

2016-2017



VEHICLE ASSET MANAGEMENT

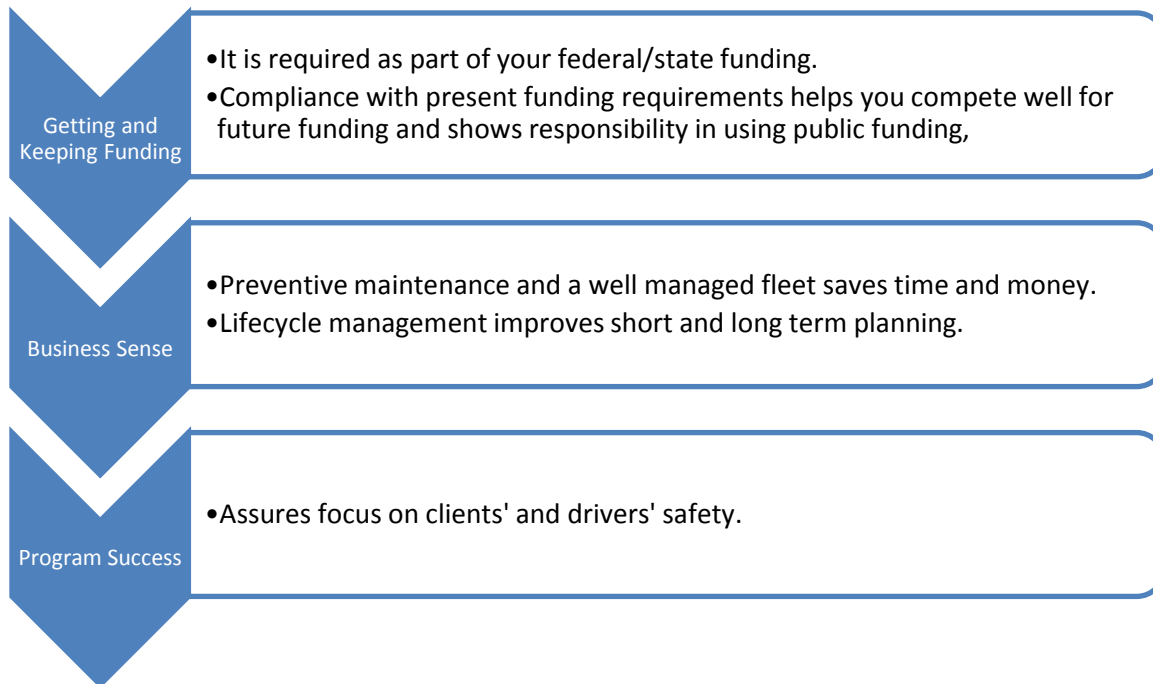


**M. Greene Planning
& Resource Development**

Linking organizations with resources to meet
challenges, direct growth, and build sustainability.

VEHICLE ASSET MANAGEMENT

WHY VEHICLE MANAGEMENT



GUIDANCE

[ADOT 5310 Guidebook](#)

ADOT Contract Agreement (can be found in egrants or requested from your Mobility Manager)

[Grant Management Circular 5010.1D](#)

[Enhanced Mobility for Seniors and Persons with Disabilities Circular 9070.1G 5310](#)

[Asset Management Guide FTA-2012](#)

[Asset Management Guide for Small Providers FTA-2016](#)

VEHICLE ASSET MANAGEMENT - PURPOSE

Successful vehicle asset management that addresses safety, compliance, business, and program delivery goals is essential to running a transportation program that is safe, efficient, and maintains a high level of customer service.

The purpose of a vehicle asset management program is to ensure that

- The fleet is safe, clean, and in a state of good repair,
- A sufficient number of vehicles is available to meet daily service demands,
- Federal, State, and internal requirements are being met,
- Transportation costs are reasonable and operations are carried out in a cost efficient manner,
- Fleet vehicles are fully utilized and replaced in a timely manner,
- Customer satisfaction and service are maintained at a high level, and
- Business decisions regarding fleet and service provision are made based on clear evidence.

BUILDING A CULTURE FOR ASSET MANAGEMENT

One of the most important things that must happen to assure good management of assets is to make good management a priority within your organization. This requires some common and necessary leadership skills:

Commitment – If you make vehicle asset management important for yourself, your commitment to will be seen and acknowledged by staff, drivers, and riders. Wavering in your commitment allows staff and drivers to believe they too can waver in their willingness to carry out tasks associated with good vehicle asset management.

Consistency – Your commitment is often measured in your consistency in holding personnel accountable, or implementing your management plan routinely and comprehensively. Routine oversight activities on your part will assure staff and drivers that you are committed to your goals and objectives regarding safety and good vehicle asset management.

Communication – is a key ingredient in vehicle asset management. It may not be enough to send out an email with your Vehicle Asset Management Plan attached. Reviewing each segment (even over time) and offering training to staff, drivers, and subcontractors will assure that each person is clear on expectations, the importance of vigilant management with regards to safety for drivers and riders, and an understanding of the cost benefits to carrying out the plan. This communication can and should be made on a regular basis and as part of each person's or contractor's orientation and ongoing evaluation.

You also must communicate your concerns should your oversight activities indicated lax or failure to adhere to policies, procedures, and requirements that hold your program in compliance. These communications should be verbal as well as written giving opportunities for persons to indicate their understanding of your concerns and the agreed upon plan to rectify the problem.

Cooperation – Personnel across department or division lines must be willing to cooperate in order to assure a successful Vehicle Asset Management program. Identifying each and every person who shares responsibility for the program, their role, and responsibilities will help everyone understand the impact of what they do and the importance of doing so in a timely and communicative way.

INTRODUCTION

Maintaining a state of good repair among federally supported assets is a priority for the Federal Transit Administration. As part of the MAP-21 legislation, FTA was required to review the state of rolling stock, equipment, and facilities so that the public could be assured that assets were being fully used in a safe manner.

FTA required that recipients of its funding would provide a Transit Asset Management (TAM) Plan that includes:

- information on how rolling stock, equipment and facilities associated with the provision of transportation services (regardless of who paid for them) were being properly managed,
- the condition of those assets, and
- a system of determining investment priorities

While 5310 providers are not required to provide a specific TAM plan as part of its funding application the grant agreement and associated master agreement call for the plan. Additionally, it is considered a necessary element of good management and the capacity to properly manage assets is part of an organization's overall capacity to receive federal support in its endeavors. It is this capacity that is measured as part of your award. Asset Management is covered in the triennial site review and is addressed in the grant agreement, master agreement, FTA circular 9070.1G (5310 guidance) and on up the chain to the authorizing legislation (49 U.S.C. 5326).

This training looks at only the vehicle asset management portion of an overall asset management plan. It is designed to look at a more holistic group of components to help you understand the broader aspects of asset management as a good business practice. You are encouraged to develop your vehicle asset management plan in a way that best suits your needs while meeting the basic components outlined in federal and state guidance.

The following are components that may be included in a vehicle asset management plan. These go beyond the elements required in a typical TAM but will be useful as a program guide for staff and subcontractors as well. Further, you are encouraged to build upon your plan to include facilities and equipment, thus completing a true asset management plan that will be useful in making short and long term management decisions and outlining priorities for utilizing those assets in the best way possible while using funding sources to keep your inventory well managed through, and perhaps beyond, its useful life expectancy.

Sample documents and templates are included where available and appropriate.

VEHICLE ASSET MANAGEMENT PLAN – COMPONENTS

The Vehicle Asset Management Plan or program brings all the elements of sound management of capital resources together. It can serve as a training tool, a handbook, a resource guide and much more – allowing personnel to fully understand the entire management function and their role in it. A program plan also can act as a guide in developing job descriptions, evaluation tools, and business analysis structures that focus on planning and costs. The Vehicle Asset Management plan or program is part of your overall Transportation Plan/Program and can be expanded to include other capital assets including equipment and facilities.

A comprehensive Vehicle Asset Management Plan will include, but is not limited to:

Items in bold indicate information is collected and available for each vehicle.

- Goals and objectives in managing vehicle assets
- Personnel and responsibilities
- Asset Inventory, condition and replacement prioritization

- Insurance requirements and certificates
- Performance measures
- Data collection protocols
- Life cycle, replacement and disposal policies and schedule
- Maintenance Plan and schedule based on manufacturer's recommendations and warranty requirements
- Repair functions
- Vehicle storage
- Vehicle sharing and vehicle backup policies
- Staff and subcontractor training
- Emergency preparedness and procedures for using/lending vehicle assets
- Vehicle management systems
- **Vehicle Files that include:**
- **Vehicle procurement information**
- **Warranty information**
- **Lien status**
- **Use restrictions**
- **Maintenance and Repair information with schedules, logs and costs analysis**
- **Inspections – both internal (pre and post use) and external (ADOT)**
- **Interior and Exterior Cleaning requirements and logs**
- **Accidents and vehicle damage policies and log**
- **Performance data**
- **Useful life and replacement plan**
- **Vehicle asset disposal**

There are many examples of asset management plans and guides to developing and implementing them across the internet. Throughout this workbook, examples of some components are hyperlinked or included. If you use them, it will be important that you read them carefully, customize them to suit your needs and requirements, and train staff and subcontractors once your plan is developed. Communicating with staff, management, and others in the field as you develop your plan will help you understand how to meet cross-cutting needs that include safety, compliance, business analysis, cost efficiency and customer service.

GOALS AND OBJECTIVES

Like your plan, your goals and objectives may cover a lot of territory. Goals should describe what the end prize will be. They can be lumped into one statement or multiple goals can be established based on the outcomes you are trying to reach. For instance, a goal that includes the stated outcomes might look like this:

The goal of the vehicle asset management program is to assure safety, achieve best performance at the least cost, maximize use of assets and, in doing so, meet industry standards requirements and create the highest level of customer service available.

Objectives should be SMART: Specific, Measurable, Attainable, Relevant, and Timely. These are the ways in which you intend to show progress toward meeting your goal(s).

Your plan's objectives could look like these:

Objective 1: Reduce unexpected safety driven maintenance and repair work orders by 10% over the 2015-2016 fiscal year.

Objective 2: Reduce costs for unscheduled maintenance and unexpected repair work by 5% over the 2015-2016 fiscal year.

Objective 3: Improve identified performance measures by 2% over the 2015-2016 fiscal year.

Objective 4: No more than 20% of vehicle inventory will have a condition status of less than good.

Objective 5: Reduce the number of Site Review findings for Asset Management at the next triennial site review by 80% over the previous site review.

Objective 6: 80% of riders surveyed in 2016 will indicate a good or high level of satisfaction with regard to the condition and reliability of vehicles used in the program.

Your objectives will serve as a guide in further developing your performance measures and the data needed to show performance. For instance, based on the objectives above, the performance measures and the data collection sections of your Vehicle Asset Management Plan must include a survey as a data requirement as well as base line information from previous years' data collection and performance measures for making comparisons.

If you do not have previous year's performance data, you will need to change the way you measure your objective. For example; Objective 1 might be restated as:

Objective 1: No more than 5% of all safety related maintenance and repair work will be unexpected in nature.

If you are not sure what an acceptable level of performance might be, check with other providers who are already collecting data and who share similar transportation services and usage of vehicles to determine if your objectives are in line.

PERSONNEL AND RESPONSIBILITIES

DESCRIPTION

This portion of the plan outlines which persons/departments are responsible for carrying out specific components of the plan. You may wish to build a table of components with the names or departments identified in carrying out the development and review, the implementation and the oversight for each component. Or, you can provide narrative that describes each person's responsibility. It may be useful to do both. The table can be used for quick reference and the narrative can be used to describe in detail what is expected. The person in charge of the Vehicle Asset Management Plan itself will be required to make sure that each person/department understands its responsibility and is prepared with the authority and resources required to carry out their duties.

When components require the use of multiple personnel and even multiple departments, you may list them in the table or narrative and/or describe the details in each component chapter along with the person(s)/department responsible for carrying out each task.

For example: Data collection protocols may be developed by the Transit Manager, with data collected by the drivers, given to the dispatcher at the end of the shift, then input into a tracking system by an administrative assistant, who submits it to the Grant Manager for submission with the ADOT quarterly report and forwards it for analysis by the Finance and Transit Managers. **For this purpose, you need only determine who is responsible for the development of the protocol, who is responsible for managing the implementation of the protocol and who has ultimate oversight in making sure the protocol is adhered to.**

It is the Data Collection Protocol Chapter that will further outline how data is collected, by whom, for what purpose, on what schedule, and using what system.

Some components may not require development but rather are prescribed. For instance, insurance coverage requirements are clearly defined in the ADOT program guides. However, these requirements may change from year to year and it should be someone's responsibility to review them and update the Vehicle Asset Management Plan accordingly.

Be sure your table and narrative are in line with the components you are using in your Vehicle Asset Management Plan. This example may not include everything you wish to include and should be considered a guide.

Ultimately, it may be best to provide personnel assignments **after the plan is developed** and you have a clearer picture of what is required and who is best suited to carry out those requirements.

| Plan Component | Development/Review | Implementation | Oversight |
|---|--------------------|---------------------|-----------------|
| Goals and objectives in managing vehicle assets | | | |
| Personnel and responsibilities | | | |
| Asset Inventory, Condition and Replacement Priority | | | |
| Insurance requirements and certificates | Risk Management | Transit Coordinator | Transit Manager |
| Performance Measures | | | |
| Data Collection protocols | Transit Manager | Transit Coordinator | Transit Manager |
| Vehicle Asset Management Budget | | | |
| Life cycle, replacement and disposal policies and schedule | | | |
| Maintenance Plan and schedule based on manufacturer's recommendations and warranty requirements | | | |
| Vehicle storage | | | |
| Cost effective repair functions | | | |
| Vehicle sharing and vehicle backup policies | | | |
| Staff and subcontractor training | | | |
| Emergency preparedness and procedures for using/lending vehicle assets | | | |
| Vehicle management systems | | | |
| Vehicle Files that include: | | | |
| Vehicle procurement information | | | |
| Warranty information | | | |
| Lien status | | | |
| Use restrictions | | | |
| Maintenance and Repair information with schedules, logs and costs analysis | | | |
| Inspections – both internal (pre and post use) and external (ADOT) | | | |
| Interior and Exterior Cleaning requirements and logs | | | |
| Accidents and vehicle damage policies and log | | | |
| Performance data | | | |
| Useful life and replacement plan | | | |
| Vehicle asset disposal | | | |
| | | | |

SCHEDULE

Describe when and how often this component should be reviewed and updated and by whom.

TRAINING

Training is a key component to making sure your Vehicle Asset Management Plan or program is a success. Schedule training opportunities on your calendar and work with department heads to see that all personnel are well acquainted with their responsibilities and how, when and why they should be carried out. Training will go a long way in establishing **commitment**, providing **consistency** in message, encouraging **cooperation** and effecting good **communication**.

List training opportunities for this component; who should attend, when and how often it will be provided, and enter them on your calendar or program schedule.

ASSET INVENTORY, CONDITION AND REPLACEMENT PRIORITY

DESCRIPTION

This chapter should include

- A description of your inventory,
- The types of vehicles included,
- The purpose for which you have them,
- An inventory list,
- The current condition of each vehicle,
- Typical usage of each vehicle,
- Location where vehicle is typically used and parked/stored, and
- When you expect to replace them.

FORMS

Include the form ADOT has provided for this purpose which you have included in your application for 5310 funding. Keep in mind, ADOT wants you to include all vehicles used to provide transportation services for your organization. This includes vehicles off lien or purchased with other funds but does not include personal vehicles occasionally used to transport clients. Not all vehicles included on the inventory are subject to all requirements of your funding. For clarification, contact your Mobility Manager. A copy of the vehicle inventory and use form is included as an attachment to this workbook. Your mobility manager can supply you with an electronic copy.

SCHEDULE

Describe when the inventory will be reviewed. Each scheduled review of the Vehicle Asset Management Plan should include an updated inventory or the Plan should be updated each time the inventory changes.

PERSONNEL

Be sure and include who is responsible for developing or reviewing the inventory/usage information, who is responsible for maintaining it and who provides oversight with regard to the accuracy and upkeep of the inventory and usage information. Mention, too, who should receive copies of updated inventories i.e. Risk Management, Finance, etc.

TRAINING

If training is to be provided on maintaining the inventory – note who is to attend, when and where the training will be held, topics to be covered, and how often through the year training will be necessary.

ACCIDENT POLICY AND INSURANCE REQUIREMENTS AND CERTIFICATES

DESCRIPTION

In this chapter you will describe your accident policies including driver requirements, procedures on how accidents are reported, by whom and in what time frame.

Also describe the ADOT and organizational insurance requirements, levels of coverage, and all additional insurance requirements (additionally insured, etc.) needed to be compliant at every level.

You can describe the differences in funding source requirements (DES, ADOT, etc.) if they exist and that you have coverage that meets the highest requirement.

Include your requirements for submitting insurance certificates (funders, licensing agents, etc.) and list the insurance provider(s) for your organization and fleet.

Describe where insurance documents are kept (including on the vehicles) and how claims will be managed.

Include information on how insurance proceeds will be distributed to lien holders (see ADOT program guides and grant agreements).

FORMS

Include copies of your accident report forms and logs, insurance certificates showing additionally insured and levels of coverage. These are provided by your carrier.

SCHEDULE

Outline the coverage period, when requests for insurance bids are scheduled, the date or deadline for submitting insurance documents to ADOT, and when and how often insurance coverage is reviewed for compliance. Include these items on our calendar so you plan ahead to get scheduled items completed.

PERSONNEL

Describe who is responsible for various aspects of the accident reporting and insurance component and what their responsibilities are.

TRAINING

If training on this component is to be provided, outline what topics will be covered, who should receive the training, when and how often the training will be provided.

PERFORMANCE MEASURES

DESCRIPTION

Performance measures are essential for a well-run transportation system. In addition to being required by ADOT, performance measures allow transit managers to gauge program success, monitor for problem areas, and show potential for growth. [TCRP Report 136 Guidebook for Rural Demand Response Transportation: Measuring, Assessing, and Improving Performance](#), 2009 provides a complete review of various types of performance measures and explains how to use these measures to conduct analysis and improve systems. While some measures discussed in this publication are not asset focused, the information remains useful and worth a read.

One of the frequently cited failures in the most recent site review round was that organizations were not meeting the annual mileage goals outlined in the life-cycle or useful life of a vehicle (ADOT Program Guide). In this section also include how you plan to meet those guides and/or describe why your mileage is and remains low.

Typical measures include

- Vehicle-hours from daily vehicle/driver logs
- Vehicle-miles from daily vehicle/driver logs
- Passenger trips from daily vehicle/driver logs
- Total operating expense from monthly financial reports
- Accidents/safety incidents from daily vehicle/driver logs

Further measures can be based on the previous list and include

- Cost per hour = Cost/hours
- Cost per mile = Cost/miles
- Cost per trip = Cost/trips
- Trips per hour = Trips/hours
- Trips per mile = Trips/miles
- Vehicle cost per mile = Cost/miles for each vehicle
- Vehicle cost per hour = Cost/hours for each vehicle
- Safety and vehicle/driver performance surveys of riders
- Number of vehicle "down hours" from hours out of service due to unexpected maintenance or repairs
- ADA access from number of reports of failed lift, securements, etc.

You also can measure the performance of staff in carrying out Vehicle Asset Management requirements and activities.

Additional measures can be created from various sources which are not necessarily vehicle asset related but can be considered for inclusion in other parts of your transportation plan include:

- On-time trips from daily vehicle/driver logs
- Trips per rider type (senior, disabled, adult, child, etc.)
- Cost per rider type = Cost/number of each rider type trips
- Cancellations without notice from dispatcher log
- Customer general satisfaction from surveys and comment cards
- Complaints from complaint log
- Level of vehicle condition = number of vehicles in failing or poor condition/total number in fleet

Performance measures can help you determine

- Which vehicles in your fleet are the most expensive to operate
- The cost of repair or rehabilitation compared to cost of vehicle replacement
- Which vehicles are meeting annual mileage standards to meet life cycle estimates and the strategies you need to meet those standards
- Trends in costs – which may indicate that you need to look for other more efficient sources for fuel, maintenance, insurance, repairs, parts, etc. and
- If rides might be supplied by another source for less money or by using a vehicle that is cheaper to fuel and maintain

For your Vehicle Asset Management Plan, describe the types of performance measures you will utilize and how you will use them. Be sure, at a minimum, that your objectives are covered in performance measures.

FORMS

Describe what forms or tables you will use in your performance measures and provide copies of blank forms as well as samples of completed forms. A simple table or spreadsheet can be used to summarize performance measures and can be developed for time periods that will be useful for you (week, month, quarter, year):

| Measure | Baseline or Previous year | Current year to date | %Reduction or %Gain |
|----------------------|---------------------------|----------------------|---|
| Fleet Miles | 150,000 | 180,000 | = (180,000-150,000) / 150,000 = .20 or 20% increase |
| Fleet Service Hours | | | |
| Trips | | | |
| Number of Complaints | 12 | 2 | = (12-2) / 12 = .833 or an 83% decrease |

You can set up an excel spreadsheet to increase your performance data options and establish formulas that make month to date information easier to obtain and year to date summaries automatic.

SCHEDULE

Describe when and how often you will generate performance measures information. Be sure identify schedules for each type of performance measure and include the schedule for reports that require performance measure information as well as the period for which performance measures will be established (monthly, quarterly, annually?) Put all schedule dates on your calendar with an alarm that notifies you a week or two before they are due.

PERSONNEL

Like other components of the Plan, include information on who is responsible for developing performance measures, data input, report generation, filing reports, oversight, and analysis.

TRAINING

Once personnel assignments are made, determine what training is needed to familiarize staff or subcontractors with performance requirements. Schedule the training and update personnel files to reflect training received. Enter training schedule on your calendar.

DATA COLLECTION PROTOCOLS

In addition to the ADOT required data (see your quarterly report requirements) your data collection protocol should include data needs identified in your objectives and performance measures.

DESCRIPTION

Describe what data is to be collected and how. The schedule and personnel section of this chapter can identify the frequency of the collection and who is responsible for the flow of data collection.

For each data group, describe the protocols or procedures for collecting data from origination through collection and on to summary and analysis and the steps you will take to ensure data is collected correctly and thoroughly (shadow driver inspections, conduct independent pre-post inspections yourself, etc.)

Again, you can use a table or a spreadsheet to define these procedures, or a narrative, or both.

As an example: you can describe or summarize data collection in a table. If the table is developed in a spreadsheet, you can sort the columns and generate other tables based on the column title. For example, you can create a list of data collection items that must be done daily, and/or a list of all the things for which the dispatcher is responsible.

| Data to be collected | Method | Frequency | Person responsible |
|--------------------------|-----------------------------|----------------------|--------------------|
| Miles by Vehicle | Driver/vehicle log | Daily | Driver |
| Monthly Miles by Vehicle | Data Collection spreadsheet | Daily | Dispatcher |
| System monthly miles | Data Collection spreadsheet | Monthly | Dispatcher |
| Quarterly system miles | Data Collection spreadsheet | Dec, Mar, Jun, Sept. | Transit Manager |
| Service Hours by Vehicle | Driver/Vehicle log | Daily | Driver |
| Monthly Miles by Vehicle | Data Collection spreadsheet | Weekly | Dispatcher |

Your summary table can be followed by more detailed narrative that describe how data is collected (forms) and the flow of how this information is passed on within the organization. Depending on how you operate, your narrative and table will be developed to show a clear and complete description of how data collection is carried out. A sample narrative might look like the following.

DAILY LOG SHEET AND DATA COLLECTION SPREADSHEET

The Driver is responsible for keeping a vehicle log throughout the driver's shift. (you can enter a hyperlink to a sample form or include it here or in an appendix) The log includes a line for

- beginning miles,
- deadhead miles,
- service miles,
- fuel,
- incidents,
- repairs and/or maintenance requests,
- beginning clock time (includes pre-inspection) time,
- beginning service time,
- trip counts and passenger types.
- Fares and donations collected

At the end of the shift, the driver must log ending service mileage, final mileage, as well as the clock time at the end of the service shift, and the final time after the post inspection. The driver must calculate the total miles, hours, and trips for each rider type and turn the daily vehicle log, maintenance/repair requests and fares in to the dispatcher. Before the end of the next business day, the dispatcher enters all vehicle log information on the Data Collection spreadsheet for that vehicle and all other vehicles used in a particular day.

Within the first week following the end of a month, the dispatcher reviews the data collection and assures that a monthly total has been entered into the annual summary section of the spreadsheet.

The Transit Manager will review the Daily logs and Data Collection spreadsheet periodically and within the first week following the end of the month to ensure data input is being entered accurately. Once the review is completed, the Transit Manager will initial approval.

At the end of a quarter, the Transit Manager will generate a quarterly report that includes data summaries for that period and include them in the ADOT quarterly report. The Transit Manager also will use quarterly reports for performance measure reviews.

Within one month after the end of the program year, the Transit Manager will generate an annual report for use in analyzing vehicle performance and other performance measures and generate a year end performance measures report.

The Transit Manager will see that data and performance measures information are made available to other transit staff, Mobility Manager(s), and ADOT grant writer(s).

The quarterly report used for ADOT reporting can be used as the Data Collection form though you will then need to create a form for other data you wish to collect.

Continue this section with additional subheadings for various data collection tools and include similar information as outlined above.

FORMS

You can reference with hyperlinks, or include as attachments to the Plan, your daily log form(s), Data Collection Spreadsheets, and other data collection forms in this section. You may want to include information on how the forms are reviewed and updated.

SCHEDULE

If you have described the schedule as part of your narrative, you can refer the reader back to the narrative. You also might sort the summary table by frequency column and insert it here. Be sure and add items with less than daily frequency to your calendar.

The calendar referred to throughout this outline can be developed in such a way that it can be shared among staff who would benefit from access. The calendar can, of course, include other time sensitive items from various departments or sections of your transit system.

TRAINING

Describe the content, schedule and frequency of your training for data collection as well as those personnel who will be trained in data collection. Include training sessions on your calendar.

VEHICLE ASSET MANAGEMENT BUDGET

As part of your overall transit budget, you may wish to develop a sub-budget that outlines the costs associated with vehicle asset management. One quick way to look at cost estimates is to review each of the Plan chapters and determine what, if any, costs are associated with developing and implementing the plan. The design of such a budget should include costs related to or allocated to vehicle asset management. If an asset management budget would not be useful, make sure that you've included costs associated with this plan in your overall transit budget

and remove this section. Don't forget the cost of training staff and subcontractors on the implementation of this Plan, replacement reserves, software subscriptions, and other items you discovered when you determined the "True Cost" of your transit system.

DESCRIPTION

Describe your Vehicle Asset Management Budget including what is included in each category. For example, the Vehicle Storage section may include the cost of facilities, fencing, alarm systems, security monitoring, etc. The Vehicle Management Systems section would include the allocable cost of hardware, software, and software subscriptions. The Inventory Section might trigger costs such as replacement reserves, and matching funds requirements, etc.

Include information on how asset management budgets or line items in your transit budget that are asset management related are reviewed for budget vs. actual and what steps you take to mitigate budget shortfalls.

FORMS

If you are including this budget section in your plan, describe the budget forms you use and how often they are reviewed for relevance.

SCHEDULE

Describe how often and when budgets are created and reviewed. A table or spreadsheet of budget related items might be useful in keeping track of what must be done. For example, this sample does not include everything but gives you an idea of what can be done...

| Budget activity | When | Person Responsible | Staff support |
|--|--|--------------------|--------------------|
| Draft budget development | Six months prior to funding application deadline | Transit Manager | Fleet Manager |
| Final Draft approval and inclusion in the Transit Budget | 1 month prior to funding application deadline | Department Head | Transit Manager |
| Budget vs. Actual report | Monthly | Transit Manager | Finance Department |

The items in a completed budget activity schedule can be included in your calendar.

TRAINING

Everyone involved in the asset management budget matrix should receive training on their roles and responsibilities in developing and monitoring the asset management budget.

LIFE CYCLE, REPLACEMENT AND DISPOSAL POLICIES AND SCHEDULE

The agency that funds the procurement of vehicle assets generally provides an outline of the life cycle for various vehicles (often miles and years). As part of your Vehicle Asset Management Plan, you will want to use your vehicle inventory to determine the life-cycle of each vehicle, when you anticipate replacing it and how you will dispose of unused vehicles that have completed their life cycle.

DESCRIPTION

Like other sections in this plan, readers may best be served by viewing a summary table that includes the vehicle inventory, the life-cycle requirements for each type of vehicle, and the anticipated replacement date. Make sure that life cycle requirements are confirmed in the ADOT guidebook before including them in this Plan and schedule a review of Life Cycle requirements as part of your Plan review.

| Vehicle # & last 4 of VIN | Vehicle Type | Life Cycle requirement | Replacement Date |
|---------------------------|----------------------------|------------------------------|------------------|
| # 199 Vin 0072 | 7 passenger van with ramp | 4 years and/or 100,000 miles | 2019 |
| #200 Vin 9576 | 16 pass. Cutaway with lift | 5 years and/or 150,000 miles | 2020 |

Following the table, describe your policies for meeting life cycle requirements. Do you require vehicles that have less than anticipated mileage be used differently or transferred to another location? Describe what your plan is if your vehicle exceeds mileage requirements in less than the time suggested as part of the life cycle. Describe how the fleet is monitored for anticipated life cycle requirements and how decisions are made to replace, transfer or dispose of vehicles. Information, suggestions and requirements on these issues can be found in the ADOT guidebook and FTA circulars.

Describe how you determine when a vehicle should be replaced including life cycle, cost to maintain, loss, etc. Describe how you monitor vehicles nearing the end of their life cycle and how you use data to determine when use of a vehicle is no longer cost efficient. Describe how you prioritize replacement needs and what you will do if replacement awards are not made when applied for.

Describe your disposal policy, what permissions are required, how you establish value, and what you do with proceeds. Again, the ADOT guidebook provides instruction and FTA circulars include very clear information on restrictions regarding disposal.

It may be useful to copy and paste sections from these guides into your plan.

FORMS

Describe any forms you use to monitor vehicle life cycles, replacement schedules, and disposal logs. Include sample forms as attachments, in an appendix or include them in the chapter.

SCHEDULE

Describe the frequency of your monitoring activities with regard to life cycle, replacement, cost efficiencies, and disposal.

PERSONNEL

Describe who is responsible for each of the activities in this chapter including those who supply information, analyze information, and/or make decisions.

TRAINING

Describe any training necessary to inform staff or subcontractors as to their responsibilities in this chapter. Include the schedule and/or frequency of the training.

MAINTENANCE PLAN AND SCHEDULE

The maintenance plan is one of the most important elements of your Vehicle Asset Management Plan. Earlier site reviews of 5310 providers noted a number of deficiencies among providers whose plans were either insufficient or non-existent or, if the plan was sufficient, it was not supported with back up documentation that would indicate implementation. ADOT has provided workshops on the topic and site reviewers have offered maintenance plan templates that cover the funding requirements.

Attached to this workbook is the maintenance plan template offered by ADOT's site reviewers. It has been developed so that providers can insert organizational information and use manufacturer's recommendations for timely maintenance. Also attached is a sample vehicle maintenance log, a very nice maintenance scheduling spreadsheet, and a template for pre and post inspections (Connie Gastelum, SEAGO Mobility Manager created these and can be contacted on their use). You can also review RTAP's [Introduction to Preventive Maintenance](#) training module for help in developing your maintenance plan.

This chapter should summarize and reference your maintenance plan and describe how you assure implementation of that plan.

DESCRIPTION

Summarize your maintenance plan and include it in this Plan as either an attachment or part of an appendix. You also can provide a hyperlink to the document in this section. Like the Data Collection chapter, you can start with a table of main activities and then describe the process of implementing your Maintenance Plan. If your description includes schedules and personnel and subcontractor responsibilities, you need not include those subchapters here.

Be sure and include information on how the Maintenance Plan is reviewed for relevancy and how oversight is provided in assuring the Maintenance Plan is implemented.

Make sure your Maintenance Plan includes safety items including policies, training on the use of, and inspections for first aid and bio-hazard kits, fire extinguishers, and ADA equipment and training on safety procedures such as safe evacuation, safety risk identification, etc.

FORMS

Your Maintenance Plan already may have forms embedded or attached. If so, you do not need to include them here but rather reference them in narrative or as part of list that is hyperlinked.

SCHEDULE

Describe when and the frequency of reviewing the Maintenance Plan, and reference schedules included in that Plan.

PERSONNEL

Describe who is responsible for developing, reviewing, and providing oversight of the Maintenance Plan and its implementation. You may wish to use a table that lists activities, the person responsible for carrying out the activities, and the person who is responsible for making sure activities are carried out correctly (oversight). Again, if this information is already in your plan, you may reference it here without repeating it.

TRAINING

Describe how staff and subcontractors are trained in the implementation of the Maintenance Plan. Include the schedule and frequency for training and list personnel expected to take part in the training.

REPAIR FUNCTIONS

Costly repairs can consume an asset budget and might be avoided with comprehensive and vigilant preventive maintenance. And while they may not be avoided all together, assuring that your repair policies and procedures along with careful selection of repair providers will go a long way in keeping your vehicle costs in budget.

Whether you conduct repairs in house or are outsourcing vehicle repairs, you'll want to ensure you are getting the best service possible for a reasonable cost and that repair decisions consider the condition and life cycle of the vehicle, your inventory availability should repairs take the vehicle out of service for a prolonged period.

It may be beneficial to contract with a repair facility through a bid process. Contracting can be negotiated to assure timely access, keep costs low or at least anticipated, and allow mechanics to "get to know" a vehicle.

If repairs are covered in your Vehicle Maintenance Plan, be sure you have outlined a similar description of your repair policies as described in the following sub-sections.

DESCRIPTION

Describe your repair process with consideration for the following:

- The procedure(s) for ordering and approving repairs (from pre-post inspections to determining where the vehicle will go for inspections to oversight of completed repairs)
- Your policy on determining cost benefits of repairs
- Any procurement guidelines regarding repairs, parts, etc.
- Who conducts repairs for non-warranty items and how that provider is chosen or assigned
- Who conducts warranty repairs and how that provider is chosen or assigned
- How vehicles are transported for repairs (particularly to non-local shops)
- Your policy on parts and supplies inventories
- Your policy and procedures for dealing with repeat problems
- How you evaluate repair service
- How repairs and costs are tracked for each vehicle
- How you track warranties on repairs

FORMS

Describe and attach or hyperlink forms used in ordering and approving repairs, tracking repairs for each vehicle, forms for removing parts and supplies from inventory, evaluation forms, and others that you use.

SCHEDULE

Describe when vehicles are inspected, repairs are scheduled and, if not included in your Maintenance Plan, your schedule for inspections to identify maintenance/repair needs before they become problematic.

PERSONNEL

Describe who is responsible for managing repairs including subcontractors. List the responsibilities of each person including the person in charge of selecting repair shops, driver's pre-post inspection requirements, the person responsible for developing a repair order, the person who approves the repair, the person who makes certain repairs are scheduled and completed, the person who is responsible for oversight of the repair process, the person who develops and maintains repair documentation and anyone else who is associated with the activities in this chapter.

TRAINING

Describe the training required for personnel and subcontractors with regard to repairs. Determine when training will be held and the frequency of the training. Also describe training requirements or certifications needed for general mechanics and for mechanics providing repairs to specialized equipment like lifts, diesel engines, etc.

VEHICLE STORAGE

How you store your vehicles is important to the life of the vehicle and also to assuring security for publicly funded assets.

DESCRIPTION

Describe your overall vehicle storage policy. You might consider things like:

- Parking areas
- Security and security systems
- Locking policies (for vehicles and storage areas)
- Use of parking brakes
- Authorization for access to vehicles and storage areas
- Key management
- Damage reports
- Storage area cleanliness and hazard mitigation
- Response policies to breaches of secure storage
- Off site or branch location storage/parking locations

FORMS

If you require drivers to sign out vehicles from storage or have reporting forms associated with vehicle storage include them in this chapter or attach them in an appendix.

SCHEDULE

You can use this subchapter to describe when storage facilities are open, when they are required to be closed and secured and other time based considerations. You can also include information on when storage facility inspections are to occur. Be sure and add these to your calendar.

PERSONNEL

Describe each person's function with regard to storage, who provides oversight/inspections, and other personnel associated with storage.

TRAINING

Describe how personnel are trained or informed of vehicle storage policies, procedures, and use of forms, etc.

VEHICLE SHARING AND VEHICLE BACKUP/SPARE POLICIES

Vehicle sharing is becoming more common as transportation providers work to more efficiently use capital resources and provide support to other local providers when needs arise.

Sharing is generally accepted when the vehicle is used for the same purpose for which it was purchased. Otherwise sharing may be considered charter service which requires permissions if the vehicle was purchased with federal funds.

DESCRIPTION

Sharing of vehicles can be seem difficult unless clear policies are provided and the continuing control of the asset is maintained. Describe your sharing policies giving some consideration to the following:

- Availability schedule and scheduling requirements
- Allowed travel distances and purposes
- Funding source restrictions
- Insurance and additionally insured riders
- Damage
- Fees
- FTA/ADOT compliance requirements
- Security
- Drivers' requirements
- Policy on borrowing or sharing another organization's vehicles

Vehicles used for back up or spare purposes also should be included in this chapter. Describe your policies for:

- Ideal back up or spare ratio
- Current spare ratio
- How you determine when a vehicle is used as a spare (Keep in mind that spares cannot be replaced by ADOT)

FORMS

Describe and attach or hyperlink forms or documents used in sharing vehicles including agreement templates, insurance requirements, compliance assurances, emergency preparedness and response documents, etc. If you provide bus and lift operations information on board for non-employee drivers, attach or hyperlink them as well.

SCHEDULE

Include your schedule to review documents and policies in this chapter along with other time based information.

PERSONNEL

Describe who is responsible for approving the sharing of vehicles, who determines when a vehicle is to become a spare, who sets fee structures and invoices for sharing, who represents the organization in emergency

preparedness agreements, drivers approved for driving on behalf of other agencies, and other personnel involved in asset sharing or fleet management of share or spare vehicles.

TRAINING

Describe what training is provided to personnel and subcontractors regarding the policies and requirements of sharing a vehicle. Also describe what training is available to persons making decisions as to fleet spares and backup vehicles.

EMERGENCY PREPAREDNESS AND PROCEDURES FOR USING/LENDING VEHICLE ASSETS

Participating in an emergency preparedness plan with your local municipality and/or county is somewhat common among transportation providers as they have access to move larger numbers of people or can make their vehicles available to government organizations to use should they be required in an emergency.

If your organization is a participant in such a plan you will want to include information on the role of assets under your control, who is permitted to use them and the circumstances under which you maintain control of the vehicle.

Additionally, what are your policies and procedures should your own organization and its assets be impacted by an emergency?

DESCRIPTION

Describe your agency's policies and role in a local/regional emergency plan and identify vehicles that are committed to the plan. Summarize the when, where, why, and how your assets will be used. List the names or titles of officials outside your organization who can command access of these vehicles and the restrictions you have set (i.e. assets are not released until your own clients or riders are safely transported out of danger).

Describe what agreements exist and attach or hyperlink them to this Plan.

Describe your internal emergency plans. How will you safeguard assets? What plans are in place to recover, as quickly as possible, and continue your transportation service?

FORMS

Include forms used when assets are requisitioned for emergency purposes and any other form related to this chapter. If you provide bus and lift operations information on board for non-employee drivers, attach or hyperlink them as well.

SCHEDULE

Describe how often such agreements are reviewed and updated and add these to your calendar.

PERSONNEL

Describe who is responsible for each element of your emergency preparedness participation including those who participate in the planning, those who approve use, drivers or dispatchers made available, the person who reviews the plan on a regular schedule, etc.

TRAINING

Describe the training you provide to your staff and subcontractors regarding your emergency preparedness participation. If you train other agency personnel (public safety, homeland security, etc.) on the use of your vehicles, include that training here. Attach or hyperlink training manuals or other training documents.

VEHICLE MANAGEMENT SYSTEMS

For the purposes of this Plan, management systems are those technologies or software systems used in the support of your vehicles and their management.

DESCRIPTION

Describe by system category each technology you use, its purpose, the vendor or support company, the year of purchase and expected life cycle. Describe if the technology or software can be transferred to other vehicles and any limitations on its use. Describe if systems are purchased, leased or if there are subscriptions associated with their use. This information might be summarized in a table for quick reference. The following is a small sample of such a table.

| System | Vendor | Purchase Date | Life Cycle | Purpose | Restrictions Transferable | Location of related docs. |
|-----------------------------|-----------------------|---------------|--------------------------------------|--|-----------------------------------|---------------------------|
| On Board Cameras | US Transit Camera Co. | 2012 | 5 years | Security while in operation | None Transferable with permission | Fleet Manager's Office |
| On Board Cameras | Spot It Co. | 2013 | 5 years | Security while in operation | None Transferable with permission | Fleet Manager's Office |
| On Board GPS | XYZ Co. | 2014 | 8 years | Real time location | None Transferable with permission | Dispatcher's File |
| Scheduling Software | XYZ Co. | 2014 | Annual updates | On demand scheduling | Tied to GPS systems | Dispatcher's File |
| Driver tablets and software | Onwego Co. | 2015 | 3 years with annual software updates | On board rider data and inspection log | None Transferable with permission | Transit Manager's File |

You can increase your table columns using a spreadsheet and include warranty dates if still active, who you call should there be problems or questions, links to permissions for transfer or disposal, which vehicles have the

technology, which technologies are linked (GPS and scheduling software) and any other information that would be good to have at a glance. If you create such a spreadsheet, be sure and attach or hyperlink it to this document.

FORMS

If there are forms associated with this chapter describe them here. If applicable, include forms you use to have personnel sign off on training on the use of equipment and policies regarding their operations etc.

PERSONNEL

Describe personnel associated with these systems and their roles and responsibilities for those systems. Include persons who can troubleshoot, repair and maintain systems. Also include persons who are responsible for selecting and procuring management systems. You may also wish to include other departments on whose systems your transit service relies (finance, maintenance shop, etc.)

TRAINING

Describe the training provided on vehicle management systems, to whom training is provided, the schedule and frequency of training, and any certifications required or given.

STAFF AND SUBCONTRACTOR TRAINING

Because your Vehicle Asset Management Plan is only as good as its implementation, training in the various elements or components of the plan is essential. In this sample Plan, each component includes a training subsection. For this chapter a summary of those training elements will provide a reader with a quick glance at what training is to be provided, to whom, by whom, when, frequency, where training is to be held, and the purpose of the training. Rather than follow the previous chapters' layout, a simple table or spreadsheet can be developed to summarize training. If you choose to use a spreadsheet be sure and attach or link it to this document and add the training schedule to your calendar. A sample table could look like the following though additional columns will likely be necessary.

| Training element | Topics to cover | Taught by | Staff subcontractors | Schedule Frequency | Location |
|------------------|---|-----------------------------------|--------------------------------|--|----------|
| Maintenance Plan | Plan requirements Roles and responsibilities | Transit Manager and Fleet Manager | Drivers, mechanics, dispatcher | Review on hiring with annual training/review | Garage |

VEHICLE FILES

Each vehicle used in providing transportation services should have a file. Whether this file is kept electronically or as hard copy or both, the file should be complete for each vehicle. If you also wish to keep lien documentation together in a single file, then you should have a copy of lien information in both the vehicle file and the lien file. If using electronic files, you might consider linking the vehicle file documents to other files. For instance, your vehicle file contains folders for each of the documents you wish to collect for a vehicle. Your lien file, however contains hyperlinks to each of the vehicle folder's lien document. Hyperlinks can be set up to update each time the original file is replaced or updated. When managing hard copy files that are redundant you must have some alert in the file that tells you to update the other affected hard files. It is recommended that instead of hard file redundancies you instead keep spreadsheets of summary information for like items.

Items to be included in each vehicle file include but are not limited to:

VEHICLE PROCUREMENT INFORMATION

- A copy of the award document for the vehicle and purchase price
- The spec sheet used in procuring vehicle (if ADOT is procuring your vehicle, ask for a copy)
- All procurement documentation (if procuring on your own)
- Funding source(s)
- Matching funds documentation
- Delivery documentation
- Initial inspection documentation
- Sign off on delivery
- Key locations
- Owner's Manual (copy to mechanic)
- Odometer disclosure statement
- Exhibit A

WARRANTY INFORMATION

- Copy of warranty
- Summary of warranties and restrictions
- Name of each company providing warranty (chassis, lift, systems, etc.)
- Organizations certified to provide warranty repairs
- Warranty claim log with disposition
- Notices to ADOT of warranty claims

LIEN AND OWNERSHIP DOCUMENTS

- ADOT prescribed life cycle
- Lien release requests
- Copies of lien release communications
- Letter releasing lien (from ADOT or other lien holder)
- Title and copy of registration

- Insurance documents with copy of on board insurance card

USE RESTRICTIONS

- Documentation describing any use restrictions such as group home only, paved roads only, etc.
- Sign off sheets from drivers acknowledging use restrictions
- Copy of on board reminder of use restrictions

MAINTENANCE AND REPAIR INFORMATION

- Manufacturers recommendations for maintenance
- Maintenance schedule
- Maintenance and repair work orders
- Maintenance and repair logs
- Maintenance and repair cost logs
- Maintenance and repair oversight documents
- Maintenance and repair cost documentation (invoices, inventory allocations, receipts, etc.)
- Outsourced maintenance and repair shop(s), contacts, contracts, certifications
- Warranty maintenance and repair shops(s), contacts, locations, and certifications

ADA ACCESSIBLE FEATURES

- List of ADA Accessible features including manufacturer contact, restrictions or limitations, lifecycle, etc.
- Log of ADA Accessible features failures
- Operations/owner's manual on ADA features
- Manufacturers recommendations for maintenance and use
- Outsourced maintenance, repair and warranty shop(s)

SYSTEMS TECHNOLOGY FEATURES

- List of systems technology features including manufacturer contact, restrictions or limitations, lifecycle, etc.
- Log of systems technology failures
- Operations/owner's manual on systems technology features
- Manufacturers recommendations for maintenance, use, and updates
- Outsourced maintenance, repair and warranty shop(s)

INTERIOR AND EXTERIOR CLEANING REQUIREMENTS AND LOGS

- Interior and exterior cleaning schedule and logs
- Oversight documentation
- Manufacturer's recommendations for cleaning (upholstery, painted finishes, securements, engine block, etc.)

INSPECTIONS – BOTH INTERNAL (PRE AND POST USE) AND EXTERNAL (ADOT)

- Pre-post inspection logs (30 days)
- Preventive maintenance inspections
- State inspections
- Inspection schedules and check lists
- New vehicle inspection

ACCIDENTS AND VEHICLE DAMAGE LOG

- Insurance card
- Insurance claims
- Insurance payments to organization and lien holder
- Accident report log
- Incident report log (non-accident damage from weather, vandalism, etc.)
- Pictures of damage

PERFORMANCE DATA

- Performance data spreadsheet for this vehicle
 - Base line information
 - Miles
 - Hours
 - Costs (maintenance, repairs, etc.)
 - Unexpected vehicle repairs
 - Fuel consumption
 - Other useful performance data

USEFUL LIFE AND REPLACEMENT PLAN

- Life Cycle information (determined by ADOT or 5010.1D)
- Life Cycle targets and actual (miles driven vs. targets to meet life cycle recommendations/requirements)
- Anticipated replacement date

VEHICLE ASSET TRANSFER OR DISPOSAL

- Request for permission to dispose
- Disposal approvals (ADOT)
- Valuation at time of disposal
- Reimbursement of funds to funder at disposal
- Disposal record (auction record, bill of sale, transferred to parts status, etc.)
- Request for permission to transfer

- Transfer approvals (ADOT)
- Valuation at time of transfer
- Transfer record (if applicable)

SUMMARY

Successful vehicle asset management relies on the following:

- High level of organization
- Clear and consistent communication
- Persistent oversight and holding staff and subcontractors accountable
- An environment of support and high expectations

Don't get overwhelmed. You are likely already doing what is required. The Vehicle Asset Management Plan simply puts it all in order and becomes the go-to document on the who, what, when, where, why, and how of good asset management. It can also be a training tool for staff and subcontractors.

Work on one section at a time and schedule a section every couple of weeks or so. **It may be beneficial (particularly with site reviews) to start with your vehicle files.** Be sure and delegate what you can, particularly in gather information, forms, at data.

Once your plan is developed, schedule an annual review and update along with the training sessions you will provide.

Determine to get started. Once started, completion will seem less daunting. As the shoemaker says, "Just do it!"