Comprehensive Operational Analysis (COA) Procurement

Introduction

A Comprehensive Operational Analysis (COA) provides a public transportation authority/agency with a thorough, route-by-route evaluation of existing transit services as well as a detailed evaluation of existing operations functions and performance. When possible, it is recommended that a transit authority/agency complete a COA effort immediately before starting a Major Ten-Year Transit Development Plan (TDP)[1]. This is suggested because the detailed amount of operational data and characteristics collected and analyzed in a COA process differs from the more strategic planning approach required in the State of Florida for TDP development. A detailed and thorough COA effort is most effective when the findings offer clear directions on how and where limited financial and human capital should be best applied to existing transit services and, in some cases, additional (unmet) demand. Overall, a detailed COA process should allow for planners and decision makers to know more about the efficiency and effectiveness of their current public transportation services and offer a clear and prioritized set of recommendations on how to best maintain an optimal public transportation system.

Purpose

The purpose of this Comprehensive Operational Analysis (COA) is to evaluate the effectiveness, efficiency, and sustainability of SunTran's transit services and organizational structure, and to assess the financial and operational feasibility of transitioning transit operations and maintenance functions to in-house delivery. The COA will provide decision-makers with objective, data-driven findings and recommendations to support long-term service, staffing, and financial planning.

Minimum qualifications/experience requirements.
As part of the selection process, firms must first demonstrate they are qualified to participate in the solicitation process by clearly showing they meet the minimum qualification requirements set forth herein. Proposals submitted by firms that do not meet the qualification requirements will not be accepted:

(a) Proposer must have no less than seven (7) years' experience in developing a COA study for transit operations for other governmental agencies.

(b) Proposer must have completed at least three (3) directly comparable projects.

(c) Demonstrate the firm and staff capabilities to perform all aspects of this particular Project.

(d) Information regarding the expertise and experience of staff person(s) to be assigned to work on the Project. It should also contain specific proposed responsibilities of the Project staff person(s), and coordination of activities with ITP staff.

(e) References for all similar or related Projects if firm has not performed work previously for ITP.

Contract Term

The resulting contract will be for term of two (2) years. The duration to complete the study must be no longer than 9 months from kick-off meeting with City staff.

Scope of Work

The City of Ocala/SunTran is seeking the professional services of a Consultant to develop a Comprehensive Operational Analysis (COA). A COA will explore the improvements that need to be made at SunTran based on changes in ridership, development, population and employment patterns, and service performance. The overall goal of this COA effort is to develop a plan that will enhance the efficiency and effectiveness of the existing and planned SunTran system in a changing transit market environment. The core of the COA is the short-term plan. It will recommend route changes designed to improve service efficiency, apply resources where they are most needed, and modernize the route network based upon current and projected conditions within the service area. The COA shall include a comprehensive feasibility study to evaluate the costs, risks, and organizational impacts of bringing transit operations and maintenance functions in-house, compared to the current delivery model.

The COA will require extensive data collection and analysis with intensive field investigation and team evaluation. The development of short and mid-range recommendations will be based on:

- A field survey including the trailing of all bus routes.
- A comprehensive and statistically significant on-board and stop-by-stop data collection effort, including a ride check survey and transfer analysis of all Weekday and Weekend operations.
- Interviews and work sessions with SunTran personnel, including management and line staff active in operations, maintenance, customer service, scheduling/planning and other activities related to service delivery.
- Detailed analysis that profiles existing operational characteristics of the interrelated aspects of the SunTran system including planning, scheduling, dispatching, bus maintenance, road supervision and related road response activities, facilities and staffing levels, and fare structure and accessibility.
- Detailed assessment of existing and potential transit markets, including current and project employment and population data analysis, existing market identification, new market/rider assessment, and strategies to attract new riders to the system.
- Development of short and mid-range recommendations that provide the optimal path to increased ridership, improved service performance, access to underserved and expanded transit markets, increased fare revenue and additional paths to long-term financial stability.

The Consultant shall focus on providing practical recommendations to improve the productivity and cost-effectiveness of the existing fixed route system, generating additional ridership and passenger revenue, and further enhance SunTran's image throughout Ocala and Marion County. The duration to complete this study shall take **no longer than 9 months**.

The final Work Scope is comprised of the following Tasks:

1.0. Study Initiation/Project Management Plan and Schedule

Purpose: To provide direction and cohesive project management services throughout the course of the project.

Methodology: The Consultant Project Manager will meet with SunTran staff at the start of the project to discuss the work plan, schedule and relevant issues/concerns. The final

work scope will provide the blueprint for which ensuing tasks will be conducted. The Consultant will manage and coordinate the work elements, prepare monthly progress reports, and provide a single point of communication and responsibility with the Agency's Project Manager. SunTran staff will be responsible for the organization of an internal project committee:

- Transit Steering Committee (TSC) will be responsible for providing advisory input into the study throughout its duration. Key staff will be identified to participate on the TSC.

Deliverables: One (1) final work scope and one (1) schedule will be prepared following the one (1) internal Agency kick-off meeting. Up to five (5) TSC meetings will be held. Up to twelve (12) monthly progress reports will be completed summarizing all COA activities, including summaries of the project results to date, TSC and public meeting input, identification of outstanding issues, and schedule of forthcoming work clearly identifying the planned activities for the upcoming months.

2.0. Staff and Public Input

Purpose: To solicit staff, leadership and public input regarding SunTran's system issues, concerns, suggestions, perceptions and needs.

Methodology: Interviews, public meetings, social media outreach, and other avenues to gauge public and existing rider opinions regarding the current system's strengths, weaknesses and opportunities will be conducted with Board Members, administration/management, operations, planning, administration, scheduling, marketing, and customer service department management and staff.

Up to eight (8) informational meetings will also be held, with assistance and the direction of SunTran staff, to solicit input on routes, schedules and service types. Consultant will assist staff with additional presentations regarding COA input/suggestions with the other entities including but not limited to the Ocala City Council, Marion County TPP, and other meetings as identified by the Project Manager.

Deliverables: Up to eight (8) public meetings (if necessary) and up to twenty (20) staff interviews. A Technical Memorandum that documents the results of staff interviews and all public meetings will be developed. Consultant will develop and maintain a project-specific graphical and written material for the website that coincides with the information provided in each of the monthly reports.

2.1 Data Collection

Purpose: To assemble and review information presently available and to collect new data for a comprehensive analysis of SunTran's current route performance, system operations and procedures.

Methodology: This Task will be divided into the following four Subtasks: (1) Review of Existing Data, (2) Origin and Destination Survey and Service Area Field Observations, (3) Rider Survey/ Data Collection, and (4) Transfer/Pass/Fare Activity Analysis. The methodology for each Subtask is described below.

Deliverables: Four (4) separate but related reports each detailing issues and action items from Subtasks 3.1-3.4.

2.2Review of Existing, Planned, Future Conditions

The consultant team will organize and review available data and reports that pertain to the existing and envisioned transit system and current and planned transportation and land use conditions that could affect transit service. Data sources (where available) will include:

- Highway/street network information and LOS (per the TPO or FDOT)
- Existing roadway design standards and their effects on transit
- Planned roadway improvements
- Existing, planned, and future land use
- Existing/projected demographics: population, age, household size, housing, auto ownership, income, employment/unemployment, local School Board projections
- Route travel time data
- Farebox data
- Route performance reports
- Annual passenger surveys
- Daily service requirements (drivers needed for pullout and extra-board)
- Existing timetables and system maps
- Area base maps
- Fare structure/classifications
- Headway sheets/vehicle rosters/logs/turn-by-turn “paddles”
- Annual capital and operating budgets
- Fleet inventory/fleet plan/Transit Asset Management (TAM) Plan
- Detailed list of maintenance equipment, facilities, and procedures
- Existing labor agreements/work rules/operations manuals
- National Transit Database (NTD)
- Existing plan documents (Transit Development Plan, TPO LRTP, Local Comprehensive Plans, all local/municipal plans, neighboring transit agency plans)

This information will give the consultant team a better understanding of existing ridership characteristics. Five years of monthly ridership reports will be reviewed for analysis.

Deliverable: Existing/Planned/Future Conditions or “Trending” Report covering the service area and all listed aspects of SunTran’s system.

2.3Service Area Observations

Consultant team members will drive each fixed route to assess the following:

- Aspects and conditions of the service area.
- Current route alignments and passenger transit facilities.
- Major traffic generators, street networks, community characteristics and geographic areas.

Deliverable: Brief/report outlining the field observations of the current system characteristics. Route-specific characteristics and items of interest will be noted and reported to staff.

2.4Route and Stop-by-Stop Surveys/Data Collection

The rider survey will provide an accurate, statistically significant, data-rich, and replicable collection of data related for all existing Weekday and Weekend bus trips. The Consultant and SunTran staff will finalize an agreed-upon sample methodology and sample size as part of the finalization of the Scope under Task 1.0. In this Task, in-person rider surveys will provide stop-by-stop and segment-level ridership information, identify the location of peak load points, and provide time-of-day route details. SunTran staff will assist the Consultant in the formulation of the sampling methodology and approach that ensures every bus run and bus stop is surveyed adequately.

2.5 Data Collection and Supervision

Data collection will be administered and supervised by the Consultant team. All surveys will occur when K-12 schools are in session. Preparation for data collection will include SunTran supplying the Consultant with an up-to-date bus stop inventory. The Consultant shall conduct a training session for the surveyors instructing them how to collect the data as well as how to interact with staff and the public. Surveyors will ride on-board the vehicles to conduct rider surveys. For each scheduled time point, the surveyor will record the time on a data form. For each stop, the surveyor will record the number of alighting and boarding passengers.

The consultant will build a sampling plan that demonstrates how a robust data set for each SunTran bus stop and route will be built by in-person surveyors and potentially supplemented by technology-based data collection technology such as APCs.

2.6 Quality Assurance

Several procedures should be implemented to achieve acceptable levels of project accuracy, accountability, and completeness. These include:

- Surveyors will receive comprehensive training by the Consultant prior to the onset of actual data collection.
- Surveyors will manually record data on pre-printed survey forms or tablets. Surveyors will complete information at the start of the trip including run, vehicle, and operator numbers, and passenger load at trip start. Surveyors will also be responsible for reporting unusual circumstances or conditions encountered during the trip. Examples would include accidents/detours, inclement weather, vehicle breakdowns, and other factors that might affect operation of the route and thus, ridership and schedule data. Surveys will be redone as necessary to account for unusual or missed trips.
- Once the ridership survey is initiated, the Consultant will immediately verify each day's data to ensure that checkers have accurately followed the proper procedures. Surveyor's performance in-vehicle will also be assessed by the Consultant. Those not meeting standards will be retrained or replaced from the available pool of trained surveyors.
- Complete surveys for each entire route in a consecutive 1-to-2-day period shall be completed whenever possible. To ensure that surveys take place as scheduled every day, adequate report time will be built into the surveyor's schedules. The Consultant shall provide an appropriate number of additional surveyors who will be available to cover no-shows.

Administration of the ridership survey will require that SunTran provide a small area at the facility for survey staff. Identified areas will be used for daily surveyor reporting,

2.7 Data Processing

The Consultant will collect all completed surveyors results and APC data sets and tabulate into an electronic tabular format. Before tabulation, logic and accuracy checks for data will be performed. Key variables to be delineated from the edited data include:

- Total daily ridership
- Total and average ridership per trip for each time period
- Daily boardings and alightings for each stop and route segment
- Total and average boardings, alightings, load for each stop route segment, and time period
- Specific and geocoded locations or origins and destinations
- Transfer points by stop and route
- Peak load for each time period, peak hour and location of peak direction
- Running time per trip and per route segment
- Average and standard deviation of run time for each time period
- Average overall speed on each segment
- Headway variability, schedule adherence for all routes and time periods
- Available vehicle seating and standing room per trip
- Trip purpose
- Trip length
- Traffic and bus turning movement conditions and limitations
- Passenger amenities (transfer centers, bus shelters, bus stops, bus bays)
- Fare policies, fare revenue, farebox recovery
- Existing land use development patterns and trends; and,
- Existing demographics

Deliverable: Technical report detailing the methodology and results of the rider surveys, data collected, and initial findings.

3.0. Data Analysis and Evaluation of Existing Service

Purpose: To conduct a comprehensive route-by-route evaluation of SunTran service based on the data collected in Subtasks 3.1 – 3.3 obtain a clear understanding of the opportunities to improve each route, and assess overall responsiveness to service needs, efficiency and productivity. This task will provide key input to the development of service improvements.

Methodology: Route and corridor profiles will be prepared that evaluate the overall productivity, efficiency and effectiveness of each route. Segments and time-of-day productivity will be evaluated when developing individual route profiles. The following data sources will be used to access route productivity: (1) Rider surveys and established APC data sets (if applicable) will produce ridership, schedule adherence, and trip data; (2) Farebox reports will provide fare and revenue data; (3) Schedule data will provide service miles and hours; and (4) Any other relevant data as identified by the Consultant and SunTran staff. The Consultant will analyze and review the following operational, service alignment and scheduling characteristics for each route and supportive systems in the following areas:

- Headways (service frequencies)
- Passenger loads by route segments relative to capacity
- Route complexity, including deviations and turn-backs
- Location/hierarchy of system transfer locations
- Fleet utilization and assignment by vehicle and time period
- Directness and redundancy of route alignments
- Scheduled arrival/departure times at time points and key trip generators
- Layover and terminal locations and recovery times
- Bus stop locations and spacing
- Pull-out adherence
- Schedule adherence
- Scheduling software, techniques, and methodologies
- Dispatch operations
- Bus traffic control operations
- Deadhead routing and assignments
- Driver relief
- Route alignment, frequency, and span of service
- Passenger amenities (transfer centers, bus shelters, bus stops, bus bays)
- Fare policies, fare categories, fare revenue, farebox recovery
- Existing/planned land use development patterns and trends along existing routes
- Existing and projected population and economic demographics; and,
- Title VI, Equity, and other Environmental Justice (EJ) considerations

Deliverable: Technical Memorandum that will present a comprehensive, route-by-route evaluation of the present SunTran system. Included in the evaluation will be individual fixed route profiles and a layered assessment of the strengths and weaknesses of each route regarding the service characteristics identified above.

4.0. Mobility and Regional Needs Analysis

Purpose: To assess the potential of expanded SunTran service fixed route and service types within the current service area and into neighboring areas, particularly where service does not currently exist or where service needs adjustment (service decreases, increases in service, consideration of flexible/on-demand services). Where possible, identify the latent demand by time of day, origin-destination zones and user group.

Methodology: The latest U.S. Census updates will be analyzed to identify markets of potential riders that presently have inadequate transit service. The analysis will focus on identifying markets of disadvantaged populations (i.e., those persons who because of age, mobility limitations, or low income would rely on public transportation), and commuter travel markets. This analysis will be corroborated by field investigations, public service requests, and interviews with SunTran management and line personnel, as well as data collected in the most recent Transit Development Plan (TDP) and any other annual passenger survey/customer request information currently collected by SunTran (*if applicable*). The analysis will compare demographic characteristics of areas with high transit ridership and will identify areas with similar characteristics that are presently underserved by transit. Key trip generators with possible latent demand will also be identified. Additionally, optimal locations for new service types will be identified. Overall, this analysis will evaluate potential needs within the present SunTran service area and look at demand in areas outside of the present service area.

A mobility and regional needs market assessment will examine the following in SunTran ‘s service area:

- Housing, employment, transit dependency, and other trip generating data
- Commuting patterns within service area location and to surrounding counties
- Assessment of other origin/destination data from other sources (if available)
- Assessment of most commuting and transit demand from recent LRTP
- Assessment of projected travel markets from other transit studies from the region; and,
- Title VI, Equity, and other Environmental Justice (EJ) considerations

Deliverable: Results of the mobility and regional demand analysis will be incorporated in the development of a report that includes distinct short-term and mid-range recommendations. Results will be compared with suggestions/comments by the public in a discernable matrix that outlines current needs both within the current service area and in neighboring areas.

5.0. Recommended *Agency* Service Performance Standards/Policies

Purpose: Based on data and public input gathered through Tasks' 1-5, the Consultant will provide detailed recommendations to SunTran in the development of a series of recommended service performance standards and policies for existing and proposed service types. Policy guidelines will include, but is not limited to the following categories of service performance standards and policies:

- Transit Industry Standards
  - Total boardings
  - Passengers per Hour
  - Cost and Subsidy Per Passenger
  - Fare Box Recovery
  - On-Time Performance (OTP)
  - Customer complaints
  - Preventable Accidents per Revenue Mile
- Transit Travel Time
  - System speed
  - Delays/definition of/types
  - Transfer time
- Service Planning
  - Route ranking/tiers/thresholds system
  - Ridership thresholds
  - Headway
  - Service Span
  - Deadhead Routing
- Transit Experience
  - Reliability
  - Comfort
  - Passenger environment
  - Customer satisfaction
- Safety and Security
  - Vehicle accident rate
  - Passenger accident rate
  - Crime rate
  - Vehicle safety systems
- Maintenance
  - Road calls
  - Fleet cleaning

- Spare ratio
- Fleet maintenance performance
- Staffing

- Operations
  - Overtime
  - Light-duty
  - Extra-board
  - Dispatch
  - Staffing
- Scheduling
  - Interlining
  - Relief time and relief points/layovers
  - Efficiency
- Fare & Transfer Policies
  - Fares by type
  - Passes
- Transfer Policies & Community Perception of Transit System
  - Community economic impact
  - Employment impact
  - Mobility
  - Environmental impact
- Linking Performance Standards with Planning and Compliance
  - Transit Development Plan (TDP)
  - Title VI Plan
  - Transit Asset Management (TAM) Plan
  - Public Transportation Agency Safety Plan (PTASP)
  - Coordination with MPO on TAM & PTASP performance measures

Deliverable: Final Technical Memorandum with recommendations on optimal service and performance measures. SunTran will utilize and manage, finalize what will be measured, and provide direction on how they will be disseminated to the public, administration, and governing board. Based on established performance and productivity policies and standards, these are the policies and technical standards that will assist SunTran in adjusting service where needed based on the findings of this COA effort.

6.0. Service Implementation Plan

Purpose: The Consultant shall provide a detailed summary of the recommended service plan for
SunTran services for two time periods.

6.1 Short-Term Recommendations (Years 1-2)

Purpose: The short-term recommendations comprise the major effort of COA. The short-term recommendations are designed to be conducted over a two-year period, to allow for careful implementation, performance monitoring, and ample time for feedback by SunTran staff and the public.

Methodology: Input from all previous Tasks will form the basis for developing service proposals. Recommendations will address the service issues identified in Task's 2-5 and will most likely center on improving route and cost efficiencies. This includes:

- Optimal Routing and Service by Route and Corridor: Service parameters for each

route or service by day of the week, including:

- Service periods
- Service frequencies by time period
- Vehicle requirements by time period and propulsion system
- Service hours and miles
- Timepoint spacing
- Round-trip running times
- Trip distances
- Integrating flex routing/on-demand services/microtransit
- Integrating new technologies
- Interlining combinations
- Integration with other transit modes and/or services on regional corridors
- Required fleet, including EV vehicle charging needs
- Facility and equipment needs
- Total operating and capital cost needs for all scenarios

Deliverable: Development of a System Improvement Plan, which will include detailed run cuts for each route and grouping(s) of changes, driver/staffing requirements for each run cut and suggested improvement, graphical and GIS maps/layers, tables, descriptions, proposed new routes or routing, proposed policy recommendations, and estimated capital and operating costs required for each recommendation but clearly delineating those changes that are within existing (budget neutral) resources and those that will require additional resources.

6.2 Mid-Range Recommendations (Years 3-5)

Purpose: To identify potential service modifications in a mid-range (3-5 years). These recommendations will include new service needs, such as increases in headways, service span, routing, and all other additions of service.

Methodology: All recommendations for the mid-range will be carefully staged to support changes that occur because of the implementation of the short-term Priority System Improvement Plan. Mid-range improvements will likely require additional resources. In addition, pulling from the latent demand analysis (Task 5), will be a primary source for identifying the potential for expanded service, new service types, new routes, service into neighboring areas, and the need for additional capital resources (such as bus stops/amenities, transit centers, park-and-ride lots, transfer/administrative/maintenance facilities, and ITS investments).
Deliverable: Development of a final Optimized System Investment Plan, which will include graphical and GIS maps/layers, tables, descriptions, proposed new routes or routing, proposed policy recommendations, estimated capital and operating costs to implement each change that can be potentially implemented within the next 3-5 years, and the identification of funding approaches for new or expanded services.

7.0. In-House Operations and Maintenance Cost and Feasibility Study Analysis

Purpose: To evaluate the financial, operational, and organizational feasibility of transitioning transit operations and maintenance (O&M) functions from current external contracting to fully in-house delivery by SunTran and the City of Ocala. The analysis will produce a comparative cost model, sensitivity analyses, and recommendations supported by quantitative data and narrative justification. This Task helps inform Agency leadership on the

long-term total cost of ownership and risks associated with in-house transit O&M delivery relative to alternative delivery models.

7.1 Data Collection and Baseline Definition

Purpose: Establish a reliable baseline for current O&M costs:

- Collect historical and current O&M expenditure data, including but not limited to
  - Labor
  - Benefits
  - Fuel
  - Parts
  - Administrative overhead
  - Insurance
  - Contract management costs

Deliverable: Baseline O&M dataset and documentation.

7.2 In-House Cost Model Development

Objective: Develop a fully allocated cost model to estimate SunTran/ The City of Ocala cost to provide Transit O&M in-house. Including but not limited to:

- Direct Labor Costs
  - Salaries
  - Overtime
  - Benefits
  - Training
  - Workers' Compensation
  - Labor productivity assumptions
- Indirect Costs
  - Administration
  - Human Resources support
  - Information Technology
  - Safety and compliance
  - Facilities management
- Fleet O&M Costs
  - Fuel
  - Parts
  - Consumables
  - Scheduled and unscheduled maintenance
- Facilities and Equipment
  - Utilities
  - Maintenance bays
  - Vehicle lifts
  - Specialty tools
- Compliance Costs
  - Drug and alcohol testing
  - OSHA compliance
  - FDOT compliance
  - FTA compliance

Deliverable: In-house O&M cost model with unit cost drivers (per vehicle/hour/mile, per employee, etc.).

7.3 Delivery Cost Comparison

Objective: Compare in-house cost model results against current delivery method, including external contractor or hybrid models.

Analysis Components:

- Annual Operating Cost Comparison: Total cost under current delivery vs. in-house delivery.
- Cost Per Service Unit: Metrics such as cost per vehicle hour, cost per revenue mile, and cost per passenger trip.

Deliverable: Comparative cost tables and scenario results.

7.4 Operational and Organizational Impact

Objective: Evaluate non-financial factors that materially affect feasibility.

Assessment Areas:

- Staffing Structure and Skills Gap Analysis: Determine need for recruitment/training to support in-house O&M.
- Workforce Transition Implications: Benefits, continuity, and retention strategies.
- Facility and Equipment Readiness: Identify infrastructure upgrades needed to support projected O&M workload.
- Risk and Contingency Assessment: Evaluate operational risks, insurance implications, and disaster resiliency.

Deliverable: Narrative assessment and risk register.

7.5 Recommendations and Implementation Roadmap

Objective: Provide clear conclusions and actionable steps.

Deliverables:

- Feasibility Conclusion: Based in cost comparison, operational capability, and risks.
- Preferred Delivery Model Recommendation: In-house, hybrid or status quo with performance enhancements.
- Implementation Plan: Staged actions, estimated timelines, roles and responsibilities, and budget requirements.
- Performance Metrics: Proposed performance and financial metrics to monitor post-implementation.

8.0. Final COA Report, Presentation of Findings and Executive Summary

Purpose: To document the results of the COA in sufficient detail to enable SunTran staff to successfully implement the service recommendations and provide local decision-makers and public with valuable information regarding SunTran existing performance, cost-neutral changes that can be applied more immediately, and worthwhile investments that could occur in the future if resources become available.

Methodology: The consultant will present findings of the COA in report, electronic and graphics media. In addition, an Executive Summary will be developed that outlines the key findings and recommendations from previous tasks, including:

- Existing conditions and needs
- Statement of goals and objectives
- Service standards and policies
- Summary of community engagement
- Service revision recommendations (short-term, mid-range); and,
- Service recommendations action plan

Deliverable: The Consultant will prepare a Final COA Report and Executive Summary that documents all aforementioned work elements, results, and recommendations. After a suitable period of review by SunTran staff, a final COA Report will be produced, incorporating review comments. The Consultant will, (with the assistance of SunTran staff), design the Final Report presentation graphics. The Final COA Report and Executive Summary will be tailored into a final presentation and provided in an electronic version that is formatted for ADA accessibility. In addition, up to eight (8) additional meetings will be provided based on staff recommendations, including presentations to all relevant governing boards.