

Project No. NCHRP Task 20-65 Task 65

Best Practices for State DOTs to Meet Bus Fleet Replacement and Expansion Needs

Final Report

Prepared for
NCHRP
Transportation Research Board
of
The National Academies of Sciences, Engineering, and Medicine

Laura Brown
Steve Fittante
Richard Garrity
Rosamary Amiet
RLS & Associates, Inc.
Dayton, OH
And
Susan O'Connell
Charleston, WV

In Association with
Frank Gallivan
James Choe
ICF International

July 2016

This work was sponsored by one or more of the following as noted:

- American Association of State Highway and Transportation Officials, in cooperation with the Federal Highway Administration, and was conducted in the **National Cooperative Highway Research Program,**
- Federal Transit Administration and was conducted in the **Transit Cooperative Research Program,**
- Federal Aviation Administration and was conducted in the **Airport Cooperative Research Program,**
- Research and Innovative Technology Administration and was conducted in the **National Cooperative Freight Research Program,**
- Pipeline and Hazardous Materials Safety Administration and was conducted in the **Hazardous Materials Cooperative Research Program,**
- Federal Railroad Administration and was conducted in the **National Cooperative Rail Research Program,**

which is administered by the Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine.

ACKNOWLEDGEMENT OF SPONSORSHIP

DISCLAIMER

This is an uncorrected draft as submitted by the Contractor. The opinions and conclusions expressed or implied herein are those of the Contractor. They are not necessarily those of the Transportation Research Board, the Academies, or the program sponsors.

Table of Contents

Summary	1
State of Good Repair and Transit Asset Management Best Practices.....	3
Best Practices for Extending Vehicle Useful Life	3
Best Practices for State Vehicle Procurement Practices	4
Deciding if a Potential Successful Practice is Appropriate for Your State	5
1 Background	6
1.1 Overview of Relevant Federal Legislation.....	6
1.2 Impacts of Federal Program Changes on Transit Asset Management.....	8
1.3 Impacts of Federal Program Changes on How State DOTs Administer Funds to Meet Rural Bus Fleet Replacement and Expansion Needs	10
1.4 Summary of Impacts to Rural Bus Fleet Management and Funding Apportionment from Each Federal Transportation Program Issued or Planned	13
2 Survey of State DOT Practices in Rural Transit Bus Fleet Program Administration	16
2.1 Design of the Survey.....	16
2.2 Section 5311 and 5310 Survey Results	18
2.3 Section 5311(f) Survey Results.....	56
4 Successful Practices for Meeting Rural Bus Fleet Replacement and Expansion Needs	62
4.1 Best Practices in State of Good Repair and Transit Asset Management	62
4.2 Best Practices for Extending Vehicle Useful Life	64
4.3 Best Practices for State Vehicle Procurement	67
5 Conclusion	70
References	76
Appendix A: NCHRP 20-65 Task 65 Section 5311 Survey	1
Appendix B: Section 5310 Program Survey	11
Appendix C: Section 5311(f) Program Survey	21

List of Exhibits and Tables

ES Table 1: Average % of Vehicles in Fleet Beyond Useful Life Standards by Program and Fleet Size	2
Table 1: Projected Impacts of Changes to FTA Programs on Rural Transit Asset Management, as Found in the Literature Review	15
Table 2: Overall Survey Participation.....	17
Exhibit 1: Total Number of Section 5311 Revenue Vehicles, by State	19
Exhibit 2: Total Number of Section 5310 Vehicles, by State	20
Exhibit 3A: Average Age of Section 5311 Vehicle Fleets, by State	21
Exhibit 3B: Average Age of Section 5310 Vehicle Fleets, by State	22
Vehicle Useful Life Standards	23
Exhibit 4: Percent of Sections 5310 and 5311 Vehicles Beyond Useful Life.....	23
Table 3: State Vehicle Useful Life Standards	24
Table 4: Procedure After a Vehicle Reaches Useful Life and is Disposed.....	28
Table 5: Section 5311 Revenue Vehicles Beyond Useful Life and Replacement Schedule	34
Table 6: Section 5310 Program Vehicles Beyond Useful Life and Replacement Schedule	36
Exhibit 5: Comparison of State Section 5311 & 5310 Funding Used to Purchase Vehicles, FY 2016	38
Table 7: Non-FTA Funding Used for Section 5311 Replacement Vehicles, 3-Year Funding Trends	41
Table 8: “Need” Based Distribution of Section 5311 Funding for Revenue Vehicle Purchases ...	42
Table 9: States with Formula and/or Competitive Application Process.....	43
Table 10: Sampling of the Estimated Cost of the Vehicles Not Purchased Due to Lack of Funds	45
Table 11: State of Good Repair Practices and Progress.....	48
Table 12: State Transit Asset Management Plan Requirements	52
Table 13: Procurement Staffing Levels at State DOTs for Section 5310 and 5311 Programs	54
Table 14: Planned Vehicle Purchases for Section 5311(f) Programs, FY 2016 through FY 2020 .	57
Table 15: Availability of Funds to Purchase Replacement Section 5311(f) Vehicles.....	59
Table 16: Monitoring of Section 5311(f) Recipients	61
Table 17: Summary of the Impacts of Changes to the FTA Program on Rural Transit Asset Management.....	74

Author Acknowledgements

The research reported herein was performed under NCHRP Project 20-65 Task 65 by RLS & Associates, Inc. ICF International was the contractor for this study, with RLS & Associates, Inc. serving as the subcontractor.

Laura Brown, Senior Associate, RLS & Associates, Inc. was the Principal Investigator. The other authors of this report are Richard Garrity, Senior Associate at RLS & Associates, Inc.; Steven Fittante, Senior Associate at RLS & Associates, Inc.; Susan O’Connell of Charleston, WV; and Rosamary Amiet, Senior Associate at RLS & Associates, Inc. The work was done under general supervision of Robbie L. Sarles, President, RLS & Associates, Inc.; Frank Gallivan, ICF International; and James Choe, ICF International.

Abstract

This report documents the different policies and programs used by State Departments of Transportation to help meet statewide bus replacement and fleet expansion needs. A national survey of Section 5311 and Section 5310 Program Managers at State Departments of Transportation was applied to investigate the policies and programs used to expand or sustain capacity in light of limited FTA funding. Research revealed the useful life status of State Sections 5310, 5311 and 5311(f) vehicle fleets. The report also explores the common and the innovative approaches to extending useful life and revenue service of FTA funded vehicles. The report includes a comparison of State DOT policies and programs and best practices regarding acquisition methods, extending useful life, and asset management practices aimed at keeping vehicles in a state of good repair.

Summary

This report identifies potential best practices of State Departments of Transportation (DOTs) for meeting rural bus fleet replacement and expansion needs. Most but not all programs are administered by State DOTs. Because most State DOTs administer the programs, the term DOT is used in throughout this report and applies to all State departments that administer the Section 5311, 5310, and 5311f Federal programs. Information in the report is based on literature research and survey and interview results from State DOTs. All of the participating State DOTs face asset management challenges that are unique to their State. Therefore, this document presents the assortment of approaches as well as focuses on the procedures that emerged as potential best practices for successfully managing rural bus fleet expansion and replacement needs within the framework of new and pending Federal Regulations.

As managers of the Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Programs and Section 5311 Programs for Other than Urbanized Areas (including Section 5311(f) Intercity Bus Programs), all State DOTs are faced with the challenge of developing adequate vehicle replacement and expansion plans that can endure fluctuating State and Federal funding programs while keeping the fleets in a state of good repair. State DOTs must also balance the allocation of Federal funds across multiple capital and operating needs. Since most Section 5310 and Section 5311 State DOT Program Managers have little time for research, the results of this study provide an opportunity for education and awareness about practices that State DOTs across the country have developed and successfully implemented as well as a summary of the participating States' Section 5310 and Section 5311, including Section 5311(f), Capital Programs.

Approximately one-half of all State DOT Section 5310 and 5311 programs are represented in the research. For those states reporting:

- The average State Section 5311 revenue vehicle fleet size as of November 2015 was 375 vehicles, and the average age of the vehicle fleets was six years.
- The average fleet size for the Section 5310 program was 556 vehicles, and the average age of the fleets was 5.8 years.

Every State's Section 5311 and Section 5310 program permits subrecipients to continue using a vehicle after the vehicle has exceeded its useful life and a request for disposal has been approved. In some, but not all cases, States release the lien or provide the title to the operator or subrecipient, and out of necessity to meet service demands with limited funding, the use of these vehicles may exceed spare and back-up vehicle functions. The following table indicates the average percentage of vehicles in State Section 5311 and Section 5310 program fleets that are beyond the

useful life standards and are still in operation. For comparison purposes, State fleets are grouped into three categories based on the number of Section 5311 revenue vehicles and Section 5310 vehicles in the State.

ES Table 1: Average % of Vehicles in Fleet Beyond Useful Life Standards by Program and Fleet Size

Fleet Size	State Section 5311	State Section 5310
500+ Vehicles	16%	33%
100 to 499 Vehicles	43%	36%
<100 Vehicles	47%	25%

Operation of vehicles that have exceeded useful life standards, among other factors discussed in the report, emphasize the importance of the relationship between aging vehicles and the impact of changes in Federal legislation pertaining to State of Good Repair and Transit Asset Management, safety regulations, and funding allocations.

This report consists of research results and conclusions pertaining to the following topics:

- Sections 5311 and 5310 Programs
 - Vehicle Inventory and Grants Information for Sections 5311 and 5310
 - Disposition of Vehicles and Scheduling Vehicle Replacements
 - Rolling Stock Overhauls
 - State of Good Repair
 - Transit Asset Management
 - Vehicle Leasing
 - Vehicle Procurement
- Section 5311(f) Program
 - Vehicle Inventory
 - Vehicle Procurement
 - Grant Recipient Compliance Monitoring

Areas where potential best practices emerged are outlined in the following subsections and discussed in more detail within the body of the report.

State of Good Repair and Transit Asset Management Best Practices

An emerging challenge for DOT agencies charged with Transit Asset Management (TAM) and State of Good Repair (SGR) responsibilities for transit agency and grant subrecipient equipment management and capital replacement is the ability to track the age and condition of those assets. In September 2015, the FTA published the Transit Asset Management (TAM) Notice of Proposed Rule Making (NPRM). The purpose of the NPRM was to help maintain a State of Good Repair (SGR) for the nation's public transportation assets. The NPRM is not final as of this report publication date. However, State DOTs are preparing for the new regulations either through actual implementation of new transit management tools or through plans to implement monitoring practices that will address the new regulatory requirements.

Web-based tools are an emerging best practice for SGR and TAM. Three States (Virginia, Massachusetts, and Pennsylvania) are already using a tool known as TransAM (Transit Asset Management) and developed through a contract with Cambridge Systematics, which provides a web-based system that enables local agencies to provide updates on their vehicle and equipment characteristics including age, mileage and condition, as well as equipment retirement, disposal and replacement. Similarly, several States have developed software and/or systematic approaches to TAM and SGR.

Cooperative agreements with multiple agencies are also making improvements in TAM. For example, the Idaho Transportation Department-Public Transportation Office has implemented a proactive oversight program. The Public Transportation Office, in partnership with the Idaho State Police (ISP) Commercial Vehicle Unit, inspects the vehicles biannually, at minimum. The partnership with ISP has provided the Public Transportation Office the opportunity to address maintenance issues in a proactive way. In 2015, the Public Transportation Office was able to identify and resolve areas needing attention on 19 vehicles. The Public Transportation Office has since gone back and begun re-inspecting those vehicles and have found that all vehicles having been re-inspected are still in good standing for SGR practices.

Best Practices for Extending Vehicle Useful Life

Recognizing the challenge of maintaining capital replacement standards for body on chassis vehicles used by Section 5310s and 5311 funded transit operators, the Federal Transit Administration (FTA) has placed an emphasis on programs that can extend the useful life of vehicles beyond their useful life standard of five or seven years.

Several States have been exploring or developing programs to promote the extension of useful life of body on chassis vehicles through vehicle overhaul or rehabilitation. This takes the form of funding for capital maintenance items such as transmissions or engines, bodywork, and other component replacement or rehabilitation. Some of these programs involve funds that are made available to local transit agencies or support for local initiatives on vehicle overhaul. Illinois, Michigan, Iowa, Kansas, and Nevada Departments of Transportation (DOTs) reported some promising practices for State-sponsored and regional vehicle overhaul programs that could be translated into useful strategies for other State DOTs that are seeking new ideas for extending vehicle life.

Best Practices for State Vehicle Procurement Practices

States either procure vehicles on behalf of their subrecipients or have the subrecipients procure the vehicles with the State Transit Office ensuring that the procurement meets Federal and State guidelines. If the subrecipient procures the vehicle, written procurement procedures that address the Federal as well as State requirements are essential. Among the reasons cited by States that have chosen to purchase on behalf of their subrecipients included: the assumption that maintaining procurements in-house at the DOT would improve the ability to oversee the process by reducing the number of individual procurements that would have otherwise been issued by each subrecipient; and, a belief that the bulk purchasing resulted in lower unit costs and eliminated the burden of local specification design and compliance with procurement regulations for smaller subrecipients. Conversely, States that elected to allow local subrecipients to procure vehicles cited the ability to tailor specifications to meet local needs as an advantage of decentralized vehicle procurement.

While there are numerous State DOTs that demonstrate best practices in procurement efforts, some emerging best practices documented through this research effort are illustrated through the vehicle and equipment procurement practices of Louisiana, Oregon, and Indiana Departments of Transportation.

Purchasing in volume has benefits of efficiency and cost effectiveness. As indicated by Louisiana Department of Transportation and Development (DOTD), purchasing vehicles on behalf of the subrecipients optimizes use of available program funding since the vehicles and other equipment are purchased in volume at one time; however, allowing subrecipients to procure their own vehicles allows them to tailor the vehicle specifications to their agency's needs.

As described in Indiana's Section 5310 Program Guide and Application, Indiana Department of Transportation (INDOT) is responsible for purchasing all equipment awarded through the Section 5310 program. INDOT purchases equipment through Indiana Department of Administration (IDOA) Quantity Purchase Awards (QPAs).

In other States, putting the vehicle procurement responsibility on the subrecipient is more effective. According to the July 2015 Oregon Department of Transportation Rail and Public Transit Division (RPTD) State Management Plan for Public Transportation Programs, "RPTD does not usually purchase vehicles directly with State or Federal funds. Subrecipients are responsible for purchasing equipment and services financed by grants. Subrecipients are required to order ADA-accessible transit vehicles through the State price agreements administered by the Oregon Department of Administrative Services (DAS) when such vehicles are available through the existing contracts."

Deciding if a Potential Successful Practice is Appropriate for Your State

There are potentially 50 different ways States have responded to Federal regulations for asset management. What makes a practice successful in one State will not necessarily make it successful in another State. The literature review contained in this document includes an assessment of the quality of Federal regulations, and survey results of State DOTs offer conclusions with respect to bias, relevance, and the Federal requirements. This research provides a solid baseline of State policies and practices that have been implemented in response to Federal regulations. It also identifies the most probable impacts to rural bus fleet management of each current Federal transportation program and reauthorization bill issued or planned during the research timeline. Within the results there are numerous strategies for rural bus fleet replacement and expansion in addition to the selected promising practices that have benefited State DOTs. The results of this study provide an opportunity for awareness about practices that other State DOTs have developed and successfully implemented and some suggested criteria for deciding if a practice is appropriate for another State.

1 Background

A review of relevant changes in Federal Regulations pertaining to transit asset management along with results and conclusions from extensive State-by-State research of the procedures used by State Departments of Transportation (DOTs) Program Managers for the Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program and Section 5311 Programs for Other than Urbanized Areas (including Section 5311(f) Intercity Bus Programs) are included herein.

All State DOTs are faced with the challenge of developing adequate vehicle replacement and expansion plans that can endure fluctuating State and Federal funding programs while keeping the fleets in a state of good repair. The results of this study provide a picture of each participating State's Section 5310 and Section 5311 programs, including Section 5311(f), Capital Programs. Furthermore, a specific analysis of three program management areas are discussed in terms of best practices that emerged from the research and could be translated to improve rural vehicle asset management outcomes for other State DOTs. Those areas are, as follows:

- State approaches to maintaining aging fleets in a state of good repair and preparing for the pending Federal Regulations that will increase administrative requirements for transit asset management.
- State approaches to vehicle overhaul practices that extend the life of vehicles and help to reduce maintenance costs.
- State vehicle procurement policies and procedures that may be considered a remedy for procurement challenges faced by State DOTs with administrative staff shortages.

By obtaining a clear understanding of the current and pending Federal requirements, the reader may gain a better understanding of how and why State DOT policies and practices for rural bus fleet asset management have been implemented.

1.1 Overview of Relevant Federal Legislation

The intent of the following regulatory overview is also to review the elements most significant to the topic, and to predict the most probable impacts to rural bus fleet management of each issued and pending Federal transportation program and reauthorization bill. The Federal legislative programs administered by State DOTs with relevance to this study are included under the three most recent Federal Surface Transportation Acts:

- SAFETEA-LU
- MAP-21
- FAST Act

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU legislation was the surface transportation act authorized in 2005; it expired on September 30, 2012. SAFETEA-LU involved numerous beneficial programs such as the New Freedom Initiative, which particularly supported surface transportation program growth in rural and small urban communities, as well as urbanized areas. While the legislation has expired, SAFETEA-LU provisions still apply to funding made available in Fiscal Year (FY) 2012 and prior fiscal years. The Federal Transit Administration (FTA) offers information for grant recipients administering funds allocated or awarded under SAFETEA-LU today.

Moving Ahead for Progress in the 21st Century (MAP-21)

On July 26, 2012, President Obama signed Moving Ahead for Progress in the 21st Century (MAP-21), reauthorizing surface transportation programs through FY 2014. Among the important programs introduced with MAP-21 are Safety, State of Good Repair, Asset Management Provisions, Bus and Bus Facilities Program, Emergency Relief, and Transit-Oriented Development Planning. MAP-21 also consolidated existing programs including the New Freedom Initiative (Section 5317) and the Job Access and Reverse Commute Program (Section 5316) into the Sections 5310 and 5311 Programs, respectively.

Fixing America's Surface Transportation Act (FAST Act)

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or FAST Act. The law provides long-term funding certainty for surface transportation, meaning States and local transit systems can plan with confidence that they will have a Federal partner over the next five years. The FAST Act includes provisions such as reinstating the popular bus discretionary grant program and strengthening the Buy America requirements that are restrictive for some agencies but also promote domestic manufacturing through vehicle purchases.

1.2 Impacts of Federal Program Changes on Transit Asset Management

Several funding programs implemented under SAFETEA-LU were consolidated or repealed by MAP-21. Most significant to rural transit assets were the consolidation of the FTA Section 5316 (Job Access and Reverse Commute) program into the FTA Section 5311 Program, and the consolidation of FTA Section 5317 (New Freedom Initiative) program into the FTA Section 5310 Program. Programs were merged with little or no increase in funding for Sections 5311 and 5310. Facing the issue of less funding available for the Sections 5316 and 5317 Programs that had been implemented under SAFETEA-LU, some States and transit providers struggled to find resources to sustain those services.

The impact of the changes in Federal programs on State DOTs and local transit operators was significant. With the authorization of SAFETEA-LU, States and local providers had new programs to administer and additional funding for capital and operating programs. The focus shifted heavily from individual program funding “silos” to coordination of assets between public transit and human service agencies that were providing transportation, often to the same individuals within the same communities. Coordination of transit services and assets under SAFETEA-LU was intended to lead to more cost-effective transportation service and less duplication of Federal resource use.

With the follow-on implementation of consolidated or repealed SAFETEA-LU programs and new transit grant programs under MAP-21, State DOTs and transit systems were faced with changes in funding levels and terms, including short-term funding, which impaired the States’ ability to prepare long-term plans for transit asset management, and predetermined allocations for large and small urbanized areas and rural areas which limited discretion in Section 5310 funding allocations. One important change that is relevant to this study is the implementation of State of Good Repair standards.

State of Good Repair and Transit Asset Management

By 2013, the Federal Transit Administration (FTA) estimated that more than 40% of buses and 25% of rail transit assets were in marginal or poor condition. The *National State of Good Repair Assessment* identified a backlog of more than \$86 billion in deferred maintenance and replacement needs, a backlog that continues to grow. As a result, the FTA recommended specific Transit Asset Management (TAM) practices to preserve and expand transit investments. In September 2015, the FTA published the Transit Asset Management (TAM) Notice of Proposed Rule Making (NPRM). The purpose of the NPRM was to help maintain a state of good repair for the nation’s public transportation assets. Once final, the regulations would apply to all providers who are recipients or

subrecipients of technical assistance under 49 U.S.C. Chapter 53 and own, operate, or manage transit capital assets.

The NPRM includes nine TAM Plan elements:

1. Inventory of Capital Assets
2. Conditions Assessment
3. Decision Support Tools
4. Investment Prioritization
5. TAM and SGR Policy
6. Implementation Strategy
7. List of Key Annual Activities
8. Identification of Resources
9. Evaluation Plan

The NPRM proposes grouping providers into two categories, Tier I and Tier II.

Tier I Providers:

Operate more than 100 vehicles in peak revenue service, or operate rail fixed-guideway public transportation systems. Tier I providers must meet all nine TAM Plan requirements.

Tier II Providers:

Operate less than or equal to 100 vehicles in peak revenue service, and do not operate rail fixed-guideway public transportation systems or receive Federal funds exclusively from Sections 5310 or 5311 programs. Since Tier II provider systems are less complex, their TAM Plan requirements are also less extensive. Tier II providers are required to meet only the first four TAM Plan elements.

As proposed in the NPRM, Tier II providers have the option to develop their own plans or participate in a Group Plan, which is compiled by a Group Plan Sponsor (generally the State DOT or designated Section 5307 or Section 5310 recipient). Each transit provider must designate an Accountable Executive to ensure that the necessary resources are available to carry out the TAM Plan and the Transit Agency Safety Plan, regardless of whether it develops its own TAM Plan or participates in a Group Plan.

Transit Asset Management Planning

A Transit Asset Management Plan (TAM) is a plan developed by a recipient or group TAM sponsor that includes capital asset inventories and condition assessments, decision support tools, and investment prioritization (49 CFR Parts 625 and 630 Transit Asset Management; National Transit Database; Proposed Rule September 30, 2015 p. 589945).

A TAM Plan must be updated at least every four years, and it must cover a horizon period of at least four years. As proposed in the NPRM, each entity developing a TAM Plan will be required to report annually to the FTA's National Transit Database (NTD). The report must include projected targets for the next fiscal year, condition assessments and performance results, and a narrative report on changes in transit system conditions and progress toward achieving current performance targets (Transit Asset Management; National Transit Database; Proposed Rule 80 Federal Register 189 (30 September 2015)).

The asset management capabilities and needs of small urban, rural, specialized, and tribal transportation providers are very different than large urban and rail operators. Organizations such as the Community Transportation Association of America (CTAA) have urged FTA to consider the resource limitations of Tier II systems. Furthermore, the CTAA shares the concerns expressed by the American Association of State Highway and Transportation Officials (AASHTO) regarding the impact on Section 5310 recipients. Transportation is not the primary function of many Section 5310 recipients. Applying TAM requirements to these providers significantly expands the administrative burden on those agencies. Additionally, estimating funding likely to be received in the future and prioritizing investments is increasingly difficult due to unpredictable funding from the FTA. Nearly all rural and tribal transportation providers face the conditions where no suitable capital funds will be available to replace transit assets.ⁱ

1.3 Impacts of Federal Program Changes on How State DOTs Administer Funds to Meet Rural Bus Fleet Replacement and Expansion Needs

The following subsections provide a brief review of the impact of legislative changes and reductions in allowable administrative costs and other administrative limitations on capital asset management, procurement, and planning decisions brought about by changes in Federal regulations.

Legislative Change in Administrative Set Aside in the Section 5311 Program

Section 313(a) of the Federal Public Transportation Act of 1978 (Pub L. 95–599) created Section 5311 (then known as Section 18 of the Urban Mass Transportation Act (49 U.S.C. App. 1601 et seq.)) and provided public transportation funds for services in areas with populations of less than fifty thousand. Section 313(d) of this Act created an option for the Secretary of U.S. DOT to permit a State to use apportioned funds for program administration:

(d) The Secretary may permit an amount, not to exceed 15 per centum of the amount apportioned, to be used by each State for administering this section and for providing technical assistance to recipients of funds under this section. Such technical assistance may include project planning, program development, management development, coordination of public transportation programs (public and private), and such research as the State may deem appropriate to promote effective means of delivering public transportation service in areas other than urbanized areas.

The authority to use up to 15% of Section 5311 funds for program administration continued from program inception until 2012, when the Moving Ahead for Progress in the 21st Century Act (MAP-21; Pub. L. 112-141 (2012)) reduced this amount to 10%.

As many State DOTs conduct rolling stock procurements on behalf of Section 5311 (and Section 5310, described below) subrecipients, reductions in allowable administrative costs will, in many cases, adversely impact a State's ability to conduct such procurements. While there are no documented instances of a State DOT abandoning a centralized procurement strategy because of this legislative change, there is nevertheless potential for reduced oversight. There could also be other reasons for reduced oversight, such as the inability to hire or retain staff. The survey research explores the impact that reductions in allowable administrative costs has had on State DOT procurement procedures and staffing.

Changes to the Section 5311 program with the FAST Act include an increase in the authorized amount for formula-based funding for tribal transit under Section 5311(c) to \$30 million a year. The amount available for FTA discretionary tribal transit grants remains at \$5 million a year. Additional sources of non-Federal matching funds are also established, including cash from non-governmental sources and advertising sales. Finally, language is added to provide for consolidated grants of Section 5311(c) funds to multiple tribes.

Changes in Apportionment Methodology and Incorporation of New Freedom Projects into the Section 5310 Program

The Section 5310 program was established in 1975 as a discretionary capital assistance program. For almost 30 years, Congress apportioned all Section 5310 funds to the States for meeting the transportation needs of elderly persons and individuals with disabilities when existing transportation programs were inappropriate, insufficient, or unavailable. The 60%/ 20%/ 20% funding formula introduced in MAP-21 (Pub. L. 112-141 (2012)) substantially reduced the amounts of Section 5310 monies apportioned to the States. Under MAP-21, FTA apportions 60 percent of the funds to large urbanized areas, 20 percent to States for areas under 200,000 in population (small urbanized areas), and 20 percent to States for areas under 50,000 in population. A State may transfer funds apportioned to the State's small or rural area for a project serving an area other than that small or rural area. Small and rural area apportionment may be transferred for a project anywhere in the State, if the State has established a statewide program. However, there is no provision to transfer funds from the large urbanized areas to either the small or rural areas of the State. Additionally, the 10% set-aside that a State could use for procurements, administration, planning, and technical assistance on behalf of Section 5310 subrecipients was similarly reduced.

Furthermore, inclusion of New Freedom projects (Section 5317) that permitted capital and operating costs of services and facility improvements in excess of Americans with Disabilities Act (ADA) requirements under the Section 5310 program provided the final impetus to open the Section 5310 program for other-than-capital expenditures. States wishing to sustain previous projects funded by the New Freedom program now were faced with the potential diversion of limited Section 5310 funds away from traditional projects to fund operating needs, further reducing the amount of funds available for rolling stock acquisition and pressuring local agencies to more carefully prioritize and justify requests for new and replacement vehicles.

Finally, under the previous distribution methodology, a State could work cooperatively with its urbanized areas and allocate Section 5310 resources on a needs/grant requests basis. Under the MAP-21 funding formula, the encouragement for cooperative agreement was removed. And, it is reflected in survey results that imposition of a mandatory 60/20/20 distribution in all 50 States may actually work to limit a State's ability to address priority needs because funding distribution is prescribed, no matter the priority or level of need.

Limited Funding Authorizations in the Bus and Bus Facilities Program (Section 5339)

Section 5339 is a grant program authorized by United States Code (U.S.C.) Section 5339 as specified under the reauthorization legislation of MAP-21. The program provides capital funding to replace,

rehabilitate, and purchase buses, vans, and related equipment, and to construct bus-related facilities. MAP-21 brought many changes to the previous discretionary capital program; in the past, many State DOTs consolidated statewide capital needs into a single grant and sought discretionary capital funds for bus and bus facilities that would meet the needs of subrecipients over a period of several years. This was a strategy encouraged by FTA, and most States had success in seeking and obtaining these funds. By restoring essential capital investments for buses and bus facilities, FAST Act delivers much needed capital funding to transit.

Congress decided to allocate each State the same set amount under the Section 5339 program, regardless of population size or need. As an example, in FY 2016, Alaska and Vermont each received \$1,770,000 in 5339 funding. In FY 2014, California and Maine each received \$1,250,000. The public transit needs in Alaska and California are very different from those of Vermont and Maine, yet the funding allocation was the same.

The national survey deployed through this research effort was designed to determine if the lump sum amount of authorized funding was inadequate to meet the replacement and expansion needs of States. Results of the survey indicate that even with the FAST Act's doubling of the State set-asides, larger States find this funding source to be critical to their rural capital program, but it is still inadequate to meet the total of their rural vehicle replacement and expansion needs.

1.4 Summary of Impacts to Rural Bus Fleet Management and Funding Apportionment

Changes in Federal regulations impact the basis upon which short- and long-term planning decisions are made within State Departments of Transportation (DOTs) and local transportation agencies. In some cases, recent regulatory changes have even altered the job descriptions, roles, and responsibilities of DOT staff and transportation agency employees who have new duties for establishing additional standards and goals and measuring performance. While the new administrative responsibilities placed on DOT and transit agency staff are significant, their impact can also be highly productive when applied to overall planning activities. For example, new asset management tracking activities should prove useful for administrative decision-making procedures in the allocation of capital funds.

Although the asset management tools implemented under MAP-21 legislation and continued with the FAST Act may not yet be perfect, they are intended to provide an opportunity for transit agencies, State DOTs, and FTA to have a better understanding of the current state of public transit and make projections for the level of assistance necessary to meet short- and long-term transit

asset needs. Ultimately, the results of applying asset management tools as required by Federal regulations will impact how States address capital acquisition and replacement needs.

Table 1 provides a summary of the real or probable impacts of capital funding program changes on rural bus fleet management by State DOTs. The summary table is based on literature research and is referenced again in the conclusions as a comparative tool against preliminary theories and the results of State-by-State inventory and research from State DOT Sections 5311, 5310, and 5311(f) Program Managers presented in Section 2.

Federal program changes implemented under MAP-21 legislation as well as those indicated in the FAST Act that would impact rural transit capital asset management include the following:

- MAP-21 and FAST Act Programs
 - State of Good Repair (49 U.S.C. 5337)
 - Transit Asset Management (49 U.S.C. 5326)
 - Bus and Bus Facilities Program (49 U.S.C. 5339)

Table 1: Projected Impacts of Changes to FTA Programs on Rural Transit Asset Management, as Found in the Literature Review

Rural Transit Asset Management Category	Relevant Federal Program Changes	Projected Impacts
Vehicle Useful Life	<ul style="list-style-type: none"> • State of Good Repair (SGR) • Transit Asset Management Provisions (TAM) 	<ul style="list-style-type: none"> • Newly defined roles and responsibilities in the transit agency to ensure compliance with TAM provisions (TAM) • An added level of decision making is necessary at the local transit agency to comply with SGR and TAM regulations (SGR) (TAM)
Vehicle Maintenance	<ul style="list-style-type: none"> • Transit Asset Management Provisions (TAM) 	<ul style="list-style-type: none"> • Maintenance activities now include proactive condition assessments, targets and tracking of performance against established targets. May lead to new national standards (TAM) • Agencies develop new tools to quantify capital expenditures that will most likely result in maintenance decreases (TAM) (SGR) • Agencies participate in new training activities to educate staff on asset management forms, policies, and principles (TAM) (SGR)
Procurement or Funding Apportionment	<ul style="list-style-type: none"> • State of Good Repair (SGR) • Transit Asset Management Provisions (TAM) • Bus and Bus Facilities Program (FAST Act) 	<ul style="list-style-type: none"> • Agencies are developing capital investment plans that include quantified measurement of vehicle conditions (TAM) (SGR) • Agencies are aligning procurement decisions with asset management strategy (TAM) • Capital asset investments are prioritized (TAM) • SGR grant funding increases (FAST Act) • Bus and Bus Facilities competitive grant funding authorization increases (FAST Act) • New program of grants for low- and no-emission buses (FAST Act) • New Pilot Program for cost-effective capital investment that allows States to pool their acquisition of buses (FAST Act) • Potential grants for “innovative coordinated access and mobility” to entities eligible for Section 5310 grants (FAST Act)

2 Survey of State DOT Practices in Rural Transit Bus Fleet Program Administration

2.1 Design of the Survey

The research team deployed three national surveys to managers at State DOTs who administer FTA Sections 5310, 5311, and 5311(f) Programs. The survey instruments are provided in the Appendix to this report. The purpose of the survey effort is to document the existence and application of State DOT rural transportation program asset monitoring policies, practices, and tools. The research objective is to step through the strategic processes used by State DOT program administrators to establish and monitor rural bus fleet replacement and expansion performance targets, and identify successful practices to meeting rural bus fleet replacement and expansion needs.

State DOT Rural Transit Program Managers from all 50 States were invited to participate in the national survey effort. The surveys were received between January 4, 2016 and March 20, 2016. Table 2 summarizes the total number of completed surveys. The response rate was as follows:

- 52% response rate from Section 5310, Enhanced Mobility of Seniors and Individuals with Disabilities Program Managers
- 50% response rate from Section 5311, Other than Urbanized Areas Program Managers
- 46% response rate from Section 5311(f) Intercity Bus Program Managers

The data collected from electronic survey results were aggregated for analysis. Results are organized by program and information category, as follows:

- Sections 5311 and 5310 Vehicle Inventory and Grants Information
- Disposition of Vehicles and Scheduling Vehicle Replacements
- Purchasing Section 5311 Revenue Vehicles and Section 5310 Vehicles
- Rolling Stock Overhauls
- State of Good Repair
- Transit Asset Management Plans
- Vehicle Leasing
- Procurement Practices, Challenges and Staffing Levels

- Section 5311(f), Intercity Bus Program Vehicle Inventory, Procurement, and Compliance Monitoring

Table 2: Overall Survey Participation

Surveys Returned			
State	Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program	Section 5311 Other than Urbanized Areas Program	Section 5311(f) Intercity Bus Program
Alabama	X	X	X
Alaska	X	X	X
Arkansas	X	X	X
California	X	X	X
Colorado			X
Connecticut		X	X
Delaware	X	X	X
Florida			X
Georgia	X		
Idaho	X	X	X
Illinois	X	X	
Indiana	X	X	
Iowa	X		X
Kansas	X	X	X
Maine	X	X	X
Maryland			X
Michigan	X	X	X
Minnesota	X	X	X
Mississippi	X	X	
Missouri	X	X	X
Nebraska	X	X	

Surveys Returned			
State	Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program	Section 5311 Other than Urbanized Areas Program	Section 5311(f) Intercity Bus Program
New Jersey	X	X	X
Nevada	X	X	X
New Hampshire		X	
New Mexico	X	X	
North Carolina	X	X	X
Ohio	X		X
Pennsylvania	X	X	X
Tennessee	X	X	X
Texas	Supplemental Information		
Washington	Supplemental Information		
West Virginia	X	X	X
Wisconsin	X	X	X
State Participation Rate	26	25	24

2.2 Section 5311 and 5310 Survey Results

Vehicle Inventory and Grants Information

Basic rural transit vehicle inventory data establishes a baseline for the state-by-state comparison of Section 5311 and 5310 Program survey results. Basic fleet data is important to clarify the variations in fleet sizes across participating State DOTs because fleet size and age factor into administrative decisions made by DOT Program Managers about capital asset management policies and procedures.

State Vehicle Fleet Size

The average number of Section 5311 revenue vehicles in each State's fleet as of November 1, 2015, is 375 vehicles. Exhibit 1 shows the fleet sizes, ranging from the smallest, Idaho, with 18 Section 5311 revenue vehicles to the largest, North Carolina, at 1,499 revenue vehicles.

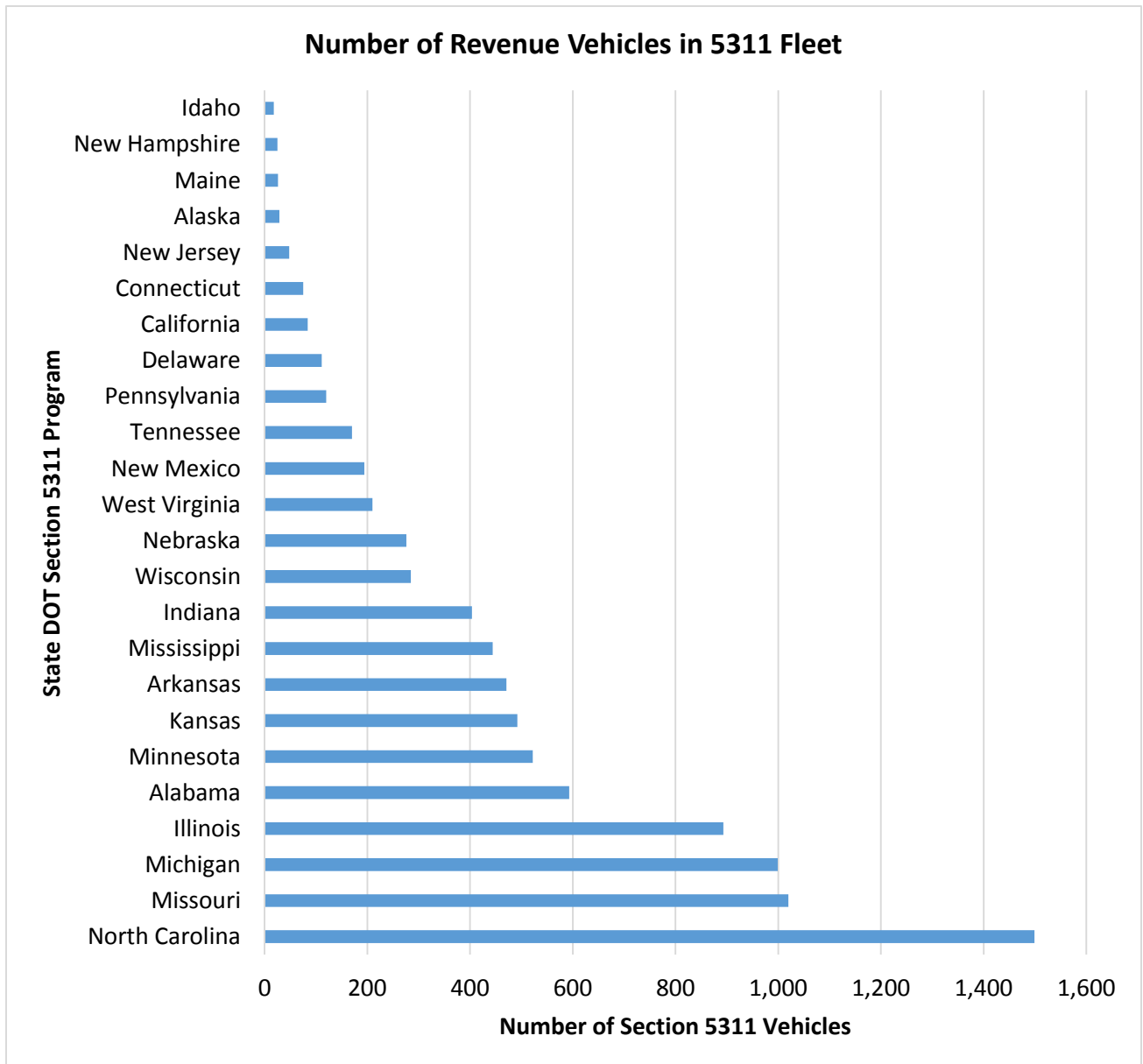
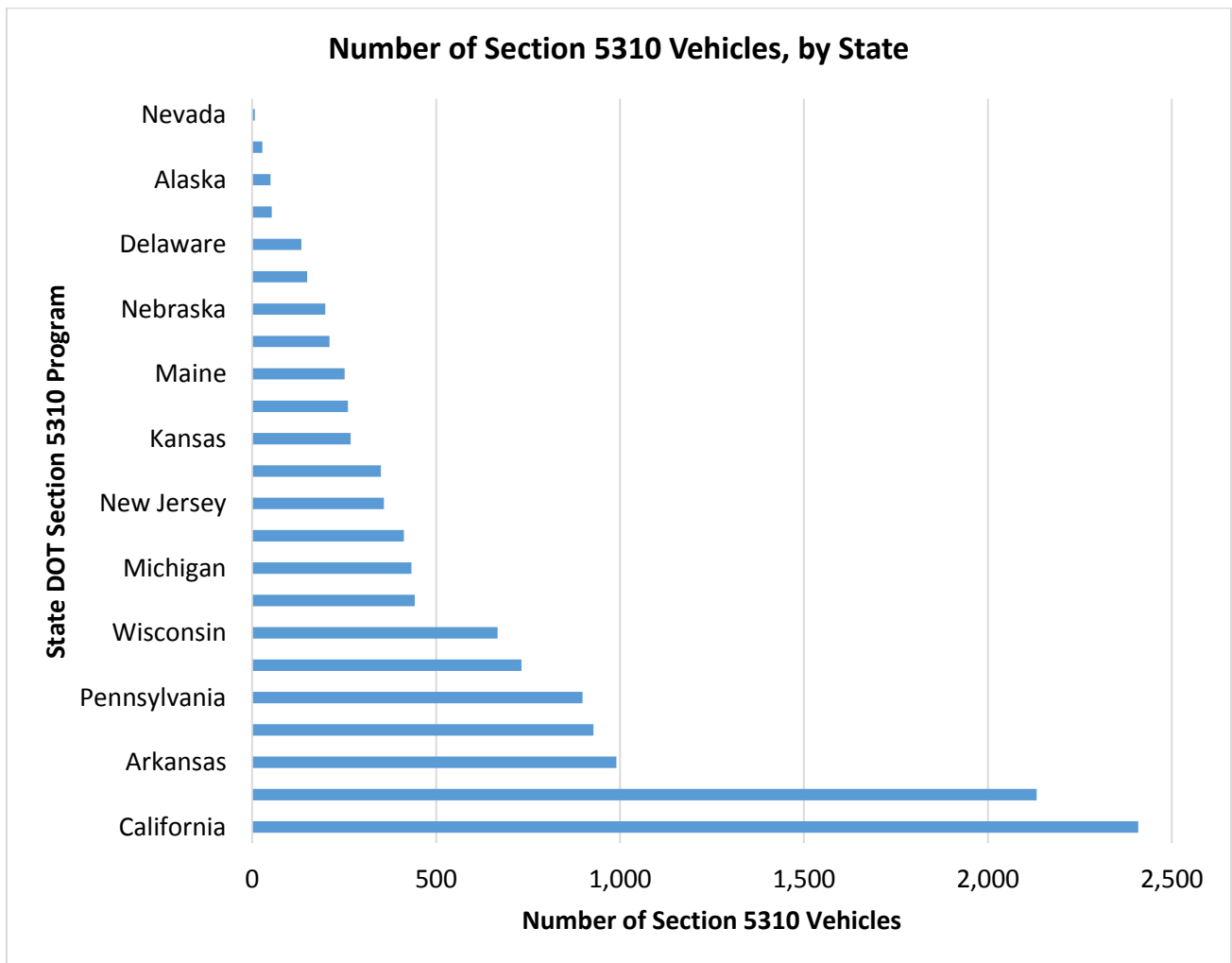


Exhibit 1: Total Number of Section 5311 Revenue Vehicles, by State

The average fleet size for participating Section 5310 programs is 556 vehicles. However, two States are outliers when calculating the average number of vehicles used to support the mobility of seniors and individuals with disability because of their large fleet sizes. The outliers are California and Illinois DOTs, which have Section 5310 service vehicle fleets that are substantially larger than any other State, with 2,409 and 2,133 vehicles, respectively. When removing the outliers from the calculation, the average fleet size is 419.1 vehicles. Exhibit 2 depicts a comparison of the number of Section 5310 vehicles in each State fleet.

Exhibit 2: Total Number of Section 5310 Vehicles, by State



State Vehicle Fleet Age

The average age of Section 5311 revenue vehicles in each participating State’s fleet as of November 1, 2015, is six years. The fleets in Delaware and West Virginia are the newest, while Michigan has

the oldest fleet, on average. The average age of Section 5310 vehicles as of November 1, 2015 was 5.77 years. Average fleet ages range from three to ten years (Exhibits 3A and 3B).

Exhibit 3A: Average Age of Section 5311 Vehicle Fleets, by State

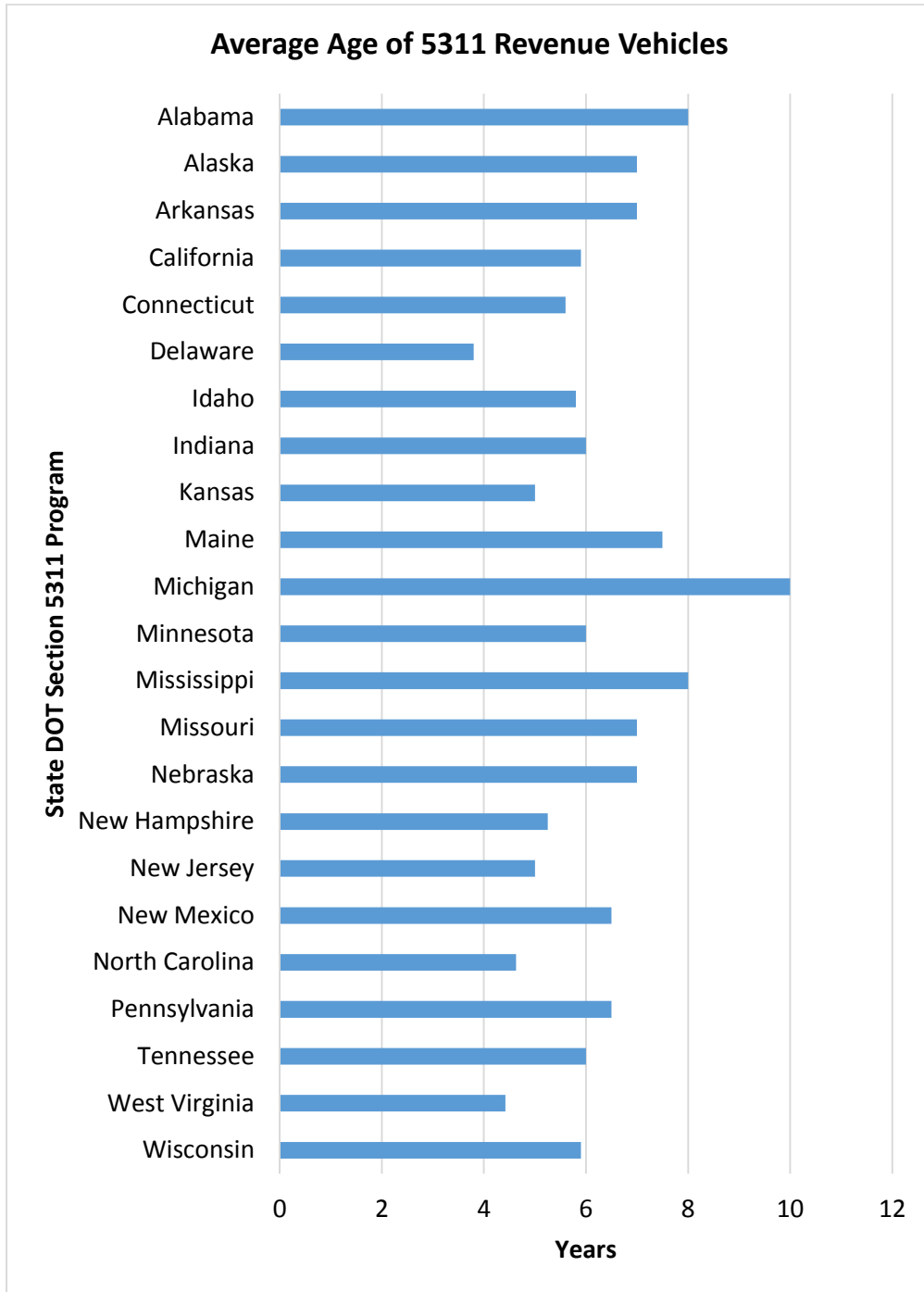
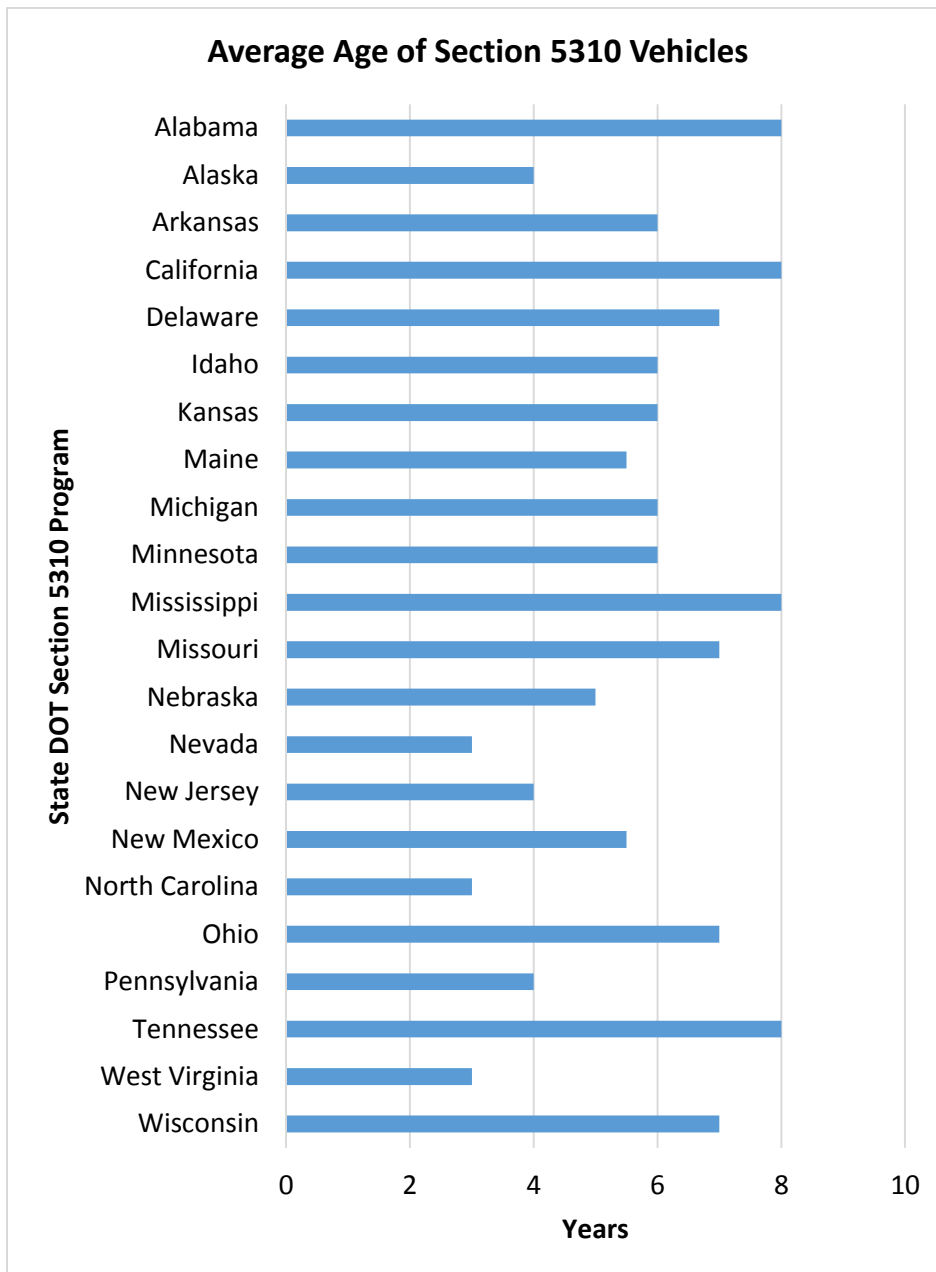


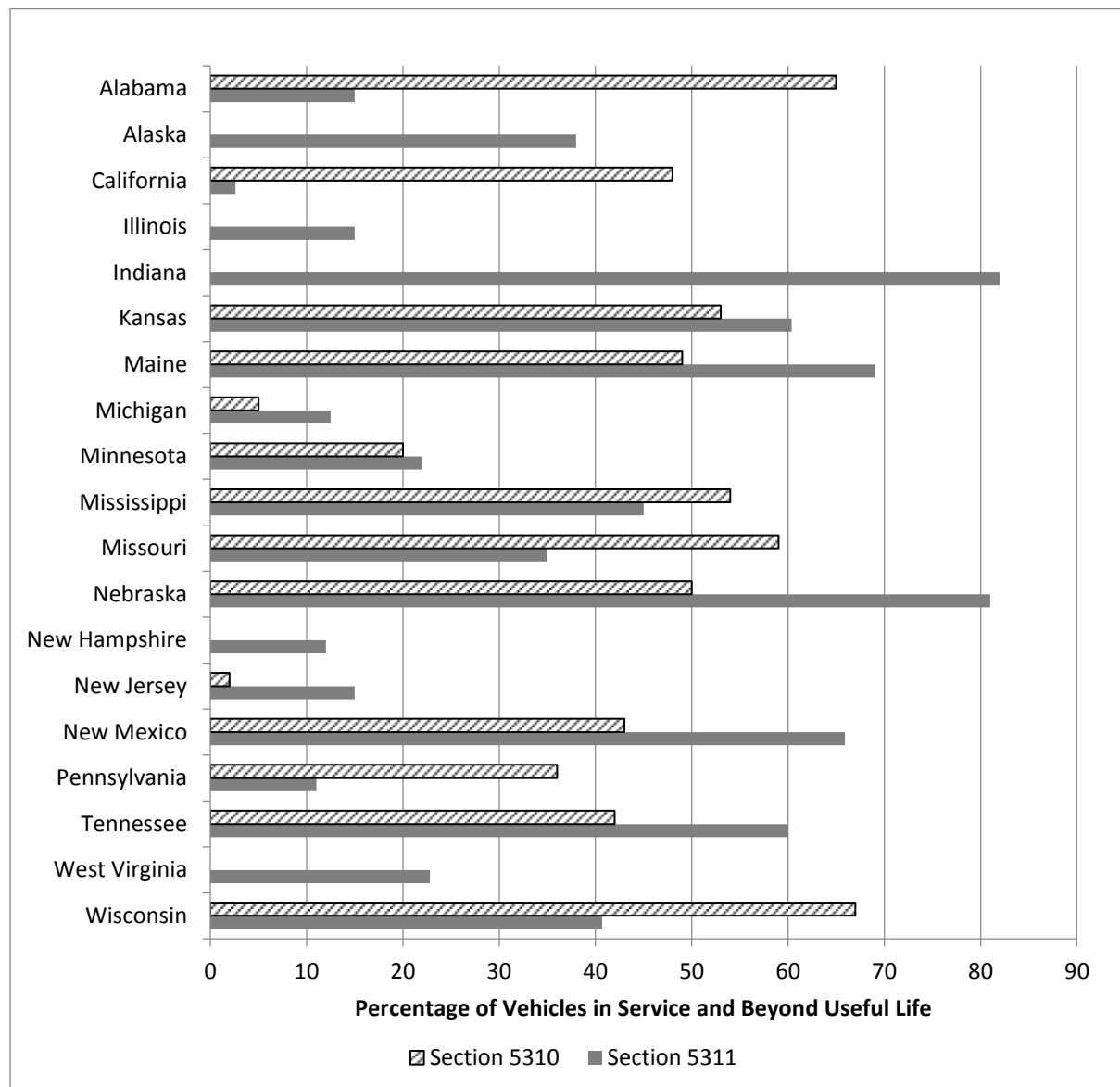
Exhibit 3B: Average Age of Section 5310 Vehicle Fleets, by State



Vehicle Useful Life Standards

On average, nearly 40% of vehicles in the Sections 5311 and 5310 program fleets are beyond useful life standards. Exhibit 4 illustrates a comparison of the percentage of vehicles in each program that are beyond useful life, by State. Approximately 37% of the Section 5311 respondents and 42% of the Section 5310 respondents have vehicle fleets in service that are 50% to 89% beyond useful life as defined by the FTA and/or the State DOT.

Exhibit 4: Percent of Sections 5310 and 5311 Vehicles Beyond Useful Life



*Information was not available for the Alaska, Illinois, Indiana, New Hampshire, and West Virginia Section 5310 Programs.

Federal Transit Administration (FTA) Circular 5010.1D defines vehicle useful life as follows:

The expected lifetime of project property, or the acceptable period of use in service. Useful life of revenue rolling stock begins on the date the vehicle is placed in revenue service and continues until it is removed from revenue service. Minimum useful life for buses, vans, and trolleys is determined by years of service or accumulation of miles whichever comes first.

Survey results indicate that 34% of Section 5311 Program respondents and 25% of Section 5310 Program respondents rely on State guidelines, not FTA guidelines (FTA Circular 5010.1D), for determining end of useful life for vehicles. In all cases where State guidelines are followed in place of FTA guidelines, the State method for determining vehicle useful life standards has been pre-approved by FTA. The following table illustrates examples of State methods or guidelines as explained by participating State DOTs.

Table 3: State Vehicle Useful Life Standards

State	Method or Criteria for Replacing Vehicles based on Useful Life
Alaska	Alaska DOT&PF is in the process of developing a statewide assessment plan to refine the process of replacing vehicles in a State where matching funds are scarce and transportation operators serve remote villages and put a lot of miles on vehicles.
Illinois	<p>IDOT uses a modified version of FTA standards for replacement of under 30' buses that incorporates higher mileage thresholds for light and medium duty transit buses. These higher mileage replacement standards are based on experience that suggests that vehicles performing rural highway travel have a longer vehicle life.</p> <p><u>Autos/Mini-Vans/Raised Roof Vans</u>: 95,000 miles or 5 yrs., in documented unsafe & poor operating conditions.</p> <p><u>Light Duty Paratransit</u>: 100,000 miles or 7 yrs., in documented unsafe & poor operating conditions.</p> <p><u>Medium Duty Paratransit/School Bus</u>: 120,000 miles or 8 yrs., in documented unsafe & poor operating conditions.</p> <p><u>Super Medium Duty Paratransit</u>: 180,000 miles or 9 yrs., in documented unsafe & poor operating conditions.</p> <p><u>Heavy Duty (>30 pass.)</u>: 280,000 miles or 10 yrs., in documented unsafe & poor operating conditions.</p>
Michigan	<p><u>Small body on van cut-away</u>: Delivered prior to 1/1/08: 5 yrs. Or 150,000 miles. Delivered on or after 1/1/08: Altoona testing.</p> <p><u>Medium body on truck chassis/trolleys</u>: Delivered prior to 1/1/08: 7 yrs. Or 200,000 miles. Delivered on or after 1/1/08: Altoona testing.</p> <p><u>Medium body on truck chassis/trolleys (30 to 34 Feet)</u>: Delivered prior to 1/1/08: 10 yrs. Or 350,000 miles. Delivered on or after 1/1/08: Altoona testing.</p>

State	Method or Criteria for Replacing Vehicles based on Useful Life
Michigan (continued)	<p><u>Large Bus:</u> Delivered prior to 1/1/08: 12 years or 500,000 miles. Delivered on or after 1/1/08: Altoona testing.</p> <p><u>Cars, minivans, standard vans, conversion van:</u> 4 years or 100,000 miles.</p> <p><u>Trucks:</u> 4 years (light duty) or 6 years (heavy duty).</p> <p>*The above noted schedule is not intended to be all inclusive. If the asset is not listed on the schedule, other approved methods must be applied to determine useful life.</p>
Minnesota	<p>Age and mileage of vehicles are reported each year with the Annual Management Plan application. The information is used as a basis for estimating useful life which is then entered into the Capital Plan. Replacement is determined by age, mileage and how effectively the program is meeting the needs of its intended clientele. Repair costs over the life of the vehicle are also taken into consideration. These factors will result in a condition rating. In order to be considered in a State of Good Repair, the condition rating must achieve a minimum rating (actual rating numbers are still out for review but will be formalized soon).</p>
Nebraska	<p>Vehicle replacement requests are considered on a case-by-case basis. Age, mileage and State of Good Repair are key factors for consideration. If the vehicle has fewer than 100,000 miles the State makes every effort to retain that vehicle in the rural fleet. Replacement of Section 5311 vehicles is driven by the application and is largely contingent upon the availability of local match.</p>
New Hampshire	<p>The vehicle useful life is based on either years or mileage. The useful life is input into a database upon vehicle purchase, with remaining useful life calculated based on the date of service.</p> <p>The Department has established the following useful life thresholds for all vehicles: Vans, sedans or station wagons – 4 years or 100,000 miles; Small buses, school buses, or minibuses – 6 years or 150,000 miles; Transit buses under 30 ft. – 7 years or 200,000 miles; Transit buses 30-40 ft. – 10 years or 300,000 miles; Transit buses 35 ft. or over – 12 years or 500,000 miles.</p>
New Jersey	<p>New Jersey is not currently using Section 5311 for replacement of vehicles that were previously purchased under ARRA. The replacement of ARRA vehicles will come from other sources.</p> <p>On the Section 5310 application, an agency must indicate whether a vehicle is meant to replace another vehicle or to start or expand a program. If a current agency is compliant and the program meets the needs of seniors and disabled individuals, a replacement vehicle is considered and possibly awarded.</p>
North Carolina	<p>Replacement is mileage based. Replacement is 145,000 miles for Light Transit Vehicles and 115,000 miles for Minivans. Mileage must be met by October 1 of the year when the grant is due. Grant applications are due in November.</p>
Pennsylvania	<p>Agencies apply for funding annually through the State’s electronic consolidated capital grant application process. In determining need, the State looks at factors such as vehicle mileage, age, condition, passengers served, service provided, and funding available. The</p>

State	Method or Criteria for Replacing Vehicles based on Useful Life
	State also looks at the agency's ability to manage and maintain its assets and compliance with Federal requirements. Generally, a vehicle is replaced shortly after it reaches its useful life.
Tennessee	<p>Rural transit providers are allocated annual Section 5311 funds based on a TDOT internal formula. Agencies create their program budget and submit to TDOT for approval. It is up to the agency to budget vehicle purchases into its Section 5311 budget. If an agency decides to purchase a replacement vehicle, then it must identify which vehicle will be replaced. TDOT approves the agency's Section 5311 budget and ensures that the vehicle identified to be replaced has met its useful life.</p> <p>If a vehicle in the Section 5310 program has met its useful age in years or by miles, then the vehicle qualifies to be disposed of and replaced.</p>
Texas	There are no specific vehicle replacement programs in place for the Sections 5310 and 5311 or 5311(f) programs. The State follows a hybrid approach of formula and discretionary approaches vehicles that have reached the FTA useful life standards.
West Virginia	The State maintains a database program known as the Automated Vehicle Inventory System (AVIS). The AVIS program can produce a Replacement Priority Report, which ranks (based on useful years and/or mileage life) each system's vehicle in order of need.
Wisconsin	<p>Minimum useful life for buses, vans, and trolleys is determined by years of service or accumulation of miles, whichever comes first.</p> <p><i>Section 5311 Public Transit Vehicles</i> have the following useful life standards: Vans, autos, station wagons, body-on-chassis buses: 100,000 miles; Small heavy-duty single unit transit buses (up to 35'): 10 years; Heavy-duty single unit transit buses (35' to 40'): 12 years.</p> <p><i>Section 5310 and 5339 Specialized Vehicles</i> have the following useful life standards: Small buses, regular or specialized vans: 4 years or 100,000 miles; Medium, light-duty transit buses (25'-35'): 5 years or 150,000 miles; Medium, Medium-duty transit buses (approx. 30'): 7 years or 200,000 miles; Medium Heavy-duty transit buses (approx. 30'): 10 years or 350,000 miles; Large Heavy-duty transit buses (approx. 35'-40', and articulated buses): 12 years or 500,000 miles.</p>

After a Federally-funded vehicle meets its useful life, a subrecipient requests and receives approval for disposition from the State DOT. At that point, States vary on the approach to what happens after disposal of the vehicle. All respondents (100%) indicated that Section 5311 vehicle operators or subrecipients are permitted to continue operating the vehicles after completion of useful life as a back-up or spare vehicle and the State releases the lien or provides the vehicle Title to the operator or subrecipient. And, all but one participating DOT permits Section 5310 subrecipients to continue operating the vehicle as a spare or back-up. This statistic suggests that (1) many vehicles, particularly in States with annual funding that is not sufficient to replace all of the vehicles that have reach useful life, are being used for an indefinite period of time beyond the State or Federal

Useful life standards; (2) the continuing challenge of subrecipients not having available local matching funds for replacement vehicles contributes to maintaining active vehicles that are beyond their useful life; and, (3) Regulatory changes in allocation formulas such as the 60%/20%/20% formula for Section 5310 which was implemented under MAP-21 have limited the States' discretion and ability to fund programs based on need and other locally relevant priorities and thereby created a backlog of vehicles eligible for replacement. For example, Maine DOT indicated that lack of local matching funds has hampered the DOT's ability to replace vehicles and to keep the fleet within its goal of no more than 20% beyond useful life standards. And, Michigan DOT indicated that before MAP-21 the State was able to maintain its goal to keep the rural fleet less than 20% past useful life; without the discretionary program Michigan's fleet has fallen far below the State's goal.

Table 4 summarizes the disposal procedure for program vehicles in each State. Some survey respondents stated that subrecipients have the option to keep or sell the vehicle when it reaches useful life, after the request for disposal is approved. In those cases, there is a "yes" in both the "Keep Vehicle" and "Sell Vehicle" columns.

Table 4: Procedure After a Vehicle Reaches Useful Life and is Disposed

State	Section 5311 Program		Section 5310 Program		Section 5311 and 5310 Programs Procedures After Disposition is Approved
	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	
Alabama	Yes	Yes	Yes	Yes	Subrecipients are permitted to sell the vehicle but 80% of the proceeds must be returned to the State to be used for eligible program uses.
Alaska	Yes	Yes	Yes	Yes	Subrecipients may sell the Section 5310 vehicle but proceeds must be used for another 5310 vehicle.
Arkansas	Yes	Yes	Yes	Yes	Subrecipients are permitted to sell the vehicle and use revenue in the transportation program.
California	Yes	Yes	Yes	Yes	Both Section 5311 and Section 5310 programs have procedures in place for keeping or selling the vehicle after disposition is approved. Subrecipients may keep and use their vehicles beyond useful life if they do not have funds to purchase new vehicles.
Connecticut	Yes	Yes	Yes	Yes	In some cases, grant subrecipients could continue to use the vehicle beyond its useful life.
Delaware	Yes	Yes	Yes	Yes	Subrecipients are permitted to keep using vehicles beyond their useful life. Mechanics check and make sure the vehicle is road worthy. If the vehicle is in good shape, it is kept in service. Vehicles are returned to DTC for disposition when they are no longer worthy of service.
Idaho	Yes	Yes	Yes	Yes	No comment provided.
Illinois	Yes	Yes	Yes	Yes	Subrecipients may request a release of the lien on the vehicle. Once the State releases the lien, subrecipients can continue to keep the vehicle in service or sell the vehicle. If subrecipients sell the vehicle, proceeds are used for a new vehicle but IDOT must retain the lien on the new vehicle.
Indiana	Yes	Yes	Yes	Yes	Subrecipients may sell the vehicle but proceeds must be used for another vehicle.

State	Section 5311 Program		Section 5310 Program		Section 5311 and 5310 Programs Procedures After Disposition is Approved
	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	
Iowa	Yes	Yes	Yes	Yes	Iowa subrecipients must keep buses in working order and get at least 3,000 miles per year after the useful life is up in order for that vehicle to be eligible for replacement. When the vehicle has been replaced, Iowa requires the subrecipient to dispose of it.
Kansas	Yes	Yes	Yes	Yes	Subrecipients may sell the vehicle but proceeds must be used for another vehicle.
Maine	Yes	Yes	Yes	Yes	Subrecipient is permitted to transfer the vehicle to another subrecipient. Subrecipients may sell the vehicle but proceeds must be used for another vehicle. Subrecipients may also dispose of the vehicle if it is no longer in use.
Michigan	Yes	Yes	Yes	Yes	Subrecipients are permitted to keep the vehicle in the fleet and use it as back-up, spare, etc. Subrecipients also have the option to sell the vehicle and keep the revenue in the transportation program.
Minnesota	Yes	Yes	Yes	Yes	Disposal options include selling the vehicle, retaining the vehicle for other uses, or using the vehicle for parts. Section 5310 subrecipients have no conditions imposed upon the use of the proceeds from the sale of the vehicle. Section 5311 subrecipients are permitted to sell the vehicle and keep the revenue in the transportation program.
Mississippi	Yes	Yes	Yes	Yes	Transportation operators are permitted to sell the vehicle and is required to remit a proportional amount of the proceeds back to MDOT if not using the funds in their transportation program (or) toward the purchase of another Section 5311 funded revenue vehicle.
Missouri	Yes	Yes	Yes	Yes	Subrecipients are permitted to sell the vehicle and required to remit Federal share of to MoDOT. MDOT retains 80% of the assessed value of the vehicle for a vehicle repair program on Federally funded vehicles that MoDOT-Transit staff administers.

State	Section 5311 Program		Section 5310 Program		Section 5311 and 5310 Programs Procedures After Disposition is Approved
	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	
Nebraska	Yes	Yes	Yes	Yes	No comment provided.
Nevada	Yes	Yes	Yes	Yes	Nevada DOT turns over the title to the Section 5310 subrecipient but requires that ridership data continue to be recorded as long as the vehicle remains in service.
New Hampshire	Yes	Yes	Yes	Yes	Subrecipients may sell the vehicle for fair market value or at the State surplus property auction but proceeds must be dedicated to the subrecipient's transportation program. It would be at the State's discretion whether an agency's spare ratio justified their being able to keep a vehicle as a back-up or spare.
New Jersey	Yes	Yes	Yes	Yes	Subrecipients are permitted to keep the vehicle in the fleet and use it as back-up, spare, etc., or sell the vehicle and keep the revenue in the transportation program.
New Mexico	Yes	Yes	Yes	Yes	Subrecipients may sell the Section 5311 vehicle but proceeds must be used for another Section 5311 vehicle if over \$5,000 is received. Subrecipients may sell the Section 5310 vehicle but proceeds must be used for another Section 5310 vehicle if over \$5,000 is received.
North Carolina	Yes	Yes	Yes	Yes	Subrecipients are permitted to sell the vehicle and keep the revenue in the transportation program. With prior approval, subrecipients are also permitted to keep the vehicle in service and use it for certain purposes.
Ohio	No response		Yes	Yes	No comment provided.
Pennsylvania	Yes	Yes	Yes	Yes	If the agency has a low spare ratio, PennDOT may allow them to keep the vehicle as a spare (usually 20%). If the proceeds received are less than \$5,000, PennDOT will allow the agency to keep the funds in a disposition account to be used in their transportation program. If the proceeds received are greater than \$5,000, PennDOT requires the agency to use the funds towards a future Section 5310-funded purchase.

State	Section 5311 Program		Section 5310 Program		Section 5311 and 5310 Programs Procedures After Disposition is Approved
	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	Keep Vehicle in Service and Use as Back-Up, Spare, Etc.	Sell Vehicle	
Tennessee	Yes	Yes	Yes	Yes	Subrecipients may sell or dispose of the Section 5310 and 5311 vehicles. Disposition will only be approved if subrecipient no longer plans to use the vehicle.
Texas	Yes		Yes		Texas operates a used transit vehicle clearinghouse for vehicles that have met the FTA's useful life standards (http://www.txdot.gov/inside_txdot/division/public_transportation/local_assistance/ptms.html)
West Virginia	Yes	Yes	Yes	Yes	Subrecipients may sell the Section 5311 or 5310 vehicle. The State of West Virginia provides no funding for the Section 5310 program, so the subrecipient retains proceeds from the sale of vehicles. Proceeds from the sale of Section 5311 revenue vehicles, unless funds are due to FTA, are returned to the State if the State provided the local match, which it has done for the past several years.
Wisconsin	Yes	Yes	No	Yes	Subrecipients may sell the vehicle but proceeds must be used for another vehicle. Subrecipients must dispose of the Section 5310 vehicle if it is no longer in use. Subrecipients must dispose of the Section 5310 vehicle if it is no longer in use.

Vehicle Replacement Funding and Schedules for Purchasing

All State DOTs were asked to provide a count of (1) Section 5311 revenue vehicles and Section 5310 program vehicles that are eligible for replacement; (2) vehicles that have met the useful life standards (either FTA's, the State's, or both) and will be replaced each year; and, (3) vehicles that will not be replaced due to lack of funds from any funding source, by year.

Nearly all survey respondents indicated that vehicle replacement is determined when the vehicle meets its useful life (as opposed to making a projection and determining replacement prior to when the vehicle meets its useful life). A sampling of survey respondents revealed that it takes, on average, five to nine months from the time the contract for a smaller bus or van is issued until that vehicle is delivered. The procurement time could be as long as one year for larger buses.

There were four exceptions where respondents determine the replacement schedule prior to the vehicle meeting useful life, as follows:

- Pennsylvania has created a Transit Asset Management tool called the Capital Planning Tool. This tool allows Pennsylvania to see all agency assets and know in advance when the asset's useful life will expire.
- Minnesota requires subrecipients to report age and mileage of fleet vehicles each year with the Annual Management Plan application. The information is used by the DOT as a basis for estimating useful life, which is then entered into the Capital Plan.
- Delaware projects the useful life of vehicles through a replacement schedule.
- North Carolina determines replacement of vehicles prior to when the vehicle meets useful life.

Table 5 illustrates the contrast in the number of vehicles that will and will not be replaced in each State. Approximately 42% of States will have vehicles in their Section 5311 fleets that are beyond useful life but cannot be replaced due to lack of funding and 10% were not able to determine at this time if funds will be available to replace vehicles in future years. If vehicles that are beyond useful life and eligible for replacement cannot be replaced due to limited funds, depending on State policy and the condition of the vehicles, the agencies will be forced to locate alternative discretionary funding, downsize their fleets or support policies that allow agencies to operate vehicles that are beyond useful life until additional funding for replacement vehicles can be identified. Examples of States where a shortfall of funding that will result in a backlog of Section 5311 revenue vehicles that are beyond useful life but cannot be replaced include Idaho, Indiana, Michigan, Mississippi, New Mexico, Tennessee, and Wisconsin DOTs. For example, Idaho will not be

replacing any of its Section 5311 Program vehicles that have reached useful life standards due to lack of funding.

States with funding limitations are looking for alternatives to address the backlog of vehicles that will need to be replaced. Michigan DOT, for example, indicated that although it has a large number of Section 5311 subrecipient vehicles that are not able to be replaced using formula funds, the DOT has received discretionary funding in the past to assist with the number that can be replaced. Michigan DOT hopes to receive some Section 5339 discretionary funding and apply it to the current and predicted backlog of Section 5311 vehicles that are due for replacement. The DOT is also considering the possibility of transferring some of the Section 5311f funding for replacement of Section 5311 vehicles.

Approximately one third of participating States were not able to predict the number of vehicles that would or would not be replaced in future years. States indicated multiple factors limiting their ability to predict replacements, including but not limited to the schedule to replace vehicles being determined at the time of the annual grant applications and not in advance, and/or the fact that States did not actively track and monitor vehicle replacement needs and therefore could not provide accurate projections at the time of the survey, and/or State's procedure for procuring Section 5311 program vehicles through the Section 5339(b) discretionary grant which has not yet been awarded. Table 5 includes the State DOTs that provided vehicle replacement schedule data. States that did not provide data or provided partial or inconsistent survey data are indicated with "N/A" in the table.

Table 5: Section 5311 Revenue Vehicles Beyond Useful Life and Replacement Schedule

State	Number of Section 5311 Revenue Vehicles Eligible for Replacement					Number of Section 5311 Revenue Vehicles that Have Met the Useful Life Standards established by FTA or the State and will be Replaced in Each Year					Number of Section 5311 Revenue Vehicles that Will <u>NOT</u> be Replaced due to Lack of Funds from Any Funding Source				
	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20
Alabama	25	24	50	19	38	25	24	50	19	38	0	0	0	0	0
Alaska	11	1	6	0	0	11	1	6	0	0	0	0	0	0	0
California	22	28	15	11	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Connecticut	52	4	6	5	43	52	4	6	5	43	0	0	0	0	0
Delaware	21	23	20	17	17	21	23	20	17	17	0	0	0	0	0
Idaho	16	0	2	0	0	0	0	0	0	0	16	0	2	0	0
Indiana	335	313	299	266	0	60	70	65	49	0	275	243	243	217	0
Kansas	297	323	360	404	465	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maine	18	6	3	1	8	2	9	9	N/A	NA	N/A	N/A	N/A	N/A	N/A
Michigan	246	131	91	72	68	18	18	18	18	18	228	113	73	54	50
Minnesota	68	61	63	69	65	68	61	63	69	65	0	0	0	0	0
Mississippi	192	203	244	285	354	69	101	122	142	177	96	102	122	143	177
New Hampshire	3	20	2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Jersey	18	6	14	0	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Mexico	128	154	158	170	173	18	18	23	23	23	110	136	135	147	150
Pennsylvania	22	0	21	11	18	22	0	21	11	18	0	0	0	0	0
Tennessee	17	17	16	14	6	8	8	8	7	3	9	9	8	7	3
West Virginia	48	30	32	38	46	48	30	32	38	46	0	0	0	0	0
Wisconsin	60	31	20	27	20	25	25	20	25	20	35	6	0	2	0
AVERAGE	84	72	75	74	70	30	26	31	30	33	55	44	42	41	27

N/A = Information not available

Table 6 illustrates the vehicle replacement projections for the Section 5310 program. Approximately 47% of States project that some or all Section 5310 vehicles that reach useful life by Fiscal Year (FY) 2020 will not be replaced as scheduled due to lack of funding. Failure to replace vehicles on schedule is likely to result in increased maintenance costs, safety issues, and/or decreases in services provided by the transit operators, among other issues. Some States, such as Mississippi, are experiencing a declining trend in non-FTA funds to support the Section 5310 program. As a solution, Mississippi is using Federal Section 5339 funds to purchase vehicles in support of the Section 5310 programs.

Approximately 70% of participating States were not able to accurately project when vehicles in the Section 5310 program would meet useful life standards each year or the number of those vehicles that would or would not be replaced due to funding availability. For example, a State DOT may know the number of vehicles that will be eligible for replacement, but it may not know if funding will be available to replace each vehicle. States that could predict a portion of the information are included in Table 6 but a “N/A” appears in one or more years where information was not available. Other State DOTs, which are not included in this table, may not have the ability to project the number of vehicles that will be eligible for replacement each year because the State does not actively track Section 5310 vehicle replacement schedules prior to applications for replacement vehicles are submitted, or other funding sources may be used for replacement and the amount of funding that will be granted from those sources is unknown at this time.

Table 6: Section 5310 Program Vehicles Beyond Useful Life and Replacement Schedule

State	Number of Section 5310 Vehicles Eligible for Replacement					Number of Section 5310 Vehicles that Have Met the Useful Life Standards Established Either by FTA or the State and will be Replaced in Each Year					Number of Section 5310 Vehicles that Will <u>NOT</u> Be Replaced Due to Lack of Funds from Any Funding Source				
	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20
Alabama	50	42	58	30	0	50	42	58	30	0	0	0	0	0	0
Alaska	8	12	12	12	12	5	10	8	8	8	3	2	4	4	4
Idaho	40	9	1	2	1	0	0	0	0	0	40	9	1	2	1
Iowa*	700	700	700	700	700	1	1	1	1	1	699	699	699	699	699
Kansas	142	157	177	214	260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maine	123	38	60	15	23	23	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Michigan	52	93	35	35	59	52	93	35	35	59	0	0	0	0	0
Minnesota	35	35	35	35	35	33	33	33	33	33	2	2	2	N/A	N/A
Mississippi	182	188	214	239	254	91	94	107	118	127	91	94	107	119	127
Nebraska	156	20	23	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nevada	5	1	0	4	3	5	0	0	4	2	0	1	0	0	2
New Jersey	29	71	180	56	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Mexico	91	126	148	166	186	31	31	31	31	31	60	95	117	135	155
Ohio	303	377	496	603	684	151	74	119	107	81	152	303	377	496	603
Pennsylvania	267	174	101	167	73	170	174	101	167	73	97	0	0	0	0
Tennessee	34	108	61	52	3	16	54	30	26	2	0	0	0	0	0
Wisconsin	63	29	63	11	65	44	N/A	N/A	N/A	N/A	21	N/A	N/A	N/A	N/A
AVERAGE	134	128	139	138	139	48	48	44	47	35	90	100	109	132	145

*Iowa does not differentiate between grant programs when counting these vehicles. Because all 700 vehicles are ADA accessible, they were included in the Section 5310 table and not the Section 5311 table.

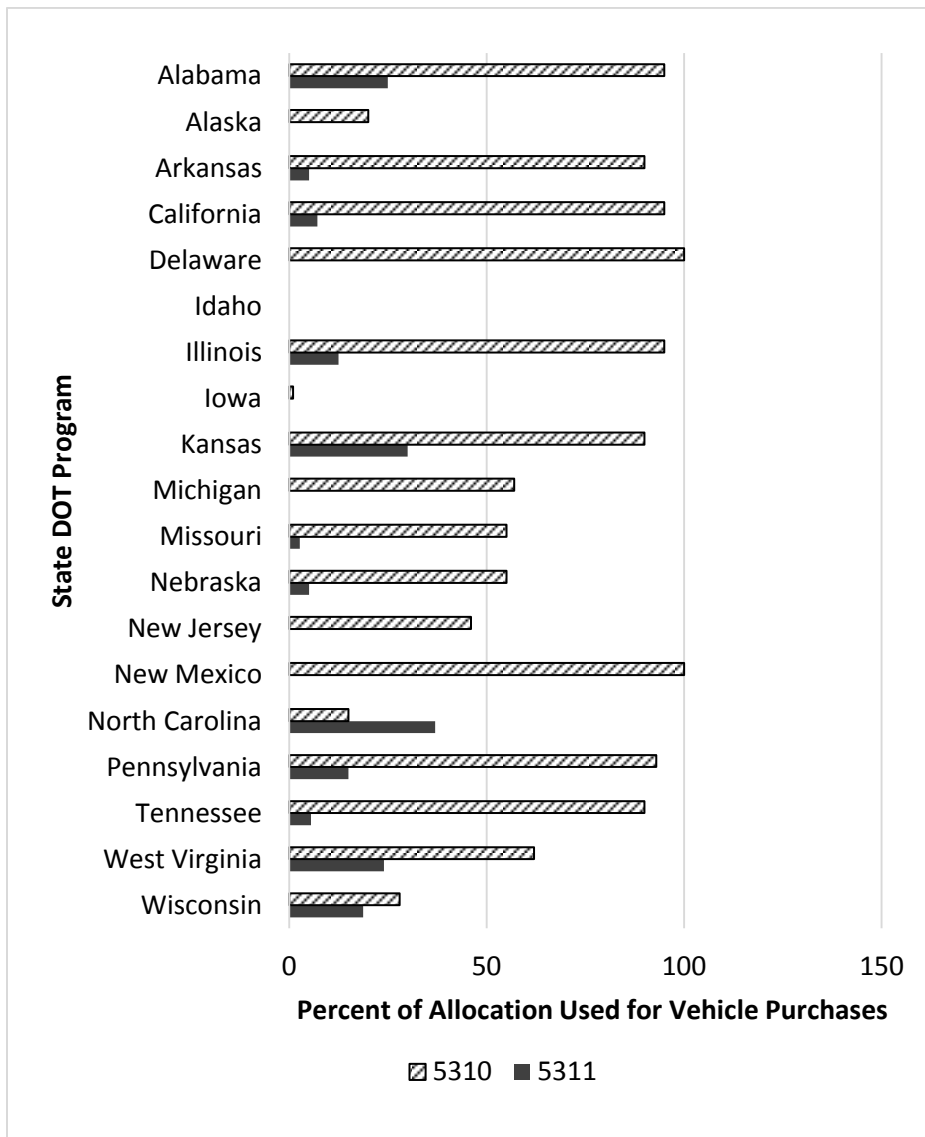
N/A = Information not available

Funding Allocations

As illustrated in Exhibit 5, during FY 2016, there was a large difference between the amounts of Section 5310 and Section 5311 funding used for vehicle purchases. Survey respondents used an average of 10% of their total Federal Section 5311 Program funding apportionment to purchase revenue vehicles. This is compared to an average of 62% of the Section 5310 Program funding allocations that were used for vehicle purchases.

The higher percentage of funding used for capital purchases in the Section 5310 program may, in part, be due to the history of the program. Section 5310 Program funding has traditionally been used for capital purchases, and nearly half of respondents continue to use 90% to 100% of total Section 5310 funding allocations for capital vehicle purchases even though Section 5310 funding also can be used for operating.

Exhibit 5: Comparison of State Section 5311 & 5310 Funding Used to Purchase Vehicles, FY 2016



States included in Exhibit 5 but without one or two bars indicated that they use all or nearly all of the Section 5311 allocation for operating and use other resources for capital purchases that support the Section 5311 program. Additional information is provided in the following paragraphs.

Use of Federal Funds Other than Section 5311 and 5310 for Vehicle Purchases

Federal funding sources other than Sections 5311 and 5310 that are commonly used to purchase vehicles which support Rural Transit and Enhanced Mobility for Seniors and Individuals with Disabilities include but are not limited to the Section 5339, Bus and Bus Facilities and the Congestion Mitigation and Air Quality Improvement (CMAQ) grant programs. The participating States listing other Federal funding sources for Section 5311 vehicle purchases were:

- Alaska has used American Reinvestment and Recovery Act (ARRA) funding to purchase Section 5311 vehicles. Alaska plans to replace those vehicles using Section 5311 funding.
- California uses only 10% of Section 5311 funds for vehicle purchases and 90% for operating. The State uses a variety of other sources of funding for vehicle purchases. The Section 5339 Program is a funding source used in California for vehicle purchases. In addition, some agencies that receive Section 5311 funding are eligible for Section 5307 and use it to purchase vehicles. Finally, some agencies also use State funds to purchase vehicles.
- Indiana uses Section 5311 funding solely for operating purposes. Other sources such as Section 5339 (Bus and Bus Facilities) are used for vehicle purchases.
- Illinois applied for a Section 5339 grant to replace its Section 5311 vehicles that were beyond useful life standards as of FY2015.
- Iowa uses Section 5339 and CMAQ as funding sources for vehicle replacements and directs its Section 5310 funding mostly toward transit provider operating budgets and the cost of contracted services. Iowa has 1,500 transit vehicles, almost all of which are ADA compliant. Of these, more than half are past their FTA useful life. Iowa is not able to divert Section 5310/5311/5307 funds to vehicle replacement because those funds are needed to maintain (not expand) current transit service levels. In Iowa, more than 700 vehicles in the Section 5310 and 5311 Programs are eligible for replacement and the funding shortfall of approximately \$130,000,000 with \$25,000,000 annually to maintain those vehicles would be needed in order to replace those vehicles.
- The majority of rural vehicles in Michigan are purchased with State Highway flexible funds and Section 5339 discretionary funds.
- New Hampshire primarily uses the Section 5311 apportionment for operating expenses, while Section 5339 funds are used for rural vehicle purchases.
- In New Mexico, all Section 5311 funds are expended for operating. Section 5339 and 5309/ARRA are used for rural capital.

Use of Non-FTA Funds

Forty-eight percent (48%) of Section 5311 respondents and 64% of Section 5310 respondents indicated that State (non-FTA) funds have been used in the past five years for the replacement of revenue vehicles. While survey results were not definitive as to the source of non-FTA funding, the feedback indicates that State funds were the non-FTA funds most commonly applied to compensate for a local agency's lack of local matching funds.

As illustrated in Table 7, five Section 5311 survey respondents experienced an increase in non-FTA State funds, two respondents experienced (or are expecting) a decrease in funding, and one respondent experienced both an increase and decrease. All other Section 5311 respondents indicated that non-FTA funding available for purchase of Section 5311 revenue vehicles remained steady.

In Alaska, the available State funding levels have decreased and have not been restored. Also, Illinois and New Jersey experienced decreases in available funding for replacement vehicles. Illinois experienced a decrease in non-FTA funding when the State's Capital Bill ran out. The State has partially replaced the Capital Bill with the use of Toll-way Disbursement Credits (TDCs) as a source for capital matching dollars to the Section 5310 and 5311 programs which has helped to mitigate the decrease in available non-FTA funding. A replacement for New Jersey's State funding has not yet been identified.

Nearly all of the Section 5310 survey respondents indicated that non-FTA sources of funding for replacement vehicles in the 5310 Program have remained steady over the past three years. The exceptions are Pennsylvania, Kansas, North Carolina, and Alaska, which experienced increases in non-FTA funding sources for the Section 5310 Program.

Table 7: Non-FTA Funding Used for Section 5311 Replacement Vehicles, 3-Year Funding Trends

State	Changes in Non-FTA Funding Amounts Supporting Section 5311	Changes in Non-FTA Funding Amount Supporting Section 5310
Alabama	Remained Steady	Remained Steady
Alaska	Decreased	Increased
Arkansas	Remained Steady	Remained Steady
California	Remained Steady	Remained Steady
Connecticut	Remained Steady	N/A
Delaware	Remained Steady	Remained Steady
Illinois	Increased and Decreased	Decreased
Idaho	Remained Steady	Remained Steady
Iowa	Remained Steady	Remained Steady
Kansas	Increased	Increased
Maine	Remained Steady	Remained Steady
Michigan	Remained Steady	Remained Steady
Minnesota	Increased	Remained Steady
Mississippi	Remained Steady	Decreased
Missouri	Remained Steady	Remained Steady
Nebraska	Remained Steady	Remained Steady
Nevada	Remained Steady	Remained Steady
New Hampshire	Increased	No Comment
New Jersey	Remained Steady	Decreased
New Mexico	Remained Steady	Remained Steady
North Carolina	Increased	Increased
Ohio	No Comment	Remained Steady
Pennsylvania	Increased	Increased
Tennessee	Remained Steady	Remained Steady
West Virginia	Decreased	Remained Steady
Wisconsin	Remained Steady	Remained Steady

Policies for Distribution of Funds

Policies for distribution of Section 5311 funding for revenue vehicle purchases typically focused on one or a combination of the following four factors:

- Justification from the subrecipient that the vehicle is needed.
- Priority given to subrecipients that have a need for vehicle replacements during a given year.
- A formula created by the granting agency/DOT that includes factors such as service area population, projected annual ridership and miles, and the operator’s plans for expansion.
- Available funding for vehicle purchases, including matching funds.

Table 8 shows the State Section 5311 programs that identified “need” and “available funding” for the vehicle as factors in how Section 5311 funding for revenue vehicles is distributed.

Table 8: “Need” Based Distribution of Section 5311 Funding for Revenue Vehicle Purchases

State	Distribution of Section 5311 Funding for Revenue Vehicle Purchases
Alabama	Funding decisions are based on requests from subrecipients. Distribution is based on justification of need for the vehicle.
Maine	Funding is distributed based on need and available funding, including local match. One of the biggest challenges facing Maine is the lack of local matching funds. This has hampered the State’s ability to replace vehicles. It is unlikely that State or local funding will increase to assist in meeting TAMP or SGR. Fixing America’s Surface Transportation (FAST) Act has brought little additional Federal funding to Maine and without additional Federal funding, it will be difficult to meet the goals of TAMP and SGR.
Nebraska	Funding for vehicles is awarded based on determination of need. Nebraska DOR Rail and Public Transportation do not have set replacement vehicle purchase guidelines. The DOR considers the age and mileage of the current fleet for replacement vehicles. Requests for expansion vehicles are evaluated considering the new service area, number of additional boardings, etc. The DOR also reviews current service in the area to ensure there is no duplication of service with the requested expansion vehicle.
West Virginia	Vehicle purchases are based on the subrecipients’ needs and availability of funds as well as the vehicle ranking within the AVIS system.

Table 9 summarizes respondents' formula based funding distribution procedures for capital funds to support the Section 5311 and 5310 transit services. It is likely that this sampling represents the majority of State DOTs.

Most survey respondents prioritize their grant distribution because available funds are not sufficient to cover all capital requests. Sixty-one percent (61%) of Section 5311 survey respondents and 88% of Section 5310 respondents gave priority to requests for replacement vehicles versus new/expansion vehicles or facilities. According to survey results, the majority of respondents allocate Section 5311 funds for vehicle purchases through a competitive application process that involves a formula based on need, service level, and/or priorities established by the State DOT. The application process and formula involves placing priorities on conditions such as new transit system "start-ups" and purchase of replacement or expansion vehicles for existing services. The most common conditions for priority were replacement versus expansion vehicles. The following table includes State programs identified through the survey effort where priority is assigned based on replacement or expansion and other conditions.

Table 9: States with Formula and/or Competitive Application Process

State	Distribution of Section 5311 and/or 5310 Funding for Vehicle Purchases
Alaska	Funding is determined by formula based on population of the area served, projected rides and projected miles. The subrecipient determines how much of its portion will be spent on capital and operating.
Arkansas	Funding is determined through an annual application process where vehicles are requested by agencies and identified as replacement or expansion vehicles. There are no standard guidelines for award decisions. If a replacement vehicle is requested, age and mileage of the current fleet are considered. If it is an expansion of service, the new service area, number of additional boardings, etc. are considered.
California	Approximately 90% of California's Section 5311 funds are spent on operating assistance with 10% used for other purposes, including replacement of vehicles.
Delaware	DelDOT, in cooperation with Sussex County, prepares a six-year Capital Transportation Plan (CTP) detailing how selected projects will be funded. Additionally, Section 5311 projects are included in the Transportation Improvement Plan (TIP). No competition exists because DTC is the sole provider of bus service.
Idaho	Priority 1: Existing Systems – Continued operating assistance. Priority 2: Existing Systems – Capital projects for existing systems. Priority 3: New Systems – Operating and capital expenses for new rural transportation systems.
Illinois	Funding is distributed in response to grant applications solicited via IDOT's Consolidated Vehicle Procurement (CVP) annual application process. The annual "pot"

State	Distribution of Section 5311 and/or 5310 Funding for Vehicle Purchases
	of Section 5311 funding dedicated to capital projects is determined managerially, typically about \$2M. Over 90% of the Federal funding for Section 5311 is being used for the operating category out of a roughly \$18 million allocation. IDOT is currently using much less than the maximum of 45% funding allowed for operating under Section 5310.
Kansas	All applications for vehicle funding have a peer review and receive a score based on the Project Section Criteria. These scores are used to determine which projects are funded each year.
Minnesota	Competitive grant applications for projects are identified and ranked by age, mileage and funding capacity.
Mississippi	<p>Funding is distributed based on the following eight criteria:</p> <ol style="list-style-type: none"> 1) Transportation operator's annual grant application and corresponding priority of projects demonstrating and justifying the program's criteria of needs for the number and descriptions of the vehicles requested; 2) Transportation operator's approved budget for the number of vehicles required for the respective fiscal year's program; 3) Transportation operator's ridership and fleet operations reports; 4) Transportation operator's plans for program expansion; 5) Transportation operator's current coordination activities with other transportation operators in the State; 6) Transportation operator's inclusion of the specific vehicles requested in its fiscal year budget submitted to MDOT Public Transit Division; 7) Transportation operator's adherence to the its program's approved Minimum Maintenance Plan and Capital Asset and Acquisition Program (CAAMP) that includes a mandatory five-year capital replacement plan; and 8) The FTA vehicle end-of-useful-life guidelines.
North Carolina	<p>In managing the statewide fleet of vehicles, Section 5310 funding priority is given to community transportation systems operating in the small-urbanized areas. With half of the Section 5310 program moving to large urban systems, NCDOT is concerned about meeting replacement vehicle schedules.</p> <p>Thirty-five percent (35%) of Section 5311 FTA funds are reserved for vehicle replacement. NCDOT currently cannot fund expansion vehicles with State or Federal funds unless approved for funding in the State's data driven process called Strategic Transportation Investment Act.</p>
Pennsylvania	Replacement of revenue vehicles is the first priority of the Section 5311 Capital Program. Funding is distributed based on which transit systems have vehicle replacement needs in a given year. The further development of the Capital Planning

State	Distribution of Section 5311 and/or 5310 Funding for Vehicle Purchases
	Tool will allow PennDOT to forecast available funding for future replacement vehicles.
Tennessee	Rural transit providers are allocated annual Section 5311 funds based on a TDOT internal formula. Agencies create their program budget and submit it to TDOT for approval.
Texas	The Section 5311 program consists of two parts, formula and discretionary. In the formula program, transit agencies may elect to spend their allocations on any eligible expense. It is entirely a local decision that could involve the purchase of vehicles, or not. Based on information by the Texas Division of Public Transportation, a mere 4% of Section 5311 funding across the discretionary, formula, and intercity bus sub-programs of Section 5311 goes toward vehicle purchase.
Wisconsin	The process for determining which entities receive grant funding will first follow a prioritization list (replacement vehicles, initiating a new public transit service, replace maintenance/storage facilities, expansion vehicles, expanding facilities, purchases of equipment/signs/etc.) Then, awards will be based on relative need, i.e., age, mileage and condition of the vehicles to be replaced by each subrecipient, as well as the overall state of the fleet (not just the vehicles to be replaced) and spare ratio for the system. The final methodology has not yet been determined.

Respondents were asked to estimate the cost of the vehicles that could not be purchased due to lack of available funds (including State, Federal, and local resources) during the last fiscal year. While many DOTs were not able to provide a dollar estimate, Table 10 illustrates results from a sampling of eight DOT respondents that were unable to purchase necessary vehicles due to lack of funds totaling an estimated \$43,760,000 for Section 5311 programs and \$169,514,000 for Section 5310 programs.

Table 10: Sampling of the Estimated Cost of the Vehicles Not Purchased Due to Lack of Funds

State	Cost of Vehicles Not Purchased for Section 5311	Cost of Vehicles Not Purchased for Section 5310
California	\$-	\$8,500,000.00
Illinois	\$4,000,000.00	\$2,000,000.00
Iowa*	\$-	\$134,000,000.00
Michigan	\$20,000,000.00	\$-
Missouri	\$15,400,000.00	\$20,115,000.00
New Jersey	\$-	\$138,000.00

State	Cost of Vehicles Not Purchased for Section 5311	Cost of Vehicles Not Purchased for Section 5310
New Mexico	\$3,360,000.00	\$2,050,000.00
Wisconsin	\$1,000,000.00	\$2,711,000.00
Total	\$43,760,000.00	\$169,514,000.00

* Iowa does not differentiate between the Section 5311 and 5310 Programs with this estimate. The amount was included as Section 5310 because all of the vehicles are ADA accessible.

Rolling Stock Overhauls

Rolling stock overhauls are an eligible capital expense under the preventive maintenance category. This eligibility for capital assistance also applies to leasing and contracted service. Overhauls are usually performed to make sure rolling stock reaches its useful life. Overhaul does not extend the useful life of rolling stock. For rolling stock to be overhauled, it must have accumulated at least 40 percent of its useful life as specified in FTA Circular C 5010.1D 11/01/2008 Rev. 1: 8/27/2012. This eligibility is in addition to eligibility of rebuilding specifically discussed above in Chapter IV, Subsection 3.g.

Two Section 5311 program respondents (Mississippi and Connecticut) and three Section 5310 program respondents (Iowa, Kansas, and Nevada) are currently performing rolling stock overhauls on medium-duty transit vehicles in accordance with Federal guidance (FTA Circular C 5010.1D 11/01/2008 Rev. 1: 8/27/2012).

Pennsylvania, according to the survey, is considering rolling stock overhauls on large heavy-duty buses at 12 years/500,000 miles and small heavy-duty buses at 10 years/350,000 miles. Pennsylvania indicated that because of the lack of available funding, at times it is impossible to replace a vehicle that has met its useful life in a particular year. If planned, vehicle overhauls can extend the life of vehicles, which would, in turn, keep the fleet in a State of Good Repair.

Also, according to interview results, Regional Maintenance facilities in Illinois created a program to retrofit hybrid buses purchased with ARRA funding for which they were having parts replacement issues, by converting the gasoline/electric powertrains to diesel engines. This conversion has significantly extended the life of buses that would otherwise have been retired from service. Additional discussion about vehicle overhauls is provided in the following section of this study.

State of Good Repair

In general, respondents are monitoring the conditions of vehicles through annual compliance reviews and vehicle inspections, maintenance record inspections, grants management systems, and monthly, quarterly, and annual reports from each subrecipient. Some States, such as Pennsylvania

and Mississippi, have implemented Capital Asset Plans and Maintenance programs that measure the progress of capital assets. Alaska also is transitioning from paper files to an electronic database to monitor all Section 5310 vehicles.

Ninety-nine percent (99%) of Section 5310 Program survey respondents confirmed that procedures are in place to monitor vehicle usage by grant recipients to determine if a vehicle is really being used as proposed in the grant application. Monitoring procedures are similar to those listed in the preceding paragraph regarding State of Good Repair monitoring (e.g., quarterly and annual reports, maintenance reports, annual on-site visits). The measurable progress made by each State through State of Good Repair monitoring practices that have been implemented is described in Table 11.

In addition to the States identified in Table 11, the following States have standard asset monitoring practices in place but are either in progress or have not yet implemented monitoring procedures to measure the State of Good Repair: Alabama, Alaska, Arkansas, California, Indiana, Kansas, Maine, Michigan, Nebraska, New Hampshire, and Wisconsin.

Table 11: State of Good Repair Practices and Progress

State	Existing Standards for Measuring Condition of Vehicles?	Practices Implemented to Identify and Monitor State of Good Repair	Measurable Progress Made since SGR Practices Have Been Implemented and Monitored
Idaho	Yes	<p>Transit, in partnership with Idaho State Police (ISP) Commercial Vehicle Unit, inspects the transit vehicles, at minimum, bi-annually.</p>	<p>In 2015, 89% of Idaho’s Section 5311 vehicle fleet was beyond useful life standards. Idaho was able to identify and resolve areas needing attention on 19 vehicles. Since then, Idaho has begun re-inspecting those vehicles and has found that all vehicles have been re-inspected and are still in good standing for SGR practices.</p>
Illinois	Yes	<p>Annual program visits and review.</p> <p>A Downstate capital needs assessment conducted by the Rural Transit Assistance Center at Western Illinois University established a baseline of need to promote a more performance based funding of rural and small urban capital replacement based on miles and hours of service.</p> <p>One of the current plans is for IDOT to establish State standards for TAM plans for Tier II systems and providing technical assistance in the development of local agency plans.</p> <p>IDOT has also promoted the use of larger Mass Transit District Regional Maintenance Centers that have established maintenance performance measures for body-on-chassis buses. This includes the provision of contract maintenance, warranty work and maintenance</p>	<p>Recently added and/or replaced 200 vehicles in the fleets of providers statewide.</p> <p>The data provided through the Capital Needs Assessment survey laid the basis for more performance-based funding of rural and small urban system capital replacement, which is currently in progress.</p> <p>The Regional Maintenance facilities provide retrofitting of ARRA hybrid buses that were having maintenance and parts replacement issues before reaching their useful life. Many of those vehicles are in active service today.</p>

State	Existing Standards for Measuring Condition of Vehicles?	Practices Implemented to Identify and Monitor State of Good Repair	Measurable Progress Made since SGR Practices Have Been Implemented and Monitored
		consulting for smaller transit agencies.	
Iowa	Yes	Iowa follows FTA guidelines for monitoring State of Good Repair.	Proper preventive maintenance.
Michigan	Yes	Michigan utilizes the Public Transportation Management System (PTMS).	Michigan annually tracks the age of the rural fleet and has a goal to keep less than 20% past useful life. Before MAP-21, Michigan was able to maintain its goal; however, without the discretionary program, Michigan's fleet has fallen far below its target. In 2015, Michigan was 33% past useful life. The State has the necessary matching funds should any discretionary funding become available.
Mississippi	Yes	Annual and semiannual monitoring and the reporting of rolling stock and program equipment by DOT Public Transit Division staff to ensure a proper state of good repair is maintained for all transportation providers' active rolling stock. In addition, the transportation operators are required to establish and adhere to an approved and monitored Minimum Maintenance Plan and Capital Asset and Acquisition Program (CAAMP) that includes inspections of their mandatory five-year capital replacement plan for their program's transportation operations.	MDOT Public Transit Division staff has noted measurable progress of capital asset conditions during the initial years of the transportation operators' adherence to these mandatory transportation program policies. The State of Good Repair progress noted from these programs initiated for and utilized by the transportation operators can be measured in the fewer number of Section 5311 revenue vehicles requested to perform transportation program operations within the State. In addition, more transportation providers have been able to keep their Section 5311 revenue vehicles operating longer from better asset management practices and increases in vehicle overhauls and refurbishments, as opposed to a higher number of

State	Existing Standards for Measuring Condition of Vehicles?	Practices Implemented to Identify and Monitor State of Good Repair	Measurable Progress Made since SGR Practices Have Been Implemented and Monitored
			requests for the replacement of these vehicles.
New Jersey	Yes	NJ currently completes annual on-site inspections by in-house inspection staff of every Section 5310 and Section 5311 vehicle in the State.	Inspections help identify poorly maintained vehicles and when coupled with underutilization, can trigger reassignment of a vehicle to an eligible sub-recipient that can more effectively use the vehicle.
New Mexico	Yes	New Mexico is in the process of implementing an electronic Transit Asset Management system.	None. Without additional funds, the State replaces what it can through a well-monitored vehicle maintenance program. Although "useful life" based on years and mileage has been attained, the vehicle condition extends the "useful life" to 8 or 9 years. Although 65.9% (128) of the total fleet is beyond its "useful life" based on year and mileage, it is estimated that only about 20% (42) of the total fleet is beyond a state of good repair.
North Carolina	Yes	Online vehicle maintenance software has been implemented.	Streamlined monitoring of on-time vehicle and wheelchair compliance standards.
Ohio	Yes	ODOT will be implementing and monitoring the Plan as currently outlined in the NPRM.	An 80% on-time performance goal of vehicle and wheelchair maintenance has been established.
Pennsylvania	Yes	PennDOT has created a transit asset management tool called the Capital Planning Tool. PennDOT also conducts compliance reviews of transit agency preventive maintenance practices to ensure FTA funded vehicles are being maintained in accordance with manufacturers'	The asset management tool has allowed PennDOT to manage its available Section 5311 funding in a more efficient manner. It allows PennDOT to see what assets will need replaced in future years, and it gives PennDOT time to plan accordingly based on funding that is

State	Existing Standards for Measuring Condition of Vehicles?	Practices Implemented to Identify and Monitor State of Good Repair	Measurable Progress Made since SGR Practices Have Been Implemented and Monitored
		recommendations.	available. It is believed that the recent encouragement of regionalization and consolidation of transit agencies, including the incentive of a five-year waiver of the local match requirement for the consolidated agency, will promote improved SOGR performance by transit agencies in the State.
Tennessee	Yes	Agencies are required to submit Vehicle Inventories semi-annually. The spreadsheet includes a column for condition, revenue miles, years of service so that TDOT can identify and monitor vehicles that have reached useful life and are approaching useful life. As TDOT issues the program call for projects and receives application requests, TDOT reconciles requests with fleet inventory to ensure that agencies are prioritizing the replacement of the oldest, highest mileage vehicles.	Average age of fleet has decreased and condition of fleet has improved.
West Virginia	Yes	WV uses the AVIS Program to identify when vehicles meet their useful life and rank them as to when new vehicles need to be purchased. The DOT also asks subrecipients to identify in their Section 5311 applications, what they anticipate needing over a three-year period.	Most systems maintain a fleet that is in good-excellent condition.

Accident Data Collection

Section 5310 respondents were asked if any data had been collected or correlations made between the number of transit accidents and the age of the vehicles involved. Twenty-four (24) respondents do not make such correlations of data. Three (3) respondents reported that they do collect the data (below). Other survey participants did not respond to the question.

- Ohio currently collects data regarding the age of vehicles and all accident reports; however, correlations between the two factors have not been made.
- Nevada compares vehicle inventory information when an accident report is received. Accident reports are required for all Federally-funded vehicles.
- Pennsylvania indicated that the data that is now being generated through its recently implemented Capital Planning Tool (CPT) may now enable some local transit agencies to examine the relationship between vehicle age/condition and accident occurrence.

Transit Asset Management Plans

Table 12 outlines the frequency with which survey respondents have established objective standards for measuring the condition of the revenue vehicles under the Section 5311 and 5310 Programs. Most State DOTs have, or will soon have, objective standards for measuring the condition of the revenue vehicles but do not yet require subrecipients to have TAM Plans.

Table 12: State Transit Asset Management Plan Requirements

State	State has Objective Standards for Measuring the Condition of Revenue Vehicles Under the Section 5311 Program		Section 5311 Subrecipients are Required to Have TAM Plans		Section 5310 Subrecipients are Required to Have TAM Plans	
	Yes	No	Yes	No	Yes	No
Alabama	X		X		X	
Alaska	X		X		X	
Arkansas	X		X			X
California	X			X		X
Connecticut	X		X			X**
Delaware		X	Not Reported			X
Idaho	X		X		X	
Illinois	X					X
Indiana	X		X			X

State	State has Objective Standards for Measuring the Condition of Revenue Vehicles Under the Section 5311 Program		Section 5311 Subrecipients are Required to Have TAM Plans		Section 5310 Subrecipients are Required to Have TAM Plans	
Iowa	Not Reported		Not Reported			X
Kansas		X		X		X
Maine	X		X		X	
Michigan	X		X		X	
Minnesota	X			X		X
Mississippi	X		X		X	
Missouri		X		X		X
Nebraska		X		X		X
Nevada		X	X		X	
New Hampshire		X		X	Not Reported	
New Jersey	X			X		X
New Mexico	X			X		X
North Carolina	X			X		X
Ohio	Not Reported		Not Reported			X
Pennsylvania	X			X		X
Tennessee		X		X		X
West Virginia	X			X		X
Wisconsin		X		X		X

*“Not Reported” indicates that the respondent did not answer the survey question.

** Connecticut will require Section 5310 subrecipients to have TAM Plans if required in the final rule by FTA.

Vehicle Leasing

None of the survey respondents intend to lease any vehicles for the Section 5311 or 5310 Programs in Fiscal Years 2016 through 2020.

Purchase of Service Agreements

Section 5310 Program respondents were asked what number of agencies in their State opted to acquire Section 5310 services via purchase of service in lieu of vehicles. Five (5) States indicated that at least one transit agency had opted for purchase of service, as follows:

- Alabama – Four agencies opted to acquire Section 5310 services via purchase of services in lieu of vehicles.

- Iowa – Fifteen agencies opted to acquire Section 5310 services via purchase of services resulting in 699 vehicle purchases that did not need Section 5310 funding. The agencies determine their own subcontractors. Iowa only requires agencies to have a contract/agreement with the subcontractor, and does not make mandates about the language that must be included in such agreements. Iowa does require subcontractors to follow all FTA “Open to the public” rules.
- Mississippi – Twelve agencies opted to acquire Section 5310 services via purchase of service in lieu of vehicles.
- Idaho – Three agencies opted to acquire Section 5310 services via purchase of services in lieu of vehicles.
- New Jersey – Three agencies opted to acquire Section 5310 services via purchase of services in lieu of vehicles.

Section 5310 and 5311 Procurement Staffing Levels

The vehicle procurement process is lengthy. Nonetheless, the majority (68%) of respondents indicated having sufficient staff to undertake vehicle procurements for the Section 5311 and/or 5310 programs. The 32% of respondents that did not have sufficient procurement staffing levels indicated that one to five additional staff are needed. Table 13 outlines, by State, the staffing levels that are considered sufficient and insufficient. It is possible that, at least in part, the procurement practices of various State DOTs have been adjusted so that procurement responsibilities do not overwhelm the number of staff available, and therefore, while additional staff may be beneficial, State DOTs have adjusted to functioning with fewer people. In addition, a few State DOTs are using the State’s Division of Administration or another similar State agency to conduct or partially conduct procurements, which minimizes involvement of the DOT staff in vehicle procurement procedures.

Table 13: Procurement Staffing Levels at State DOTs for Section 5310 and 5311 Programs

State	State Agency has Sufficient Staff to Undertake Vehicle Procurements		
	Yes	No	If No, Number of Additional Individuals Needed
Alabama		X	3
Alaska		X	1
Arkansas	X		
California		X	5
Connecticut	X		
Delaware	X		
Idaho	X		

State	State Agency has Sufficient Staff to Undertake Vehicle Procurements		
	Yes	No	If No, Number of Additional Individuals Needed
Illinois	X		
Indiana	X		
Kansas		X	2
Maine	X		
Michigan	X		
Minnesota	X		
Mississippi		X	2
Missouri	X		
Nebraska		X	2
Nevada	X		
New Hampshire		X	1
New Jersey	X		
New Mexico	X		
North Carolina	X		
Pennsylvania	X		
Tennessee	X		
West Virginia	X		
Wisconsin		X	1

The survey also explored the types of training provided to State DOT procurement staff to improve competency and efficiency. Common training programs included the following:

- National Transit Institute (NTI) Procurement Classes
- Federal Transit Administration (FTA) sponsored trainings
- Consultant training for DOT staff and transit agencies
- Federal Transit Administration procurement reviews
- Transit-related conferences and webinars
- In-house conferences and workshops

2.3 Section 5311(f) Survey Results

Half of the survey respondents are planning vehicle purchases for the Section 5311(f) Program during Fiscal Years 2016 through 2020. Table 14 outlines the planned purchases by State.

Table 14: Planned Vehicle Purchases for Section 5311(f) Programs, FY 2016 through FY 2020

State	Planned Vehicle Purchases												
	Yes	No	FY 16	Type	FY 17	Type	FY 18	Type	FY 19	Type	FY 20	Type	Total
Alaska	X		2	Cutaway, Accessible	0	N/A	0	N/A	0	N/A	0	N/A	2
Alabama	X		5	Modified Vans, CCB Buses	6	Modified Vans, CCB Buses	4	Modified Vans, CCB Buses	5	Modified Vans, CCB Buses	6	Modified Vans, CCB Buses	26
Iowa	X		4	55 passenger Coaches	0	N/A	0	N/A	0	N/A	0	N/A	4
Michigan	X		4	Motor Coach	4	Motor Coach	5	Motor Coach	6	Motor Coach	7	Motor Coach	26
Kansas	X		2	Motor Coach	2	Motor Coach	0	N/A	0	N/A	0	N/A	4
Minnesota	X		0	N/A	5	Medium Duty Body on Chassis Buses	0	N/A	0	N/A	0	N/A	5
Missouri	X		4	Motor Coach	3	N/A	3	N/A	3	N/A	3	N/A	16
Pennsylvania	X		0	30-35 Foot Fixed Route Buses	0	30-35 Foot Fixed Route Buses	0	30-35 Foot Fixed Route Buses	0	30-35 Foot Fixed Route Buses	0	30-35 Foot Fixed Route Buses	0
Florida	X		3	Over-the-Road Coach	5	Over-the-Road Coach	0	N/A	0	N/A	0	N/A	8

State	Planned Vehicle Purchases												
	Yes	No	FY 16	Type	FY 17	Type	FY 18	Type	FY 19	Type	FY 20	Type	Total
Colorado	X		0	N/A	16	30-35 ft Motor Coaches - with State funds Only	0	N/A	0	N/A	0	N/A	16
Delaware	X		21	Ford E-45 Cutaways	23	Ford E-450 Cutaways	23	Fixed Route Transit Buses and Ford E-450 Cutaways	17	Fixed Route Transit Buses and Ford E-450 Cutaways	17	Ford E-450 Cutaways	101
Arkansas		X											
California		X											
Connecticut		X											
Idaho		X											
Maine		X											
Maryland		X											
New Jersey		X											
North Carolina		X											
Ohio		X											
Tennessee		X											
West Virginia		X											
Wisconsin		X											

The role of Section 5311(f) operators in procurement of vehicles varies by State. Most often, the 5311(f) operators are responsible for ordering vehicles and completing the procurement process. In Alaska, subrecipients are responsible for ordering vehicles. The Alaska Department of Transportation and Public Facilities is currently developing a cooperative agreement with the Washington Department of Transportation for Alaska subrecipients to purchase through their vehicle vendor contracts. Kansas is also in the initial phases of a piggybacking process.

The most common types of vehicles to be purchased for the Section 5311(f) Programs are over-the-road motor coaches and medium-duty cutaway buses. While most respondents indicated that there have been no major difficulties replacing vehicles based on vehicle type, four respondents listed the most difficult vehicles to replace as over-the-road coaches and 30-foot heavy-duty buses.

As illustrated in Table 15, sixty-four percent (64%) of respondents that plan to purchase vehicles between FY 2016 and FY 2020 indicated that they have sufficient funds to replace all Section 5311(f) Program vehicles that have met the end of their useful life based on FTA guidelines. The remaining 36% of respondents estimated the cost of the revenue vehicles that could not be purchased due to lack of funds to be between \$70,000 and \$8.2 Million.

Table 15: Availability of Funds to Purchase Replacement Section 5311(f) Vehicles

State	Do the State DOT have Sufficient Funds to Replace all Section 5311(f) Program Vehicles that Have Met the End of Their Useful Life Based on FTA Guidelines?					Estimated Cost of the Revenue Vehicles that Could Not Be Purchase Due to Lack of Funds (All Sources)?
	Yes	No	N/A	What is the Source of these Funds?	If no, How Many Vehicles are You Typically Unable to Purchase per Year?	
Alabama	X			FTA	N/A	\$-
Alaska	X			Section 5311, local match	Based on available local match	\$70,000.00
Colorado		X		State "FASTER" in 2016	No Response	\$1,000,000.00
Delaware	X			FTA, FHWA and State	N/A	\$-
Florida		X		N/A	No Response	\$8,211,000.00
Iowa		X		N/A	Not Tracked	No Response
Kansas	X			State	N/A	No Response
Michigan	X			80% 5311 (f) /	N/A	No Response

State	Do the State DOT have Sufficient Funds to Replace all Section 5311(f) Program Vehicles that Have Met the End of Their Useful Life Based on FTA Guidelines?					Estimated Cost of the Revenue Vehicles that Could Not Be Purchase Due to Lack of Funds (All Sources)?
	Yes	No	N/A	What is the Source of these Funds?	If no, How Many Vehicles are You Typically Unable to Purchase per Year?	
				20% State		
Minnesota	X			Federal, State, and local funds are used in combination	N/A	\$-
Missouri	X			Section 5311 (f)	N/A	\$-
Pennsylvania		X		N/A	No Response	No Response
Arkansas			N/A			
California			N/A			
Connecticut			N/A			
Idaho			N/A			
Maine			N/A			
Maryland			N/A			
New Jersey			N/A			
North Carolina			N/A			
Ohio			N/A			
Tennessee			N/A			
West Virginia			N/A			
Wisconsin			N/A			

As outlined in Table 16, 73% of respondents have a process in place to monitor vehicle usage by grant recipients to determine if a vehicle is being used as proposed in the grant application. Monitoring procedures included: monthly, quarterly, and annual reports; on-site reviews; and grantees monitor and report revenue mileage. None of the respondents lease Section 5311(f) vehicles on behalf of the operators. Iowa indicated that it does not lease or purchase any vehicles, only operators do, but if an Iowa operator applied for funding to lease a vehicle, it would be

considered. As an alternative to leasing, Michigan grants funds to the operators to purchase and own the vehicles with Michigan DOT listed as the first secured party on the Title.

Table 16: Monitoring of Section 5311(f) Recipients

State	Do you Monitor Vehicle Usage by Grant Recipients to Determine if a Vehicle is Being Used as Proposed in the Grant Application?		
	Yes	No	N/A
Alabama	X		
Alaska	X		
Colorado	X		
Delaware	X		
Florida		X	
Iowa		X	
Kansas	X		
Michigan	X		
Minnesota	X		
Missouri	X		
Pennsylvania		X	
Arkansas			X
California			X
Connecticut			X
Idaho			X
Maine			X
Maryland			X
New Jersey			X
North Carolina			X
Ohio			X
Tennessee			X
West Virginia			X
Wisconsin			X

4 Successful Practices for Meeting Rural Bus Fleet Replacement and Expansion Needs

Successful and promising practices have been identified in three primary areas. They are:

- State of Good Repair and Transit Asset Management
- Extending Vehicle Useful Life
- Vehicle Procurement Practices

4.1 Best Practices in State of Good Repair and Transit Asset Management

The following examples highlight the successes of using web-based asset management tools. The successful web-based capital monitoring and planning tools developed, in many cases, evolved from the non-web-based tools such as spreadsheets and internal capital tracking programs used by West Virginia, Tennessee, Mississippi, and Michigan today (see Table 11). The benefits of progressing toward a web-based tool that could be applied to States with small and large fleets include, but are not limited to, improvements in resource allocation and planning, management of State DOT staff time, and, of course, meeting regulatory compliance standards. In addition to web-based tools, some States have successfully developed coordination agreements with other State agencies to monitor and improve transit fleet conditions. Interagency agreements at the State level have proven to be a valuable approach to reducing unnecessary duplication at the state level.

Use of Web-Based Asset Monitoring Tools

The following three State DOTs are using a web-based system that enables local agencies to provide updates on their vehicle and equipment characteristics including age, mileage, and condition as well as equipment retirement, disposal, and replacement. The systems allow the DOTs to monitor conditions and create plans for maintenance, expansions, and replacements. While other State DOTs are also using web-based systems, these three DOTs are identified as examples of the successes that can be achieved through implementation of technology for asset monitoring and planning.

Pennsylvania Department of Transportation

PennDOT's Capital Planning Tool (CPT) is an asset management and capital planning application. The CPT manages assets of all types, including rolling stock, facilities, and equipment, storing

crucial information about each asset type and maintaining a complete history as assets age. Capital planning and funding functionality will be soon be added to the CPT to complete the system's capabilities for management of assets and improve adherence to SGR goals.

Pennsylvania transit agencies are required to annually update asset condition, status, and for revenue vehicles, mileage. This data is used to maintain SGR and provide accurate data for capital replacement projects.

PennDOT has also developed a separate capital application for smaller systems to focus on their particular needs. It is believed that the recent encouragement of regionalization and consolidation of transit agencies, including the incentive of a five-year waiver of the local match requirement for the consolidated agency, will promote improved SGR performance by transit agencies in the State.

Respondents cited the continuing challenge of determining the appropriate timing for capital replacement based on the allocation of Federal funding for urban/small urban and rural defined areas of the State. The amount of funding which is available for allocation within each area is often insufficient to meet the needs of transit agencies. In these defined areas, capital replacement will be a continuing challenge.

The amount of FTA Section 5310 funding being used for operating costs is considerably less than the maximum of 45% allowed under MAP-21 and is currently less than 10% of the state allocation. This is partly due to the fact that former Section 5317 New Freedom funding was used mostly for capital projects and the availability of State operating funds has enabled the majority of FTA Section 5311 Rural Public transportation funding to be used for capital.

No data has been collected examining the correlation between the number of transit accidents and the age of vehicles involved from Section 5310, 5311, and 5311(f) programs but the availability of data provided through the CPT may enable some local transit agencies to elect to look at this relationship.

Virginia Department of Rail and Public Transit (DRPT)

Virginia DRPT implemented a transit asset management tool in 2007 which provided a non-web-based database in which Section 5310 and Section 5311 as well as urban and small urban systems provided vehicle and equipment inventory data.

Over the past two years, VADRPT has worked closely with the Pennsylvania Department of Transportation (PennDOT) to implement the same TransAM tool. VADOT is now working toward implementation of the Phase II Capital Planning Tool which will enable this database to be used to improve planning for future capital replacements of vehicles and other equipment. Virginia transit

agencies will be required to annually update asset condition, status, and, for revenue vehicles, mileage. This data will be used to maintain SGR and provide accurate data for capital replacement projects. As a web-based system, local transit agencies will be able to run a variety of reports that will enable them to focus on particular capital aging and replacement trends with regard to vehicle condition and the factors that impact them.

Massachusetts Regional Transit Authorities

In Massachusetts, the lead agency for TAM and SGR is the Massachusetts Association of Regional Transit Authorities (MARTA) which works with the 15 RTA agencies that directly operate and/or pass-through vehicles and equipment for Section 5310 and 5311 to non-profit and private providers. Currently, 14 of the 15 RTAs are using TransAM and the Association has reported that the tool has been a major improvement in the management of capital assets.

Coordination with Other Agencies to Monitor and Improve Transit Fleet Conditions

Idaho Transportation Department-Public Transportation Office

Idaho Transportation Department-Public Transportation Office has implemented a proactive oversight program. The Office, in partnership with the Idaho State Police (ISP) Commercial Vehicle Unit inspects the vehicles biannually, at minimum. The partnership with ISP has provided the Public Transportation Office the opportunity to address maintenance issues in a proactive way. In 2015, the Public Transportation Office was able to identify and resolve areas needing attention on 19 vehicles. The Public Transportation Office has since gone back and begun re-inspecting those vehicles and have found that all vehicles having been re-inspected are still in good standing for SGR practices.

4.2 Best Practices for Extending Vehicle Useful Life

Several States have been exploring or developing programs to promote the extension of useful life of body on chassis vehicles through vehicle overhaul or rehabilitation. Vehicle repair or overhaul programs the form of funding for capital maintenance items such as transmissions or engines and bodywork and other component replacement or rehabilitation. Some of the following programs involve funds that are made available to local transit agencies as support for local initiatives on vehicle overhaul.

Regional Maintenance Facilities and Retrofitting of Hybrid Buses

Illinois Department of Transportation

Illinois DOT (IDOT) has begun several initiatives that address goals of State of Good Repair and Transit Asset Management but the catalyst for these efforts was the survey of their “Downstate” rural operators conducted by Western Illinois University through its Rural Affairs and Rural Transportation Center.

IDOT has also promoted the use of large Mass Transit District (MTD) Regional Maintenance centers, such as Springfield and Rockford that have established maintenance performance measures for body on chassis buses. This includes the provision of contract maintenance, warranty work, and maintenance consulting for smaller transit agencies. These Regional Maintenance facilities also provided retrofitting of ARRA hybrid buses that were having maintenance and parts replacement issues before reaching their useful life. The conversion of these gasoline hybrid engines to diesel enabled an extended life for these vehicles, many of which are in active service today.

One of the current plans is for IDOT to establish State standards for TAM plans for Tier II systems and providing technical assistance in the development of local agency plans.

Vehicle Rehabilitation or Remanufacturing

Michigan Department of Transportation

Michigan DOT solicited a study to examine the benefits of vehicle rehabilitation/remanufacturing, which is being conducted by Kettering University. The study is designed to identify the benefits of performing various levels of vehicle overhaul on small cutaway buses, medium-duty transit buses and heavy-duty transit buses relative to the costs of such investments. The study is also examining best practices identified nationally and identifying companies that provide these services. Recommendations will be made as to whether a regional or statewide vehicle overhaul program would be beneficial to the State vehicle program.

Nevada Department of Transportation

Nevada DOT has used Federal funding to provide for capital maintenance vehicle rehabilitation for extending the life of five- and seven-year body on chassis vehicles. For 5311 operators, the State DOT began in 2015 using a portion of its 5339 grant to provide funding for capital maintenance including engine and transmission replacement for body on chassis vehicles. It has also set aside a portion of its Section 5310 funding for these capital maintenance replacements which local Section 5310 operators can apply for on an as-needed basis subject to funding availability.

Missouri Department of Transportation

Federally funded vehicles administered by MoDOT under Section 5309, 5310, and 5311, may be eligible for assistance with vehicle repairs through MoDOT's Transit Vehicle Repair Program. The repair program is designed to assist sub recipients with minor/major repairs to a transit vehicle. A completed repair application and two estimates are required and must be submitted for review; prior written approval is required before funding can be committed. Upon approval and repairs are complete, the sub recipient may then request reimbursement for funding assistance; a reimbursement form and a copy of the paid invoice must be submitted before reimbursement is approved. All warranty repairs must be completed before an application for assistance is submitted. A vehicle maintenance log is required upon request and all authorized repair work must be completed within 30 days of the date of authorization.

Repairs and replacements of wheelchair lifts and restraints will be funded up to 100%. Repair costs must be a minimum of \$200.00 to be considered eligible for this program. The minimum does not apply to replacement of restraints. Engine transmissions will be funded up to an 80%/20% split, upon approval. The engine or transmission replacement, should be able to provide additional mileage before being replaced. Major repairs – including valves, blown head gaskets, electrical, fuel pumps, etc. costing \$750,000 or more will be funded up to an 80%/20% split, upon approval. Items not included are tires, batteries, broken windows, body damage and regular maintenance such as oil changes. Upon approval, air conditioner repairs will be funded up to an 80%/20% split, upon approval, if the costs are a minimum of \$200.00.

How is it funded? When a federally funded vehicle has reached its useful life and has been pre-approved (by MoDOT) for disposition, a portion of the gross sale amount is returned to MoDOT. A vehicle may be sold outright to a third party through a variety of approved processes. These include: advertised bids, auto actions or the average of three competent appraisals. The sub recipient also has the buyback option at the FMV (fair market value). After the sale of the vehicle, the sub recipient may retain 20% of the gross selling price plus \$225.00 for disposition expenses such as ads, auctions, etc. The remaining funds (federal interest) is submitted to MoDOT and deposited into a disposition fund account. These funds in return are used for the repair program.

Vehicle Overhaul Program

Iowa Department of Transportation

Iowa DOT, while not managing a vehicle overhaul program, has encouraged local transit agencies to maintain programs for extending vehicle life by discussing the option of vehicle overhauls during each transit manager training sessions. There is no formal overhaul program, just training on the benefits. Some agencies do overhaul vehicles or purchase used vehicles with local funds that have

been overhauled and Iowa DOT agrees with and encourages such measures. Among the innovative local efforts are replacement of engine/transmission powertrain components, wheelchair lifts, and body rehabilitation to extend vehicle life.

One program which also warrants attention is the use of local, non-Federal funding to purchase used vehicles from Sunbelt states including Arizona where there is less rusting and other body and chassis damage due to the lack of negative impacts from snow and salt. This has enabled expanded capital replacement for a State that has one of the highest backlogs of vehicle replacement.

4.3 Best Practices for State Vehicle Procurement

States either procure vehicles on behalf of their subrecipients or have the subrecipients procure the vehicles with the State Transit Office ensuring that the procurement meets Federal and State guidelines. If the subrecipient procures the vehicle, written procurement procedures that address the Federal as well as State requirements are essential. There is no data indicating why States have chosen one system over the other except that at some point a policy decision was made to proceed along one of these two paths.

State Purchases Vehicles on Behalf of Subrecipients

Louisiana Department of Transportation and Development

As indicated by the Louisiana Department of Transportation and Development (DOTD), purchasing vehicles on behalf of the subrecipients allows optimal use of available program funding since the vehicles and other equipment are purchased in volume at one time.

The Louisiana DOTD forwards the bid request package which documents quantities and specifications to the Division of Administration for processing. The Division of Administration forwards the final bid package to the DOTD Public Transportation Section for assurance that it complies with all Federal regulations and that it contains the proper vehicle specifications. After approval from the DOTD, the Division of Administration advertises. The DOTD Public Transportation Section is notified of all pre-bid conferences regarding procurement of vehicles under this program. The Division of Administration manages acquisitions through its established bidding and centralized purchasing procedures.

According to the Louisiana State Management Plan, Section 5311 Transit Assistance Program for Non Urbanized Area (updated June 2012), the DOTD has developed standard specifications for vehicles and other equipment most often requested by applicant organizations. Each applicant selects the equipment and/or vehicle(s) most appropriate to meet the Section 5311(c) needs of its

present and potential ridership and the requirements of the Americans with Disabilities Act of 1990. Requests for vehicles other than the standard selections are possible and must be accompanied with specifications including diagrams and seating arrangements.

Indiana Department of Transportation

As stated in Indiana's Section 5310 Program Guide and application, the Indiana Department of Transportation (INDOT) is responsible for purchasing all equipment awarded through the Section 5310 program. INDOT develops vehicle specifications for all modified vehicles (low floor minivans, body-on-chassis), and purchases equipment through Indiana Department of Administration (IDOA) Quantity Purchase Awards (QPAs). Prior to solicitation of bids by IDOA, INDOT submits the applicable standard Federal clauses to include in the bid documents. IDOA is responsible for soliciting, reviewing, and approving all bids for vehicles. INDOT indicates that the actual delivery of the vehicles occurs six to twelve months after bid award. Bid protests and delays in the delivery of chassis can further extend vehicle delivery time.

INDOT performs a Federal pre-award and post-delivery audit of the vehicle to ensure vendor compliance with vehicle specifications, Buy America requirements, Federal Motor Vehicle Safety Standards, and Bus Testing. INDOT is responsible for payment and closeout of the vendor purchase agreements. As such, INDOT will reconcile the financial portion of the INDOT/Grantee contract after delivery of equipment, and refund any unused local share.

INDOT's guide for selecting and procuring vehicles is provided to each grantee. In addition, some equipment such as computers and unmodified non-lift/ramp passenger vehicles may be purchased from State quantity purchase awards.

Subrecipients are Responsible for Purchasing Vehicles

Oregon Department of Transportation Rail and Public Transit Division

According to the Oregon Department of Transportation Rail and Public Transit Division (RPTD) State Management Plan for Public Transportation Programs (July 2015), RPTD does not usually purchase vehicles directly with State or Federal funds. Subrecipients are responsible for purchasing equipment and services financed by grants. Subrecipients are required to order ADA accessible transit vehicles through the State price agreements administered by the Oregon Department of Administrative Services (DAS) when such vehicles are available through the existing contracts. The DAS helps the RPTD contract for appropriate vehicles to meet the needs of public transportation providers. Transit agencies are able to purchase every vehicle category from the DAS State Purchasing price agreements. The State Management Plan indicates the following:

“The online Oregon Procurement Information Network (ORPIN) system operated by DAS contains a list of qualified vendors for each vehicle type. The RPTD has created a crosswalk document that lists useful life categories for each vehicle within the State. This document, posted on RPTD’s website, assists agencies in selecting vehicles and documenting a process that meets all Federal requirements for funding. The DAS, Oregon DOT procurement, and RPTD staff developed the State price agreements with input from transit agencies.”

“Vehicles larger than 44-passenger, or specialty vehicles not available on the State contracts, are procured by transit agencies using an open competitive bid process that follows both Federal and State procurement laws and rules. Any Request For Proposal (RFP) must be reviewed by RPTD prior to signing with a vendor. Other purchasing arrangements for larger vehicles are available through the “piggybacking” process where agencies allow other transit agencies to access bid contracts. Piggybacking requires FTA approval.”

5 Conclusion

Federal transportation grant funding program changes implemented through MAP-21 legislation and pending changes to be implemented with the FAST Act have impacted State DOT practices and policies regarding vehicle useful life standards, maintenance, procurement, and acquisitions policies and procedures. The areas of impact revealed through this research are discussed in the following paragraphs.

Federal regulations requiring asset management tools are having an impact on how States address capital acquisition and replacement. At the onset of the study, the potential impacts from the changes in Federal legislation were projected (Table 1). Survey results support the original projections that the application of asset management tools as required by Federal regulations is having an impact on how States address capital acquisition and replacement needs. Twenty of the participating States have or are in the process of implementing Transit Asset Management systems and seven of those States can demonstrate measurable progress since the Asset Management or State of Good Repair practices have been implemented and monitored. Also, the practice of States allowing vehicles in which the State-held Title or vehicle lien is released to continue to be operated by the grant subrecipient or local vehicle operator is widespread. The anecdotal evidence suggests that this practice is enabling capital-strapped local operators to maintain peak vehicle fleets necessary to provide needed mobility services. Survey results indicate that best practices such as vehicle overhauls, which allow vehicles to be maintained and operated safely for additional miles and years, will be a critical component of transit asset management in the future.

Procurement strategies do not appear to have been impacted by recent changes in Federal regulations. For all States, the procurement process is a lengthy one. Fixing America's Surface Transportation (FAST) Act brings about several procurement changes. It allows for: "interstate cooperative procurement schedules – State-led cooperative procurement schedules on behalf of transit agencies within the state, and – a non-profit cooperative procurement pilot program. It also requires the establishment of a Joint Procurement Clearinghouse to allow grantees to aggregate planned rolling stock purchases and identify joint procurement participants" and generally reforms public transportation procurement to make Federal investment more cost-effective and competitive. Whether State procurement laws and regulations will permit States to take advantage of these procurement innovations remains to be seen.

Survey results did not indicate instances of State DOTs abandoning a centralized procurement strategy or reducing oversight as a result of Section 5311 funds for program administration being reduced from 15% to 10% with MAP-21. However, 35% of States did indicate that they do not have sufficient staff to undertake vehicle procurements for the Sections 5310 and 5311 Programs.

Anecdotal evidence gathered through interviews suggests that the need for additional staff may be under-reported due to the reality of many State DOTs that their staffing levels are not likely to increase due to State budget situations.

Historical practices of using Section 5310 funding primarily for capital purchases appear to have continued throughout the changes to Federal regulatory requirements. The Section 5310 Program is still focused on vehicle replacements, compared to the Section 5311 Program where the long history of needing rural operating funding has taken precedent over vehicle replacement with few exceptions.

State DOTs give priority to replacement of Section 5310 and 5311 vehicles. Survey results indicate that 68% of Section 5311 survey respondents and 88% of Section 5310 respondents currently give priority to requests for replacement vehicles versus new/expansion vehicles or facilities. When MAP-21 was introduced, funding for the Section 5310 program changed from a discretionary program to a mandatory 60% for large urbanized areas / 20% for small urbanized areas / 20% for rural areas distribution of funds. Consequently, States' ability to address priority needs became limited because funding distribution is predetermined, no matter the priority or level of need. Furthermore, the inclusion of New Freedom projects (Section 5317) and removal of a distribution methodology that encouraged a State to work cooperatively with its urbanized area to allocate Section 5310 resources on a needs/grant request basis had a negative impact of limiting the State's ability to address its historical capital procurement priorities for the Section 5310 Program.

Alternative Federal funding sources are used for vehicle purchases. States utilize funding sources other than Section 5311 and Section 5310 to purchase capital assets. Section 5339 is a commonly used grant program created under the reauthorization of MAP-21. The Section 5339 Program provides capital funding to replace, rehabilitate, and purchase buses, vans, and related equipment and to construct bus-related facilities. Prior to MAP-21, the capital program was discretionary for bus and bus facilities. With MAP-21 and the FAST Act, each State and United States territory now receives a flat, lump sum amount, regardless of population size or need. While it does provide some assistance and another means to meet vehicle replacement or expansion needs, allocations of Section 5339 funds indicate that there is insufficient funding for many States.

Survey research indicated that at least five of the participating States use Section 5339 Bus and Bus Facilities funding for most or all of the State's rural vehicle purchases. Three of the five States (California, New Mexico, and Indiana) using Section 5339 funds for rural public transportation capital purchases have fleets with 26% to 83% of vehicles that are beyond useful life standards. The remaining two States using Section 5339, Michigan and New Hampshire, have fleets with less than 14% of Section 5311 revenue vehicles beyond useful life. The fleet sizes in these five States range

the full scale of smallest to largest in the country. Therefore, it is not possible to conclude from this research that larger or smaller States benefit more from the lump sum allocation of Section 5339 funding.

State funds are frequently used as a non-FTA source to help subrecipients with Local Match requirements. Federal funding is the primary resource for rural vehicle fleets, but local and/or State funding levels are also a factor. While this study focuses on the impact of Federal regulatory changes on rural bus fleet management and the State DOT practices implemented as a result of those changes, another factor to be considered is the overarching economic condition in each State with regard to both State and local funding. State DOT practices and policies have been developed to deal with local conditions that are often a result of State and local funding structures in relation to transit service demand.

One common theme derived from the surveys was the lack of available local match funding for Federal operating and most significantly for capital (vehicle) replacement. This is a critical concern; particularly for States that may have available Federal funding that is desperately needed but cannot be provided to the most underfunded subrecipients.

Some States do have the funds to assist subrecipients with meeting the 20% local match requirement for purchasing vehicles. For example, New Jersey DOT provides 50% of the required local match for Section 5311 applicants for capital, operations, and administration. It also provides the entire 20% of the local match requirement for Section 5310 capital purchases. Also, the West Virginia Department of Transportation has had a long-standing policy of providing the local share for Section 5311 applicants, but does not provide State funds to assist Section 5310 applicants.

Summary of Impacts

Clearly, one of the most important benefits of this report will be to share innovative practices that appear to be working and may be replicable by other State DOTs. At the onset of the study, the research team developed a table of probable impacts of capital funding program changes on rural bus fleet management based upon literature review conclusions. Conclusions of the State-by-State research support all of the projected impacts. The research results also identified additional impacts of Federal program changes, as follows:

1. States are making advances in extending vehicle useful life and reducing maintenance costs through vehicle overhaul programs.
2. States are using State/local sharing to meet Federal Grant matching requirements.
3. States are implementing creative procurement practices to reduce unit costs.

Table 17 provides a summary of the probable impacts of capital funding program changes on rural bus fleet management that were supported by the research conducted in this study, along with the additional impacts that were not originally projected but were revealed through the State-by-State research.

Table 17: Summary of the Impacts of Changes to the FTA Program on Rural Transit Asset Management

Rural Transit Asset Management Category	Relevant Federal Program Changes	Projected Impacts Confirmed by Survey Results	Additional Impacts Supported by Survey Results
Vehicle Useful Life	<ul style="list-style-type: none"> • State of Good Repair (SGR) • Transit Asset Management Provisions (TAM) 	<ul style="list-style-type: none"> • Newly defined roles and responsibilities in the transit agency to ensure compliance with TAM provisions (TAM) • An added level of decision making is necessary at the local transit agency to comply with SGR and TAM regulations (SGR) (TAM) 	<ul style="list-style-type: none"> • Agencies use combined capital and maintenance tools such as vehicle overhauls to extend vehicle useful life
Vehicle Maintenance	<ul style="list-style-type: none"> • Transit Asset Management Provisions (TAM) 	<ul style="list-style-type: none"> • Maintenance activities now include proactive condition assessments, targets and tracking of performance against established targets. May lead to new national standards (TAM) • Agencies develop new tools to quantify capital expenditures that will most likely result in maintenance decreases (TAM) (SGR) • Agencies participate in new training activities to educate staff on asset management forms, policies, and principles (TAM) (SGR) 	<ul style="list-style-type: none"> • Agencies use combined capital and maintenance tools such as vehicle overhauls to reduce routine maintenance and life cycle costs
Procurement or Funding Apportionment	<ul style="list-style-type: none"> • State of Good Repair (SGR) • Transit Asset Management Provisions (TAM) • Bus and Bus Facilities Program • FAST Act 	<ul style="list-style-type: none"> • Agencies are developing capital investment plans that include quantified measurement of vehicle conditions (TAM) (SGR) • Agencies are aligning procurement decisions with asset management strategy (TAM) • Capital asset investments are prioritized (TAM) • SGR grant funding increases (FAST Act) • Bus and Bus Facilities competitive grant funding increases (FAST Act) • Section 5311 rural transit formula grants funding authorization increases (FAST Act) 	<ul style="list-style-type: none"> • Agencies consider State/local sharing to be methodologies to meet Federal local match requirements • Agencies use creative procurement tools such as multi-year contracts to reduce unit cost through vendor economies of scale

References

Indiana Department of Transportation Section 5310 Program Guide and Application, State Management Plan, Revised 2016.

Louisiana State Management Plan, Section 5311 Transit Assistance Program for Nonurbanized Areas, Department of Transportation and Development Update, June 2012.

Oregon Department of Transportation Rail and Public Transit Division State Management Plan for Public Transportation Programs July 2015.

Web1.ctaa.org/webmodules/webarticles/articlefiles/FASTanalysis.pdf (As of July 2016)

Appendix A: NCHRP 20-65 Task 65 Section 5311 Survey

The purpose of NCHRP 20-65 Task 65 is to identify best practices for State Departments of Transportation (State DOTs) to meet rural bus fleet replacement and expansion needs. As managers of the Section 5310 and Section 5311 programs, all State DOTs are faced with the challenge of developing adequate vehicle replacement and expansion plans that can endure fluctuating State and Federal funding programs while keeping the fleets in a state of good repair. States must also balance the allocation of Federal funds across multiple capital and operating needs. Since most Section 5310 and Section 5311 State Program Managers have little time for research, the results of this study will provide an opportunity for education and awareness about practices that other State DOTs have developed and successfully implemented as well as a picture of each State's Section 5310 and Section 5311, including Section 5311(f), Capital Programs. By completing this survey, you are helping other State DOTs to learn more about successful asset management strategies.

The survey is divided into three parts for each State Program. We respectfully request that the appropriate Manager complete each survey and resubmit it by email. The questions in this portion of the survey pertain specifically to the Section 5311 program. The other two surveys focus on Sections 5311(f) and 5310. Answers to the survey questions can be typed into the survey document. The survey may also be printed and completed by hand. However, only the electronic version contains definitions of FTA terms used. Thank you for taking your valuable time to complete the survey. If you have any questions concerning the survey, please contact

State:

Individual(s) and phone number(s) of who can answer questions about this survey

Section 5311 Staff Name:

Phone number:

Email:

- 1) What is the period of your state's fiscal year? For the purposes of this study, Fiscal Year (FY) 2016 is considered to be the current fiscal year.

Section 5311 Program Survey

- 1) How many revenue vehicles are in the State's 5311 fleet as of 11/1/15? (Please include all 5311 revenue vehicles purchased with Section 5311 assistance, regardless of DOT lien status.) _____
- 2) What is the average age of 5311 revenue vehicles purchased with Section 5311 assistance in your State? _____
- 3) How many and what percentage of 5311 revenue vehicles (vehicles purchased with Section 5311 assistance) are beyond established useful standards?
Number _____
Percent of Fleet _____
- 4) Please describe how Section 5311 funding for revenue vehicle purchases is distributed.
- 5) What was the percentage of 5311 funding in FY 2016 used to purchase revenue vehicles?

- 6) Please describe your method or criteria for replacing revenue vehicles under the 5311 Program.
- 7) Have any non-FTA (State or local) funds been used in the past five years for the replacement of Section 5311 revenue vehicles? (For example, were State funds used to supplement FTA Section 5311 funds for purchase of revenue vehicles?)
Yes

No

a. If yes, what are the sources and corresponding amounts for FY 2016?

Non-FTA State or Local Funding Sources	Amount (\$) of Funding from Non-FTA State or Local Source

8) If State funds were used, has your agency experienced a decrease or increase in the State funding source(s) over the last three years?

Increase

Decrease

Both

Neither

a. If you experienced a decrease in State funds, has any of the funding been restored or is it anticipated that it will be restored?

Yes

No

- 9) After a Section 5311 funded vehicle meets its useful life, and a subrecipient requests and receives approval for disposition, what happens to the vehicle?

Subrecipients are permitted to keep the vehicle in the fleet and use it as a back-up, spare, etc.

Subrecipients are permitted to sell the vehicle and keep the revenue in the transportation program.

Subrecipients are permitted to sell the vehicle but are required to use any revenue generated from the sale toward the purchase of another Section 5311 funded revenue vehicle.

Subrecipients are permitted to sell the vehicle but proceeds must be returned to the state to be used as future match for purchases.

Disposition will only be approved if a subrecipient no longer plans to use the vehicle.

Other, please describe:

- 10) Please describe the methods you employ to determine/schedule vehicle replacements assuming that the vehicles have met the **FTA useful life standards.**

- 11) Is priority given to replacement vehicles vs. new vehicles or facilities, or shifted to operating funds?

Yes

No

- 12) Please describe the criteria you use when purchasing expansion 5311 revenue vehicles, including vehicle condition, performance indicators, or other?

13) Does your state rely on the FTA end of useful life guidelines _____ or State guidelines _____?

- a. If State guidelines are used, please attach a copy along with your completed survey.

14) Has your method been approved by FTA?

Yes

No

15) Please answer the following questions for FY2016 - FY2020. Vehicles are counted in the fiscal year in which they are ordered NOT delivered.

Questions	FY2016	FY2017	FY2018	FY2019	FY2020
a. Number of Section 5311 revenue vehicles eligible for replacement					
b. Number of Section 5311 revenue vehicles that have met the useful life standards established either by FTA or the State and will be replaced in each year (Please count vehicles that are ordered but not necessarily delivered in FY 2016.):					
c. Number of Section 5311 revenue vehicles that will NOT be replaced due to lack of funds from any funding source.					

16) When is replacement determined?

When the vehicle meets its useful life.

Prior to when the vehicle meets useful life.

- a. If prior to when the vehicle meets useful life, how do you project when useful life will occur?

17) How many of the State’s Section 5311 vehicles are beyond established useful life standards?

- a. Number of vehicles: _____
- b. Percent of Fleet: _____

18) What type of vehicles will be most difficult to replace and why (i.e., cost, quantity, both)?

19) What is the estimated cost of the vehicles that you could not purchase due to lack of funds (all sources)?

Program	Dollar Amount/Cost
Section 5311	
Section 5310	
Section 5311(f)	

20) What practices, if any, have been implemented to identify or monitor State of Good Repair?

21) What measurable progress has been made toward improvement of the condition of capital assets since State of Good Repair practices have been implemented and monitored?

Section 5311 Rolling Stock Overhauls

22) Is your state currently performing rolling stock overhauls on medium duty transit revenue vehicles in accordance with FTA rolling stock overhauls?

Yes

No

a. If yes, how many vehicles and what percentage of your fleet would this be?

Number _____

Percentage _____

23) Are you considering rolling stock overhauls for other types of vehicles?

Yes

No

a. If yes, please list the specific the vehicle type

24) What impacts do rolling stock overhauls have on your replacement schedules and your ability to maintain your fleet in a State of Good Repair? (Please describe)

25) In FY2017 through FY2020, do you plan on rehabbing any medium duty transit revenue vehicles?

Yes

No

a. If yes, how many and what percentage of your fleet would this be?

Number _____

Percentage _____

26) In FY2017 through FY2020, do you plan on rebuilding any medium duty transit revenue vehicles?

Yes

No

a. If yes, how many and what percentage of your fleet would this be?

Number _____

Percentage _____

Transit Asset Management Plans

27) Have you required subrecipients to develop a [Transit Asset Management Plan?](#)

Yes

No

28) Does your State have objective standards for measuring the condition of the revenue vehicles under the Section 5311 program?

Yes

No

29) Do your 5311 subrecipients have [TAM Plans?](#)

Yes

No

a. If yes, do subrecipient TAM Plans include any of the following?

Equipment	Yes	No
-----------	-----	----

Rolling Stock	Yes	No
Infrastructure	Yes	No
Facilities	Yes	No

5311 Program Leasing

30) Does your agency plan on leasing any vehicles for the Section 5311 program in FY2016 through FY2020?

Yes

No. We have no leases planned.

a. If yes, how many leased vehicles are anticipated each year.

Fiscal Year	Number of Vehicles
FY2016	
FY2017	
FY2018	
FY2019	
FY2020	
TOTAL (FY2016- FY2020)	

31) How often are you required to bid your lease agreements or contracts?

32) What benefits do you see in leasing vehicles for the 5311 fleet?

33) Will you limit leased vehicles to certain types of vehicles?

Yes

No

- a. If yes, please explain the types.

5311 Procurement

34) Do you believe that your agency has sufficient staff to undertake vehicle procurements for the Sections 5310 and/or 5311 programs?

Yes

No

- a. If no, please indicate how many individuals are needed. _____

35) What type of training does your state provide to your procurement staff?

Appendix B: Section 5310 Program Survey

The purpose of NCHRP 20-65 Task 65 is to identify best practices for State Departments of Transportation (State DOTs) to meet rural bus fleet replacement and expansion needs. As managers of the Section 5310 and Section 5311 programs, all State DOTs are faced with the challenge of developing adequate vehicle replacement and expansion plans that can endure fluctuating State and Federal funding programs while keeping the fleets in a state of good repair. States must also balance the allocation of Federal funds across multiple capital and operating needs. Since most Section 5310 and Section 5311 State Program Managers have little time for research, the results of this study will provide an opportunity for education and awareness about practices that other State DOTs have developed and successfully implemented as well as a picture of each State's Section 5310 and Section 5311, including Section 5311(f), Capital Programs. By completing this survey, you are helping other State DOTs to learn more about successful asset management strategies.

*The survey is divided into three parts for each State Program. **We respectfully request that Section 5310 Program Manager complete the following questions and resubmit it by email.** Answers to the survey questions can be typed into the survey document. The survey may also be printed and completed by hand. However, only the electronic version contains definitions of FTA terms used. Thank you for taking your valuable time to complete the survey. If you have any questions concerning the survey, please contact*

State: _____

Individual(s) and phone number(s) of the person who can answer questions about this Section 5310 survey.

Staff Name: _____

Phone Number: _____

Email: _____

1) What Department/Office administers the Section 5310 Program in your State?

State Transit Office

Other (please specify:

State Office/Department: _____

Name of Section 5310 Program Administrator:

Email:

Phone:

2) Which of the following applies to your State Section 5310 Program? (Check all that apply.)

Purchases vehicles for the purpose of transportation which enhances the mobility for seniors and persons with disabilities

Purchase of Service agreements

Other (please specify):

IF YOU ANSWERED **ONLY** "Purchase of Service agreement" or "Other (please specify)" STOP HERE AND SUBMIT YOUR SURVEY WITH ONLY THE INFORMATION ABOVE THIS LINE COMPLETED. (Submit Form button on the last page) THANK YOU!

IF YOU ANSWERED "**Purchased vehicles for the purpose of transportation which enhances the mobility for seniors and persons with disabilities**" **OR ANY COMBINATION INCLUDING**, PLEASE CONTINUE WITH COMPLETING THE FOLLOWING SURVEY QUESTIONS AND SUBMITTING YOUR COMPLETED SURVEY. THANK YOU!

3) What is the number of vehicles in the State's Section 5310 fleet as of 11/1/2015? (Please include all Section 5310 revenue vehicles regardless of funding source.) _____

4) What is the average age of your State's Section 5310 vehicle fleet? _____

5) Does your state rely on the FTA end of useful life guidelines _____ or State guidelines _____?

a. If State guidelines are used, please attach a copy along with your completed survey.

6) How many of the State's Section 5310 vehicles are beyond established useful standards?

Number _____

Percent of Fleet _____

7) When is replacement determined?

When vehicle meets useful life.

Prior to when vehicle meets useful life.

i. If prior to when vehicle meets useful life, how do you project when useful life will occur?

8) After a Section 5310 funded vehicle meets its useful life, and a subrecipient requests and receives approval for disposition, what happens to the vehicle?

Subrecipients are permitted to keep the vehicle in the fleet and use it as a back-up, spare, etc.

Subrecipients are permitted to sell the vehicle and keep the revenue in the transportation program.

Subrecipients are permitted to sell the vehicle but are required to use any revenue generated from the sale toward the purchase of another Section 5310 funded revenue vehicle.

Subrecipients are permitted to sell the vehicle but proceeds must be returned to the state to be used as future match for purchases.

Disposition will only be approved if a subrecipient no longer plans to use the vehicle.

Other (please describe):

9) Please describe how Section 5310 funding for vehicle purchases is distributed.

10) Please describe your method or criteria for replacing vehicles under the Section 5310 Program.

11) What percentage of Section 5310 Program funding on an annual basis is used to purchase Section 5310 vehicles? _____

12) What would influence variations of more than 10% in annual Program funding used to purchase vehicles (i.e., Why would you spend 75% one year and 60% another year)?

13) Have any non-FTA (state or local) funding been used to supplement FTA funds in the past five years for the replacement of Section 5310 vehicles?

Yes. For replacement of vehicles for the purpose of transportation which enhances the mobility for seniors and persons with disabilities.

Yes. For purchase of service agreements.

No.

Yes. Other (please specify):

14) If a non-FTA (state or local) source of funding you use is State funds, has your agency experienced a decrease or increase in this funding in the last three years?

Increase

Decrease

Both

Neither

15) If you experienced a decrease in State funding, has any of the funding been restored or is it anticipated that it will be restored?

Yes

No

Comment:

16) Is funding priority given to replacement vehicles over expansion?

Yes

No

17) Are any performance indicators taken into consideration for awarding Capital funds for Section 5310 vehicle purchases?

Yes

No

If yes, please list the performance indicators that you use in replacing vehicles.

18) Do you consider the vehicle condition when replacing vehicles?

Yes

No

If you have formal condition measures, please provide a copy or link along with your completed survey.

19) Please describe the criteria you use when purchasing expansion 5310 Program revenue vehicles, including vehicle condition, performance indicators, or other.

20) Does your agency follow the FTA useful life standards for 5310 vehicles as established?

Yes

No

If no, please describe your own useful life standards.

a. Has this method been approved by FTA?

Yes

No

b. Do your own standards only apply to State and locally funded Section 5310 Program vehicle purchases?

Yes

No

21) Please answer the following questions for FY2016 through FY2020. Vehicles are counted in the fiscal year in which they are ordered, NOT the year they were actually delivered.

Topics	FY2016	FY2017	FY2018	FY2019	FY2020
Number of Section 5310 revenue vehicles eligible for replacement:					
Number of Section 5310 revenue vehicles that have met the useful life standards established either by FTA or the State and will be replaced in each year (Please count vehicles that are ordered but not necessarily delivered in each Fiscal Year.):					
Number of Section 5310 revenue vehicles that will NOT be replaced due to lack of funds from any funding source:					

22) What type of vehicles will be most difficult to replace and why (i.e., cost, quantity, both)?

23) What is the estimated cost of the revenue vehicles that you could not purchase due to lack of funds (all sources)? _____

24) Is your State currently performing rolling stock overhauls on Section 5310 Program vehicles in accordance with FTA rolling stock overhauls guidance?

Yes

No

25) Have you required subrecipients to develop a Transit Asset Management Plan?

Yes

No

If yes, what are the major components of the TAM Plans?

26) What practices, if any, have been implemented to identify or monitor State of Good Repair?

27) What progress has been made toward improvement of vehicle condition since State of Good Repair principles and practices were implemented?

28) Do you monitor vehicle usage by grant recipients to determine if a vehicle is really being used as proposed in the grant application?

Yes

No

If yes, please explain the monitoring standards/procedures.

29) Have any data been collected or correlation been made between the number of transit accidents and the age of the vehicles involved?

Yes

No

If yes, please explain.

Leasing

30) Does your agency plan to lease any vehicles for the Section 5310 Program in FY 2016 through FY 2020?

Yes

No. We have no leases planned.

If yes, please complete the following chart.

Fiscal Year	Section 5310 Program – Number of Leased Vehicles
FY 2016	
FY 2017	
FY 2018	
FY 2019	
FY 2020	
Total	

31) What benefits do you see in leasing vehicles for the 5310 Program fleet?

32) Will you limit leased vehicles to certain types of vehicles?

Yes

No

If yes, please describe:

33) How often are you required to bid your lease agreements or contracts?

34) What is the number of agencies in your state who opted to acquire Section 5310 services via purchase of service units in lieu of vehicles? _____

a. Can you translate that into number of vehicle purchases not requiring Section 5310 funding? _____

Appendix C: Section 5311(f) Program Survey

The purpose of NCHRP 20-65 Task 65 is to identify best practices for State Departments of Transportation (State DOTs) to meet rural bus fleet replacement and expansion needs. As managers of the Section 5310 and Section 5311 programs, all State DOTs are faced with the challenge of developing adequate vehicle replacement and expansion plans that can endure fluctuating State and Federal funding programs while keeping the fleets in a state of good repair. States must also balance the allocation of Federal funds across multiple capital and operating needs. Since most Section 5310 and Section 5311 State Program Managers have little time for research, the results of this study will provide an opportunity for education and awareness about practices that other State DOTs have developed and successfully implemented as well as a picture of each State's Section 5310 and Section 5311, including Section 5311(f), Capital Programs. By completing this survey, you are helping other State DOTs to learn more about successful asset management strategies.

*The survey is divided into three parts for each State Program. **We respectfully request that the Section 5311(f) Program Manager complete the following questions and resubmit it by email. The survey is necessary only if your agency purchases vehicles under the Section 5311 (f) Program.** Answers to the survey questions can be typed into the survey document. The survey may also be printed and completed by hand. However, only the electronic version contains definitions of FTA terms used. Thank you for taking your valuable time to complete the survey. If you have any questions concerning the survey, please contact*

State:

Individual(s) and phone number(s) of the person who can answer questions about this Section 5311(f) survey.

Staff Name:

Phone Number:

Email:

1) Are you planning any vehicle purchases for the Section 5311(f) program in FY 2016 through FY 2020?

Yes

No (If no, please stop here and submit the survey form.)

a. If yes, please complete the chart below to the best of your knowledge.

Fiscal Year	Number of Section 5311(f) vehicles that you are or will be purchasing in FY 2016 – FY 2020	Type of Section 5311(f) vehicles that you are or will be purchasing in FY 2016-FY 2020
FY 2016		
FY 2017		
FY 2018		
FY 2019		
FY 2020		
Totals		

2) Please describe the role, if any, that Section 5311(f) operators play in the procurement of Section 5311(f) vehicles.

3) Please answer the following questions for FY2016-FY2020. Vehicles are counted in the fiscal year in which they are ordered NOT delivered.

a. Please attach a copy of the State End of Useful Life Standards if they differ from FTA minimum standards.

Topics	FY2016	FY2017	FY2018	FY2019	FY2020
b. Number of Section 5311(f) revenue vehicles eligible for replacement:					
c. Number of Section 5311(f) revenue vehicles that have met the useful life standards established either by FTA or the State and will be replaced in each year (Please count vehicles that are ordered but not necessarily delivered that year.):					
d. Number of Section 5311(f) revenue vehicles that will NOT be replaced due to lack of funds from any funding source:					

4) What type and capacity of vehicles will be most difficult to replace and why (i.e., cost, quantity, both)?

5) Do you have sufficient funds to replace all Section 5311(f) Program vehicles that have met the end of their useful standards based on FTA guidelines?

Yes

No

a. If yes, what is the source of these funds?

b. If no, how many vehicles are you typically unable to purchase per year?

6) What is the estimated cost of the revenue vehicles that you could not purchase due to lack of funds (all sources)? \$

7) Do you lease Section 5311(f) vehicles on behalf of the Section 5311(f) operator?

Yes

No

- a. If yes, please complete the chart below.
- b. If no, please explain why

Fiscal Year	Number of Section 5311(f) vehicles that you are or will be leasing in FY 2016-FY 2020	Type of Section 5311(f) vehicles that you are or will be leasing in FY 2016-FY 2020
FY 2016		
FY 2017		
FY 2018		
FY 2019		
FY 2020		
Total		

8) Do you monitor vehicle usage by grant recipients to determine if a vehicle is being used as proposed in the grant application?

Yes

No

- a. If, yes, please briefly describe your monitoring process.
