

PART 3 – TRANSIT ASSET MANAGEMENT (TAM) REQUEST FOR PROPOSALS (RFP) SCOPE OF SERVICES

The Georgia Regional Transportation Authority (GRTA) seeks to engage a firm with relevant expertise to assist in the development of a Transit Asset Management (TAM) System for the Authority. The System is intended to improve GRTA asset management practices, realize life cycle cost savings and develop a objective, data-supported decision-making process.

I. Introduction & Background

The mission of *Xpress* is to provide affordable, stress-free commutes for our customers and to improve the capacity of Georgia's most congested highways for all users. *Xpress* serves commuters throughout metropolitan Atlanta with high-quality, cost effective trips to work locations in Downtown Atlanta, Midtown, Buckhead, and Perimeter Center. The value proposition of *Xpress* goes beyond the commuters who choose to ride the bus every day and extends to all who travel on metro Atlanta's busy interstates during rush hour. GRTA has estimated that *Xpress* saves metro Atlanta's commuters and commercial trucks more than \$140 million a year worth in time and fuel wasted sitting in congestion, leading to a return on investment rate in excess of 4-to-1.

Xpress operates 33 routes from 30 park-and-ride lots (eleven locations are state-owned and GRTA's maintenance obligation) in 12 counties, and it draws riders from nearly 40 counties. Operations include a fleet of 175 buses (nine 2005 CNG Orion VI buses and various model years (2004 to 2011) MCI D4500 motor coaches, running three different diesel power plant brands) for 815 platform hours per weekday. The annual operating budget is \$24.5 million, approximately one-third of which is currently paid by passenger fare revenues.

GRTA currently utilizes five outsourced operations contracts, including contracts directly with three private service providers and two county governments, who also outsource operations to private contractors. Of the five operations facilities, two are GRTA's maintenance obligation, one is stated-owned and the other is leased.

As *Xpress* enters its second decade of service to Georgians, it is focusing on improving the cost efficiency and reliability of *Xpress*.

Need

GRTA's last asset plan was compiled in 2009. It primarily focused on the continued expansion of the service and the assets needed to implement that expansion. Much of the system expansion has been realized, and the TAM is necessary to address the needs of the current and future system in the context of its aging assets.

Beyond life cycle planning for its physical assets, GRTA is in need of a more integrated data management system to support TAM decision-making. Staff currently relies on separately compiled spreadsheet information to keep track of asset conditions. The desire to optimize operations requires the development of an asset database with an integrated tool for evaluating capital expenditures.

GRTA's transit assets are, overall, still young and generally in a state of good repair. Institutionalizing asset management processes into routine workflows and decision-making will only become more

difficult with time. Therefore, GRTA wishes to implement more comprehensive TAM processes now in order to avoid future difficulties. A more integrated TAM system will also help GRTA budget and communicate funding needs to the Georgia General Assembly by directly linking quality of service to assets that are well managed and maintained.

Purpose

A TAM system can assist GRTA in addressing the needs outlined above, and GRTA seeks to develop a centralized TAM system that will track and monitor the age and condition of its assets. The TAM system will identify the data and processes needed for decision-making such that the use of limited funding can be applied to the most critical State of Good Repair (SGR) projects. By implementing the procedures and tools identified for this TAM system, GRTA seeks to improve its stewardship over its physical assets, identify risks, reduce maintenance and life cycle costs, make better informed capital investment decisions and enhance quality of service.

The success of the program will be measured in terms of the GRTA's ability to:

- Provide for a more robust accounting of all GRTA assets and their condition;
- Quantify the level of funding required to optimally life cycle assets over time;
- Demonstrate the benefits and costs associated with investment decisions; and
- Make better, more informed resource allocation decisions that are linked to agency goals, and that are understood and supported by the entire organization.

II. Project Overview

To minimize potential conflicts of communication, GRTA views the TAM Systems work effort through the following general definitions:

- Transit Asset Management (TAM) System – The overarching title for the entire work effort, whether with respect to the consultant services being sought, or with respect to the ultimate implementation within the Authority.
- Asset Management Plan (AMP) – A plan that describes the methodology for condition and risk assessments of each asset and provides guidance for how each of GRTA's assets should be life-cycled. It will also identify and provide a strategy for implementing the business practices needed for GRTA to maximize the value of having a Transit Asset Management System.
- State of Good Repair (SGR) – A condition during which an asset can provide its intended utility, within specifications, under normal operating conditions. Current condition categories advocated by FTA will be used for this purpose.
- State of Good Repair (SGR) Database – A consolidated, central location for asset tracking data. Initially populated with baseline conditions and then continually updated through the daily/weekly/monthly/annual workflows identified in the AMP.
- Decision Support Tool – A means to analyze the data within the SGR database to assist in transparent and fact-based decisions. This could be software analytics or a specifically tailored database query based on criteria established. For purposes of this RFP, GRTA seeks only facilitation assistance in the development of a needs assessment for such a tool.
- Integration - A defined process through the use of currently available technology tools which will capture work order data for application to asset data. This cross-sectional analysis will be used by GRTA for MAP-21 asset performance reporting.

GRTA seeks to leverage the best management practices and lessons learned by other transit properties, which have implemented their own TAM systems, albeit scaled to the size of the Authority.

In general, it is believed that the development of a Transit Asset Management System is an aggregation of the following: Asset Management Plan, Agency Prioritization Plan, State of Good Repair Database, Decision Support Tool, and Baseline Assessments.

III. Tasks and deliverables

In coordination with the GRTA project team, the Consultant will be responsible for four (4) project tasks, each with specific sub-tasks and deliverables that will inform the *Xpress* Transit Asset Management Plan.

TASK 1: Project Management Plan (PMP)

1.1 Project Management Plan Objective:

To coordinate interactions between the Consultant and GRTA. A brief PMP will assist in managing the daily activities of the TAM effort.

1.2 Project Management Plan Requirements:

GRTA is seeking a collaborative process in the development of the TAM. As such, the PMP will ensure the many interactions necessary to deliver a successful project to completion. The development of the PMP shall:

1. Be completed within 21 days of the Notice to Proceed.
2. Include a kick-off meeting between the Consultant and GRTA to review the draft PMP; discuss the approach, tasks and project objectives; and confirm expectations, requirements and key milestone dates.
3. Include a project schedule that includes all activities, critical path items, estimated activity durations, product submittal dates and relationships among work tasks.
4. Incorporate project team meetings on a bi-weekly basis to review project status and to resolve key issues to prevent schedule delays and cost overruns. Meeting agendas and minutes shall be prepared and submitted by the Consultant within five (5) business days of the meeting.
5. Require the submittal of monthly progress reports to GRTA in order to document progress to date, track project budget, detail upcoming work and identify crucial issues.

1.3 Project Management Plan Deliverables & Schedule:

| Deliverable | Description | Deadlines |
|--------------------------------|--|------------------|
| Project Management Plan | The PMP shall describe the roles and hours of the Consultant and GRTA staff within an organization chart, general schedule of project, sample invoice and progress report template, an action item matrix, meeting agendas and | 3/3/2014 |

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| | minutes. | |
| Progress Reports | Progress reports will be prepared to summarize project work progress and budget status on a monthly basis, or more frequently, throughout the project duration. | Monthly; Frequency may increase, depending on project needs. |
| Project Meetings | Meetings will be scheduled on a bi-weekly basis to allow for status updates. Each project meeting will be organized with an identified objective/purpose. Meetings may occur in person or teleconference. | Bi-weekly |

TASK 2: Asset Management Plan (AMP)

2.1 Asset Management Plan Objective:

To prepare a comprehensive and practical (AMP) that will serve to: improve GRTA business processes for management of its assets and allocation/utilization of its resources; bring GRTA into alignment with industry best practices, FTA MAP-21 performance reporting requirements, and international standards (e.g., PAS 55). The AMP will serve as a guideline for the implementation of the program within each of GRTA’s transit asset categories (i.e., vehicles, systems and facilities).

2.2 Asset Management Plan Requirements:

GRTA seeks input from the Consultant to help determine the best framework and methodology for developing and preparing the AMP. However, it is expected that key benefits and characteristics of the AMP will, at a minimum, address the following:

1. Establish policies, strategies and objectives to provide the principles and framework for asset management and control, supporting the organizational strategic plan with specific measurable outcomes.
2. Clearly define or redefine against prevailing Generally Accepted Accounting Principles related to capital assets and replacements.
3. Recommend policies and procedures for staff and contractors to integrate AMP tasks into daily business operations, as well as develop a high-level programming schedule for all required tasks, working off critical milestones such as Transportation Implementation Program (TIP), Program of Projects (POP) deadlines, Office of Planning and Budget (OPB) submittals, and other critical dates.
4. Establish the means and methods to comply with FTA MAP-21 requirements.
5. Provide the guidance required for staff to operate and maintain all assets on a continual basis.
6. Provide the necessary criteria by which decisions can be made to acquire, create, renew or dispose, utilize and maintain assets and to determine how those assets should perform and be monitored.

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7. Address the entire range of transit assets including both non-revenue and revenue vehicles and their major subsystems, park and ride lots, operating facilities and equipment, bus stops, and communications and fare collection systems.
8. Consider new fleet, technology and facility investments beyond the current inventory to improve the system, with the intention of minimizing the operations costs through the balanced expense of capital improvements.
9. Develop a methodology and define criteria to achieve consistent condition and risk assessments by asset type.
10. Derive an understandable, practical condition and risk rating based on inspections and performance or failure records for individual assets. The AMP will develop the methodology and define the criteria so as to achieve consistent condition assessments and risk assessments.
11. The AMP will be life cycle based and will state what, by whom, how and when actions are required. It will provide guidance on how to continually update the SGR Database from maintenance management systems already in place.
12. Achieve a scope which is deliverable, practical and scaled to the resources and abilities of the Authority. Documented and communicated AMP actions should be optimized and prioritized for different systems or assets.
13. Produce a comprehensive document that will serve as a guideline for the implementation of the program within each of GRTA’s transit asset categories (i.e., vehicles, systems, and facilities).
14. Prepare reusable training documentation that shall identify the purpose, proper use and content of the deliverables. It is expected that live training to key GRTA personnel and contractors will be required.
15. Provide a preliminary deliverable which includes an abbreviated life cycle and financial planning report covering only the revenue fleet and onboard revenue collection systems. This will be used for discussions for the fiscal year 2016 budgetary request.

2.3 Asset Management Plan Deliverables & Schedule

| Deliverable | Description | Deadline |
|--|---|-----------------|
| Preliminary Asset Management Plan | This deliverable will provide a preliminary projection of timing and cost of revenue fleet and fare collection systems replacement, as well as a maintenance budget projection for remaining fleet. The analysis must be based on the condition ratings developed from the Baseline Assessment vehicle inspections. | 5/30/2014 |
| Asset Management Plan | This deliverable expands upon the preliminary document and requires the incorporation of | 5/30/2015 |

facilities and the remainder of *Xpress* support systems.

TASK 3: State of Good Repair Database

3.1 State of Good Repair Database Objective:

To develop and implement a State of Good Repair (SGR) Database which centralizes asset tracking and more accurately quantifies the current state of GRTA’s assets; to house the data for analyzing the impact of various funding, policy and capital project scenarios and prioritizations; and to better understand the relationships among asset age, condition and maintenance costs.

3.2 State of Good Repair Database Requirements:

GRTA seeks input from the Consultant to help determine the best framework and methodology for developing and preparing the SGR Database. The Consultant shall research and perform a needs assessment so as to recommend a database solution that will, at a minimum, address the following:

1. **Asset structure:** Recommend the organization and structure of asset categories in the SGR Database so as to more closely conform to the structure in the FTA Transit Economic Requirements Model (TERM) Lite and forthcoming FTA guidelines.
2. **Agency adopted priority ratings:** such as,
 - Life Safety Critical
 - Operations Critical
 - Operations Support
 - Operations Enhancement
 - Service Expansion
3. **Asset detail:** Identify the optimal level of asset line item granularity in the SGR Database by addressing fundamental “level-of-detail” questions such as:
 - How small or large should an “asset” in the inventory be (e.g., is the entire bus an “asset” made up of subcomponents, or is each subsystem a separate asset)?
 - What is the most efficient asset breakdown structure (ABS) for the agency to adopt, considering present asset data needs, future asset data needs and FTA movement toward ABS standardization?
 - What level of detail is required for each asset type for capital planning purposes?
 - How much detail is worth the cost of data collection?
 - How do we balance the burden of maintaining data going forward with the usefulness of additional detail?
 - How can we synchronize the SGR Database with data that exists in maintenance management systems?
4. **Asset data:** Determine the data to be collected for each asset line item (e.g., year put in service, useful life, replacement cost, location, impacted ridership). In addition, identify opportunities for linking data to existing enterprise asset management systems (e.g., Georgia DOT, Georgia Office of Fleet Management) and/or databases (such as the National Transit Database) in order to import/export data and minimize manual data entry.

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5. Condition ratings: Apply condition scores to all assets, consistent with “TERM” and forthcoming FTA guidelines. This would include using the assessment metrics developed in the AMP to measure condition of each asset.
6. Decay curves: Provide functionality to the SGR Database by incorporating FTA “TERM” decay curves. The utilization of decay curves will recognize that different asset classes deteriorate at different rates during different parts of the asset life cycle.
7. Risk Assessment: Use the asset specific methodology from the AMP for assigning a risk rating to each asset that considers the probability and cost of failure.
8. Age, condition and maintenance cost relationships: Leverage “real life” data to link asset age, condition and maintenance cost experience, in order to support future capital and maintenance decisions (e.g., optimal useful life, replace v. overhaul). Where sufficient data does not exist, recommend changes in the way that data is collected and reported in order to facilitate this in the future.
9. Applying priority scores: Based on evaluation criteria, weights and scoring developed as part of the new decision support tool explore the opportunity for applying priority scores to the assets in the SGR Database for modeling various policy and funding scenarios.

3.3 State of Good Repair Database Deliverables & Schedule:

| Deliverable | Description | Deadline |
|--------------------------------------|--|-----------------|
| State of Good Repair Database | To be developed in conjunction with the final Asset Management Plan, the SGR Database will provide a central repository for daily asset management activities. | 5/30/2015 |

TASK 4: Decision Support Tool

4.1 Decision Support Tool Objective:

To facilitate the discussion for the identification of GRTA’s needs in regards to a Decision Support Tool which will optimize the allocation of limited resources and the prioritization of proposed capital investment projects that best achieve GRTA’s objectives and provide an optimal quality of service.

4.2 Decision Support Tool Requirements:

GRTA seeks input from the Consultant to help determine the best framework and methodology for developing and preparing the decision support tool. The tool should be appropriately scaled to the size, type and complexity of GRTA’s asset catalog. The consultant shall research and perform a needs assessment so as to recommend a support tool that will, at a minimum, address the following:

1. Optimize the prioritization of proposed capital projects and allocation of limited resources, at both the agency level and for individual departments.
2. Already be fully functional at one or more existing business entities; preferably a transportation service provider.

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3. Representative of the prevailing technology available on the market today.
4. Incorporate both quantitative and qualitative information.
5. Allow for collaboration by multiple stakeholders throughout the GRTA operation.
6. Aid in improving evaluation criteria/weights for prioritizing goals, objectives and capital projects, in line with existing legislation.
7. Model multi-year resource allocation scenarios.
8. Be fully compatible with GRTA existing technology infrastructure.
9. Allow GRTA staff to operate the tool, without Consultant support, following appropriate training.
10. Be user friendly in both its implementation and ongoing operation.
11. Be able to support decision making at different levels of the organization.

4.3 Decision Support Tool Deliverables & Schedule:

| Deliverable | Description | Deadline |
|--|---|-----------------|
| Decision Support Tool Needs Assessment & Facilitation | The Needs Assessment and Facilitation is intended to assist the Authority in defining the requirements for a Decision Support Tool, which may be procured at a later date | May 2015 |

TASK 5: Baseline Assessment

5.1 Baseline Assessment Objective:

To provide an objective condition rating to all existing assets and to provide a populated initial SGR Database.

5.2 Baseline Assessment Requirements:

This effort will require coordination with the SGR Database and AMP development efforts so as to ensure that the required data is collected and so that the condition ratings follow a consistent methodology. GRTA seeks input from the Consultant to help determine the best framework and methodology for performing the baseline assessments. It is expected that the effort will, at a minimum, address the following:

1. Vehicle Assessments
 - a. Revenue Fleet (175 vehicles)
 - i. Review the maintenance history for each vehicle
 - ii. Perform a mechanical inspection of each vehicle and vehicle subsystem to assess condition and risk ratings as defined in the AMP:

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1. Frame
 2. Exterior
 3. Drivetrain
 4. Safety Systems
 5. Passenger Interior
 6. Driver Area
 7. Pneumatic System
 8. HVAC System
 9. Lighting System
 10. Tires/Wheels
 11. Suspension System
 12. Brakes
 13. ADA lift
 14. Utilize vehicle manufacturer maintenance manuals to identify additional systems for evaluation not identified explicitly in this RFP
 - iii. Assign ratings to each vehicle subsystem
 - iv. Aggregate a vehicle rating from the vehicle subsystem ratings
 - b. Non Revenue Fleet (11 vehicles)
 - i. Perform a mechanical inspection of each vehicle and vehicle subsystem to assess condition and risk ratings as defined in the AMP:
 1. Frame/body
 2. Drivetrain
 3. Safety Systems
 4. Interior
 5. HVAC System
 6. Lighting System
 7. Tires/Wheels
 8. Brakes
 9. Tooling (1 vehicle)
 - ii. Assign ratings to each vehicle subsystem
 - iii. Aggregate a vehicle rating from the vehicle subsystem ratings
2. Facility Assessments
 - a. Park & Ride Lots (11 locations)
 - i. Inspect and assign pavement condition ratings, per AMP
 - ii. Inspect and assign electrical system ratings, per AMP
 - iii. Inspect and assign building structure ratings, per AMP
 - iv. Inspect and assign shelter structure ratings, per AMP
 - b. Operations and Maintenance Facility (1 location)
 - i. Inspect and assign ratings by lift (4 sets), per AMP
 - ii. Inspect and assign ratings to fuel system (1 pump and above-ground tank), per AMP
 - iii. Inspect and assign ratings to Freon recycler (1 location), per AMP
 - iv. Inspect and assign ratings to all other contractor or agency-owned tools and equipment
3. Systems Assessments
 - a. Revenue Collection Systems
 - i. Inspect and assign ratings by fare box (175 units + spares), per AMP
 - ii. Inspect and assign vault ratings by Operation Facility (6 units), per AMP

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- iii. Inspect and assign server ratings Operation Facility (3 units), per AMP
- b. Communications Systems
 - i. Inspect and assign ratings by vehicle (175 units + spares), per AMP
 - ii. Inspect and assign ratings by Operation Facility (2 locations), per AMP
- c. Security Camera Systems
 - i. Inspect and assign ratings by Park & Ride lot (9 locations), per AMP
 - ii. Inspect and assign rating at Operation Facility (2 locations), per AMP
- d. Passenger Information Systems
 - i. Inspect and assign rating by Park & Ride lot (9 locations), per AMP
- e. IT/Network Systems
 - i. Inspect and assign ratings (2 locations), per AMP

5.3 Baseline Assessment Deliverables & Schedule:

| Deliverable | Description | Deadline |
|--|--|-----------------|
| Preliminary Baseline Assessment | The Preliminary Baseline Assessment will be necessary to achieve completion of the Preliminary Asset Management Plan which covers revenue fleet vehicles and onboard collection systems. | 5/30/2014 |
| Baseline Assessment | The Baseline Assessment will build upon the preliminary assessment and be coordinated with the AMP and be used for the initial population of data in the SGR database. | 5/30/2015 |

TASK 6: TRAINING

6.1 Training Objective:

To establish and develop a continued base of knowledge within GRTA and its contractors for understanding the purpose of the TAM and their role in its continuous implementation.

6.2 Training Requirements:

GRTA seeks assistance in staff and contractor training on roles and responsibilities, including utilization of the SGR database. The Consultant must consider:

1. Training session(s) will be required for covering the AMP and the SGR database with staff and contractors.
2. Development of a Training Manual / staff reference resource material must be developed for the training of current and future staff and contractors on the AMP and SGR database.

6.3 Training Deliverables and Schedule:

| Deliverable | Description | Deadlines |
|------------------------|--|------------------|
| Training Manual | The training manual is intended to serve as both a reference source and training document for use with new employee orientation. | 6/30/2015 |

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| Staff Training Session | This session will provide a base of understanding among GRTA staff and its contractors on the TAM and their role in implementing it. | 6/30/2015; additional sessions may be necessary dependent upon material |
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