)(3)	X	X	X	X	✓	https://www.transit.dot.gov/funding/grants/rural-transportation-assistance-program-5311b3
State of Good Repair Grants – 5337	✓	X	X	X		https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337
Technical Assistance & Standards Development - 5314(a)	X	X	X	X	✓	https://www.transit.dot.gov/funding/grants/technical-assistance-standards-development-5314a
Tribal Transit Formula Grants - 5311(c)(2)(B)	✓	✓	X	X		https://www.transit.dot.gov/funding/grants/tribal-transit-formula-grants-5311c2b
Urbanized Area Formula Grants – 5307	✓	✓	X	X		https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307
FHWA Competitive						
Better Utilizing Investments to Leverage Development (BUILD) Grants (FTA & FHWA)	✓	X	✓	✓		https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/build/114796/fy-2019-Xfo-final-signed.pdf
Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) (FHWA)	✓	✓	✓	✓		https://www.fhwa.dot.gov/fastact/factsheets/advtranscongmgmtfs.cfm

	Transit		Supporting Improvements			Resource Link
	Capital	Operations	Bicycle	Pedestrian	Other	
Accelerated Innovation Deployment (AID) Demonstration (FHWA)	✓	✓	✓	✓		https://www.fhwa.dot.gov/inXvation/grants/
Automated Driving Systems (ADS) Grant (FHWA)	✓	✓	X	X		https://www.transportation.gov/policy-initiatives/automated-vehicles/ads-grant-overview
FHWA Formula						
Highway Safety Improvement Program (HSIP)	X	X	✓	✓		https://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm
National Highway Performance Program - 23 USC 119	✓	X	X	X	✓	https://www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm
Federal Flexible Funding Formula Programs						
Congestion Mitigation and Air Quality Program - 23 USC 149	✓	✓	✓	✓		https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/fhwa-flex-funding
Surface Transportation Block Grant Program - 23 USC 133	✓	✓	✓	✓	✓	https://www.govregs.com/uscode/title23_chapter1_section133
Transportation Enhancement	X	X	✓	✓		https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/fhwa-flex-funding
Transportation, Community, and System Preservation (TCSP)	X	X	X	X	✓	https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/fhwa-flex-funding
Other Federal Competitive Grants						
Senior Corps RSVP Grants (Corp. for National & Community Service)	X	✓	X	✓	✓	https://www.nationalservice.gov/rsvpcompetition
Transportation's Federal Motor Carrier Safety Administration (FMCSA) - High Priority (HP) grants	✓	✓	X	X	✓	https://www.fmcsa.dot.gov/grants/mcsap-high-priority-grant/motor-carrier-safety-assistance-program-mcsap-high-priority-grant
Transportation's Federal Motor Carrier Safety Administration (FMCSA) - Commercial Driver's License Program Implementation (CDLPI) grants	X	✓	X	X	✓	https://www.fmcsa.dot.gov/grants/cdl-program-implementation-grant/commercial-driver-license-cdl-program-implementation-grant
Transportation's Federal Motor Carrier Safety Administration (FMCSA) - Commercial Motor Vehicle Operator Safety Training grants	X	✓	X	X	✓	https://www.fmcsa.dot.gov/grants/cmv-operator-safety-training-grant/commercial-motor-vehicle-cmv-operator-safety-training
U.S. Department of Agriculture (USDA) Rural Business-Cooperative Service Rural Business Development Grant Program to Provide Technical Assistance for Rural Transportation Systems	X	X	X	X	✓	https://www.govinfo.gov/content/pkg/FR-2017-06-08/pdf/2017-11939.pdf https://www.rd.usda.gov/programs-services/rural-business-development-grants
U.S. Department of Housing and Urban Development						
HOPE VI Main Street Grant Program	X	X	✓	✓	✓	https://www.hud.gov/program_offices/spm/gmomgmt/grantsinfo/fundingopps/fy1819hopevi
Choice Neighborhoods Implementation Grant Program	X	X	✓	✓	✓	https://www.hud.gov/program_offices/spm/gmomgmt/grantsinfo/fundingopps/fy19cnigp
U.S. Department of Energy						
Energy Efficiency and Conservation Block Grant Program	✓	✓	X	X	✓	https://www.energy.gov/eere/wipo/energy-efficiency-and-conservation-block-grant-program
State						
General Fund	✓	✓	✓	✓		
Bonds (e.g., Go! Transit Program)	✓	✓	✓	✓		https://www.srta.ga.gov/go-transit-capital-program/
Hotel Fee	✓	✓	✓	✓		http://www.financingtransportation.org/pdf/50_state_review_Xv16.pdf
Heavy Vehicle Fee	✓	✓	✓	✓		http://www.financingtransportation.org/pdf/50_state_review_Xv16.pdf
Regional/Local						
Sales Tax/TSPLOST	✓	✓	✓	✓		
Gas Tax	✓	✓	✓	✓		
General Funds	✓	✓	✓	✓		
CIDs	✓	✓	✓	✓		
Hotel/Motel Taxes	✓	✓	✓	✓		
Public Private Partnerships	✓	✓	✓	✓		https://bipartisanpolicy.org/wp-content/uploads/2019/03/BPC-Putting-Capital-to-Work-in-Rural-Infrastructure.pdf

The American Association of State Highway and Transportation Officials (AASHTO) conducted a survey of all 50 states plus the District of Columbia on their annual state investment to public transit. ***Figure 40*** *illustrates how Georgia compares to other states.*

6.3 AASHTO State Transit Funding Table

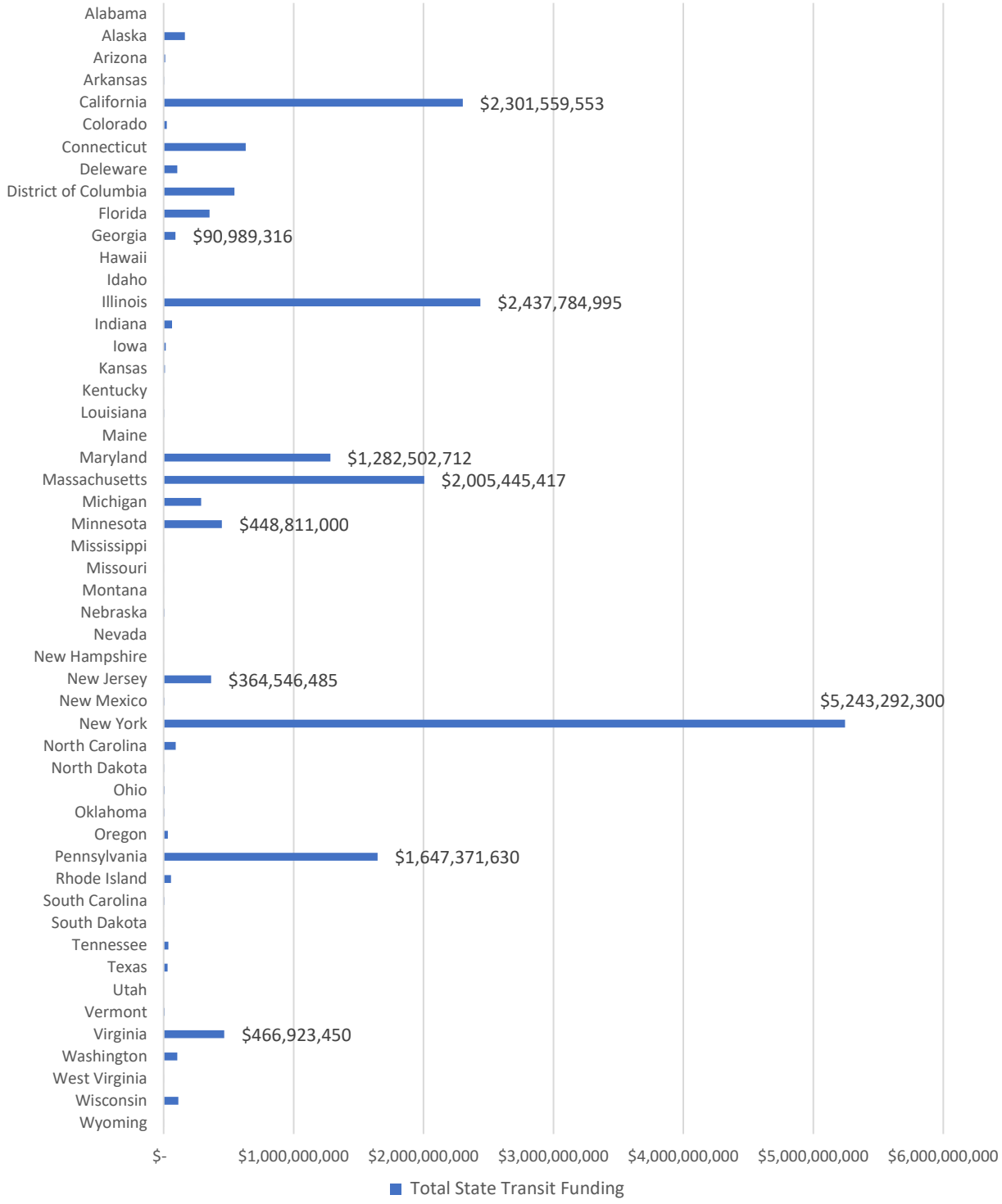

Figure 40: State Funding Contributions for Public Transportation

Source: Adapted from Survey of State Funding for Public Transportation - Final Report 2019, Based on FY 2017 Data, by AASHTO, Washington, D.C. Used with permission.

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