March 3, 2009

TO: Mayor and City Council

FROM: Michael M. Niblock, Director
Community Development Department

SUBJECT: CITY OF STOCKTON AND SAN JOAQUIN REGIONAL TRANSIT COOPERATIVE AGREEMENT

RECOMMENDATION

It is recommended that the City Council adopt a resolution authorizing the City Manager to execute a Cooperative Agreement between the City and the San Joaquin Regional Transit District and an expenditure approval of $117,522 to prepare a Comprehensive Operational Analysis/Gap Study of the Stockton Metropolitan Area Transit System. It is further recommended that the resolution authorize the City Manager to take whatever actions are appropriate to carry out the purpose and intent of the resolution.

Summary

City Staff is requesting the Council’s consideration of a resolution to authorize a cooperative agreement between the City and San Joaquin Regional Transit District to perform a Comprehensive Operation Analysis/Gap Study of the Stockton Metropolitan Area transit system as joint “Project”. This Project is being initiated to comply with the City’s Memorandum of Agreement between the Sierra Club and Attorney General of California as a settlement to the City’s General Plan. City and San Joaquin Regional Transit District staffs are proposing partnering on this Project since the City does not have the expertise or authority to provide or change the transit system that serves the City. The Project will identify current and future transit needs, analyze current transit service effectiveness and efficiency, identify gaps in existing transit service and future planned market areas, and develop a range of service plan alternatives and evaluation criteria to ultimately determine a preferred service and financial plan. San Joaquin Regional Transit District will lead the Project and manage the consultant contract and City staff will assist with all Project activities. The City and San Joaquin Regional Transit District agree to equally share the Project cost of $213,676, excluding staff costs which will be mutually provided. The City cost share is $106,838 plus a City staff requested 10% contingency for a total approved expenditure authorization of $117,522. The Project is scheduled for completion within six months.
DISCUSSION

Background

On December 11, 2007, the City approved the 2035 General Plan, Infrastructure Studies Project, Bicycle Master Plan, Final Environmental Impact Report, and Statement of Overriding Considerations. Subsequently, on January 10, 2008, the Sierra Club filed a Petition for Writ of Mandate in San Joaquin County Superior Court alleging that the City had violated California Environmental Quality Act ("CEQA") in its approval of the 2035 General Plan. The California Attorney General also raised concerns about the adequacy of the Environmental Impact Report under CEQA, including but not limited to the Environmental Impact Report's alleged failure to incorporate enforceable measures to mitigate the greenhouse gas emission impacts that would result from implementation of the General Plan.

While the City contends that the General Plan and Environmental Impact Report adequately addressed the need to reduce greenhouse gas emissions in accordance with the Global Warming Solutions Act of 2006 (commonly known as Assembly Bill 32), the Sierra Club supported by the Attorney General disagreed. The City, Attorney General and the Sierra Club resolved their dispute through a Memorandum of Agreement, without the need for costly judicial resolution in order to allow the General Plan to go forward.

On September 9, 2008, the City Council approved a Memorandum of Agreement with the Attorney General of California and the Sierra Club. This Memorandum of Agreement was ultimately signed on October 14, 2008. The purpose of the Memorandum of Agreement was to help ensure that the General Plan and the City's implementing actions address greenhouse gas reduction in a meaningful and constructive manner, to the satisfaction not only of the City but also the Attorney General and the Sierra Club. The Memorandum of Agreement was to also help promote balanced development, including adequate infill development, downtown vitalization, housing needs and public transportation. Finally, it would help ensure that development on the urban fringe is as revenue-neutral to the City as it relates to infrastructure development and the provision of services.

The main component of the Memorandum of Agreement is the requirement that City staff prepare for City Council consideration a Climate Action Plan within 24 months of the Agreement signing. The major elements of the Climate Action Plan include:

2. The formation of an advisory committee consisting of representatives from environmental, non-profit, labor, business and developer interests
CITY OF STOCKTON AND REGIONAL TRANSIT COOPERATIVE AGREEMENT

3. The reduction of per capita Vehicle Miles Traveled

4. Target reductions in greenhouse gas emissions in accordance with Assembly Bill 32

5. The implementation of a Green Building Program, including:
   - Build It Green - residential
   - LEED Silver – phased approach
   - Review requirement to stay among top 25% of ordinances in State
   - Green Building retrofit w/50% remodel (18 months)
   - Explore local assessment district to help fund retrofits
   - Explore retrofits for CEQA mitigation

6. Adoption of a Transit Program Based on a Transit Gap Study, addressing:
   - Strategies for reassessing transit use and funding
   - Configuration of developments for all transportation modes
   - Developments to provide funding or other support for transit
   - Developments to have density to support transit use

7. The Support of Downtown Development
   - Baseline number of new housing units in Greater Downtown and within City limits
   - Incentives for infill (e.g. reduced fees/limits)
   - Incentives for districts and corridors

8. A strategy for the Edge and Downtown to Grow Together
   - Minimum infrastructure requirements
   - Milestones for infill in balance before new entitlements
   - Finance mechanisms to assist infill

9. The Regular Monitoring of Vehicle Miles Traveled

Further, identified in the Agreement are various milestone time frames for completing the activities summarized above which lead to the ultimate Climate Action Plan approval. On November 4, 2008, City Council adopted Resolution 08-0438 to establish a Climate Action Plan Advisory Committee as a milestone requirement in the Memorandum of Agreement and appointed members of the community, consisting of representatives from environmental, non-profit, labor, business and developer interests to serve on the committee.

Present Situation

To comply with another milestone requirement of the Memorandum of Agreement, City Staff is requesting the Council's consideration of a resolution to authorize a cooperative agreement between the City and San Joaquin Regional Transit District to perform a
Comprehensive Operation Analysis/Gap Study of the Stockton Metropolitan Area transit system as a joint Project.

City Staff and San Joaquin Regional Transit staff concluded that a joint Project was a logical course of action, since the City does not have the expertise or authority to provide or change the transit system that serves the City. Further, San Joaquin Regional Transit was already in the process of requesting proposals to retain a consultant to perform a Comprehensive Operational Analysis of the transit system. Based on discussions with San Joaquin Regional Transit staff, the City's proposed Gap Study had many common elements including data collection, operations assessment and system planning. By partnering on one overall Project, both agencies would benefit from a cost savings of eliminating duplicative work and enable open communication and information sharing.

As proposed, the Comprehensive Operational Analysis/Gap Study Project will identify the transportation needs of San Joaquin Regional Transit riders and non-transit users, collect and analyze current service data and standards to gain an understanding of San Joaquin Regional Transit's current service effectiveness and operation efficiency. Further, the Project will identify existing gaps in transit service as well as service needs for future transit ridership markets; identify and evaluate alternatives for potential methods of service delivery and potential in San Joaquin Regional Transit's service area; develop a range of service plan alternatives and evaluation criteria to ultimately determine a preferred service and financial plan.

City Staff will utilize the results and conclusions from the Project to develop an overall Transit Program for the Stockton Metropolitan Area which is identified as a milestone requirement in the Memorandum of Agreement. Included in the proposed Project scope is an optional work task to scope out the preparation of a Transit Program once the Comprehensive Operational Analysis/Gap Study is substantially complete. The Project is scheduled to be completed within six months. It is anticipated City staff will be presenting the Transit Program for City Council's consideration late this year.

The proposed Cooperative Agreement identifies San Joaquin Regional Transit as the lead agency to oversee the Gap Study/Comprehensive Operations Analysis Project and manage the consultant contract. City staff will assist San Joaquin Regional Transit with carrying out the Project including participation in critical decision making, performing reviews and comments, attending meetings and sharing City data and land use information to achieve the Project objectives and deliverables. The City and San Joaquin Regional Transit agree to equally share the cost of the Project, excluding staff costs whereby mutual cooperation and participation will replace fair share funding with each party agreeing to
CITY OF STOCKTON AND REGIONAL TRANSIT COOPERATIVE AGREEMENT
Page 5 of 5

waive right to any repayment or reimbursement from the other for any and all staff costs incurred by the Project. The cost of the Project is $213,676 based on a bid proposal from Transportation Management & Design, Inc. which San Joaquin Regional Transit staff will be presenting to their Board for a contract award on February 17 along with the City-San Joaquin Regional Transit Cooperative Agreement. The City cost share is $106,838 plus a City staff requested 10% contingency for a total approved expenditure authorization of $117,522.

It is anticipated that City staff will brief the City's Climate Action Plan Advisory Committee during the course of the Project to ensure there is open communication on work progress and opportunity for guidance as results of the analysis/study findings come available.

Financial Summary

The following is a summary of the cost sharing for the project:

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<th>City Share</th>
<th>San Joaquin Regional Transit District Share</th>
<th>Project Total</th>
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<tr>
<td>$106,838*</td>
<td>$106,838</td>
<td>$213,676</td>
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(*) Including a 10% contingency, the total expenditure authorization is $117,522.

Sufficient funds are available to pay for the City's share of the Project cost in the Public Facility Fee – Air Quality Account Number 990—9275-610.

The City Manager is authorized to take actions as are necessary and appropriate to execute the Cooperative Agreement, and carry out the purpose and intent of the resolution.

Respectfully submitted,

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

APPROVED

J. GORDON PALMER, JR.
CITY MANAGER

Attachments
RESOLUTION AUTHORIZING THE CITY MANAGER TO EXECUTE A COOPERATIVE AGREEMENT BETWEEN THE CITY OF STOCKTON AND THE SAN JOAQUIN REGIONAL TRANSIT DISTRICT AND APPROVING AN EXPENDITURE OF $117,522 TO PREPARE A COMPREHENSIVE OPERATIONAL ANALYSIS/GAP STUDY OF THE STOCKTON METROPOLITAN AREA TRANSIT SYSTEM

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF STOCKTON, AS FOLLOWS:

1. The Cooperative Agreement for a Comprehensive Operational Analysis/Gap Study of the Stockton Metropolitan Area Transit System, which is attached hereto as Exhibit “A” and incorporated herein by reference, is hereby approved.

2. An expenditure, in the amount of $117,522, for the preparation of a comprehensive operational analysis/gap study of the Stockton metropolitan area transit system is hereby approved.

3. The City Manager is hereby authorized to execute, on behalf of the City of Stockton, such Agreement between the City of Stockton and the San Joaquin Regional Transit District and to take whatever actions are appropriate to carry out the purpose and intent of this Resolution.

PASSED, APPROVED, and ADOPTED ____________________.

ANN JOHNSTON
Mayor of the City of Stockton

ATTEST:

KATHERINE GONG MEISSNER
City Clerk of the City of Stockton

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City Atty: 
Review 
Date February 17, 2009

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CITY-SAN JOAQUIN REGIONAL TRANSIT DISTRICT COOPERATIVE AGREEMENT
FOR THE COMPREHENSIVE OPERATIONAL ANALYSIS/GAP STUDY OF THE
STOCKTON METROPOLITAN AREA TRANSIT SYSTEM

This Cooperative Agreement is made and entered into this ________ day of ________________, 2009, by and between the
CITY OF STOCKTON, a Municipal Corporation of the State of California, (hereinafter "CITY") and the SAN JOAQUIN REGIONAL TRANSIT DISTRICT, (hereinafter "RTD").

RECITALS

RTD plans to undertake a project to perform a Comprehensive Operational Analysis/Gap Study of the Stockton Metropolitan Area Transit System (hereinafter referred to as "Project"), as shown on Exhibit A attached; and,

CITY and RTD acknowledge the need to jointly implement the Project as both agencies have a mutual interest in the analysis and study findings to be delivered at the conclusion of the Project; and

CITY and RTD by this agreement desire to implement this Project at an equal cost share, excluding staff costs whereby mutual cooperation and assistance will replace fair share funding calculation and payment.

AGREEMENT

THEREFORE, it is mutually agreed by and between RTD and CITY as follows:

1. The work to be performed includes, but is not limited to: Preparation of a Comprehensive Operational Analysis/Gap Study, professional services contract administration, review and comment of Project deliverables, participation in meetings, gathering of data, policies, standards, plans and information.

2. The parties agree that RTD is the lead agency and responsible for the Project oversight and professional services contract administration.

3. CITY will be responsible for assisting RTD with the Project implementation, including participation in critical decision making, reviews and comments, meetings and information sharing to achieve objectives and deliverables.

EXHIBIT "A"
4. Both the RTD and CITY acknowledge and agree that each party will incur staff costs in completing the Project and agree to waive right to any repayment or reimbursement from the other for any and all staff costs incurred by the Project.

5. RTD hereby represents and warrants that the letting of Project contracts will be done pursuant to the laws of the State of California.

6. CITY and RTD agree, based on the estimated cost proposal for the Project, to share the costs equally as follows:

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<th>RTD</th>
<th>CITY</th>
<th>TOTAL</th>
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<tr>
<td>$106,838</td>
<td>$106,838</td>
<td>$213,676</td>
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7. RTD shall provide to City monthly progress reports and shall provide invoices no less than monthly for activities conducted over the prior unbilled month.

8. CITY shall, within (30) days of receipt of monthly invoice referred to above in this Agreement, reimburse RTD for its share of eligible costs incurred in the performance of the Scope of Work for Project.

9. RTD shall not be liable or responsible for, and CITY hereby expressly promises to defend and hold RTD harmless from any injury, damage or loss, suffered, sustained or claimed as a result of CITY’S acts or omissions under this Agreement.

10. CITY shall not be liable or responsible for, and RTD hereby expressly promises to defend and hold CITY harmless from any injury, damage or loss, suffered, sustained or claimed as a result of RTD’S acts or omissions under this Agreement.

Execution of the foregoing agreement has been authorized by Resolution No. ____________, duly passed by the RTD Board of Directors on ____________, and by Resolution No. ____________, duly passed by the CITY Council of the CITY of Stockton, State of California, on ____________.
IN WITNESS, this agreement has been executed by the respective parties hereto through their respective authorized officers at Stockton, California, the day and year first above written.

SAN JOAQUIN REGIONAL TRANSIT DISTRICT

By __________________________
FLOYD WEAVER
RTD Board Chairman

By __________________________
DONNA DEMARTINO
General Manager/CEO

Address, Telephone and Fax Numbers:

421 East Weber Avenue
2nd Floor
P. O. Box 201010
Stockton, CA 95201
Phone: (209) 948-0645
Fax: (209) 948-3366

APPROVED:

SHARON NEEL
Procurement Manager — Contracts

APPROVED AS TO FORM:

AL WARREN HOSLETT
Attorney for RTD

CITY OF STOCKTON

By __________________________
J. GORDON PALMER, JR.
City Manager

ATTEST:

KATHERINE GONG MEISSNER
City Clerk of the City of Stockton

APPROVED AS TO FORM:

RICHARD E. NOSKY JR.
Deputy City Attorney

City Attorney

39
Nathaniel Atherstone  
Planning Senior Specialist  
SJRTD  
P.O. Box 201010  
Stockton, CA 95201

Subject: Revised COA proposal

Dear Mr. Atherstone:

TMD is pleased to revise our COA proposal to include scoping meetings for the Transit Program. We believe we are uniquely qualified to produce the results the City and SJRTD need to develop the components necessary for this Program. For this task we are adding John Gobis (resume attached), who brings experience assisting agencies nationwide passing transit referendums and bonding requests. His work has focused on development and marketing of innovative products, strategic visioning, guiding tax initiatives, and building public/private partnerships for projects dealing with transportation and infrastructure. Mr. Gobis has also worked with SJRTD staff over the past few years on the Agency’s Transit Advertising Program.

Our original proposal recognized the importance of considering implementation issues as part of the development of the COA. The partnership between SJRTD and the City of Stockton introduces additional implementation opportunities.

We propose the following additional tasks for the two scoping meetings with the City of Stockton and SJRTD:

- Preparation for First Meeting – The TMD team will review the requirements related to the Transit Program to be included in the Climate Action Plan (CAP). We will develop a list of best practices related to reducing VMTs and Greenhouse Gasses and their application in Stockton. TMD will also compile preliminary information about funding opportunities for the Transit Program.

- First Meeting – Brainstorm on the scope of the City’s Transit Program, particularly how the COA and the Gap Study fulfill the Transit Program requirements. Additionally, we expect to hold a facilitated discussion about new funding opportunities such as public/private partnerships, tax initiatives and special assessment districts.

- Preparation for Second Meeting – Address any issues from the First Meeting and prepare a draft scope, budget, and timeline for the Transit Program to be discussed at the Second Meeting. The scope will identify concerns of the City of Stockton, SJRTD, and the affected public and will clearly define the issues and alternatives to be examined in the Transit Program.
Second Meeting – Discuss the draft scope, budget, and timeline and identify any final changes.

We have planned monthly visits throughout the duration of the COA. These visits will include public and stakeholder outreach as well as presentations of findings to date to SJRTD staff. We will work diligently to ensure our final COA meeting can coincide with the first scoping meeting. To minimize budget costs for the scoping meetings we have only budgeted costs for the second scoping meeting for the majority of the TMD team. We have budgeted for John Gobis to attend both scoping meetings: We believe that his experience and expertise will be invaluable in developing the best scope for the Transit Program.

The revision of the COA proposal includes the following hours and budget:

- TMD – 42 additional hours: $6,196 inclusive of all costs
- Mary Sue O’Melia, TransTrack – 12 additional hours: $2,350 inclusive of all costs
- John Gobis – 40 additional hours: $5,380 inclusive of all costs

Total: $17,926

Mr. Russell Chisholm, President of TMD, is authorized to represent the firm in all matters regarding this revised proposal. He or Rahul Kumar, TMD’s proposed Project Manager can be contacted at 5541 Fermi Court, Suite 170, Carlsbad, CA 92008, telephone 760-476-9600, fax 760-476-9602, or via email at rchisholm@tmdinc.net or rkumar@tmdinc.net.

Respectfully yours,

Transportation Management & Design, Inc.

Russell Chisholm
President

<Attachment>
San Joaquin RTD COA Proposed Implementation Plan

Project Understanding:
Over the past several years, San Joaquin RTD has implemented innovative transit options in what was a growing community. These options include the successful Metro Express and improved accessibility to the services through the Downtown Transfer Center. TMD understands SJRTD’s current operation and specializes in the type of innovative transit planning that SJRTD is seeking.

While the economy has drastically changed, SJRTD still appreciates the need to serve its community, but must find efficiencies to maximize its productivity and maintain service levels. The TMD team has worked with numerous clients throughout the country to do just this. Throughout this project, TMD will analyze existing performance, determine what efficiencies can be made in the near-term, and what the future holds for Stockton and the surrounding communities. We can phase in analysis, depending on funding, for the Stockton Metropolitan Area and the interregional services. As part of our analysis, TMD will take into special consideration the various markets that SJRTD serves, such as schools, to ensure that recommended changes reflect current bell schedules or other market-specific issues.

Throughout the project, the TMD team will work closely with SJRTD staff and the Stockton business community as well as working to inform the public. We will find efficiencies and help SJRTD “do more with less.” We understand the challenging funding environment facing SJRTD and will develop a plan that is supported by the public and subsequently increases ridership and revenue. Throughout this project scope we will display on work plan and technical approach. However, as in all projects, we see our role extending beyond the confines of the scope and will provide SJRTD with the technical assistance that comes from over 30 years of experience.

Task 1: Establish Final Work Program and Schedule

Purpose: To meet with RTD to finalize TMD’s proposed work plan and establish the project timeline and milestones.

Methodology: TMD Project Principal Russell Chisholm, Project Manager Rahul Kumar, and key consultant staff will meet with RTD project leadership for two days at the start of the project to discuss the work plan, schedule, and relevant issues/concerns. Our team has worked closely with SJRTD staff in the past and will continue to work as an extension of staff throughout the course of the project. Anticipated areas of discussion include:

- Proposed community/stakeholder participation plan
- Additional data needs (beyond APC, farebox, and rider survey data)
- Approach to developing alternatives (framework and brainstorming)
- Identify project milestones and dates for presentations and deliverables

A small Project Working Group is recommended, formed by key project managers from TMD and RTD planning, operations, and finance staff to coordinate day-to-day project work.
Deliverables: One (1) final work scope and one (1) schedule will be prepared following the one (1) internal RTD kick-off set of meetings, for which we have allocated a two-day visit to Stockton for key TMD Project Staff.

Task 2: Establish Goals and Objectives

Purpose: To develop strategic project goals and objectives that respond to both staff and community input by understanding the RTD system's strengths and weaknesses and identifying the transportation needs of RTD riders and non-riders from the San Joaquin Valley region.

Methodology: One of the critical components of a successful COA Plan and implementation involves reaching out to internal and external stakeholders and making sure that the needs of staff and the community are taken into account when proceeding with the project. An area of success for the TMD team in completing past COAs has been our ability to integrate meaningful stakeholder outreach effectively into the process. Recently, San Diego MTS and Santa Clara County VTA, who have both long struggled with securing board adoption of major service changes, were able to move COA system restructuring proposals successfully through their boards and public stakeholder groups following inclusive, collaborative stakeholder outreach.

In order to develop goals that address the mobility needs of the local community, the TMD team plans to engage policy makers, members of the community, customers, and staff regarding the COA process and desired outcomes. This is intended to provide stakeholders with the necessary information and understanding to effectively participate and provide input. This information includes system strengths and weaknesses (helping frame policy issues and service development structure) and suggestions regarding specific transit service opportunities.

Valuable input can be gathered during drop-in workshops including both internal and external stakeholders. These sessions may be presented in a variety of formats that include staffed information stations covering topical COA activities or issues, ongoing presentations, role-playing or game-playing, and formal questions and answers. The approach is flexible and can be highly responsive to the needs of specific communities in the San Joaquin Valley.

In addition, TMD will work with RTD staff to coordinate additional meetings with key stakeholders. Specifically, the team will address viewpoints from groups represented, including a variety of stakeholder inreach and outreach tailored for each group. TMD provides a top-down/bottom-up approach to service planning and system development allowing us to provide both the specific details required by staff members as well as the overall "big picture" summaries used by policy makers. TMD will work quickly with RTD to develop our team's key messages, our desired questions for stakeholder feedback, appropriate communication channels, and our target audiences. We are firm believers that people support what they help create. The earlier in the process we can reach out to build relationships, the easier the process will be in the long term, and the chances for achieving full success improve.

Project Website: TMD will develop and maintain a project website that will be available to RTD, the TMD Team, members of the advisory committees, and the community. TMD will provide project specific
materials including text, tables, graphs, and maps as appropriate based on current work efforts and public communication needs.

The TMD team will assist RTD staff with additional presentations regarding COA input/suggestions in meetings as identified by the RTD Project Manager.

**Deliverables**: Final COA goals and objectives developed by utilizing the public input obtained from internal and external stakeholders through the initial public outreach process.

Task 3: Collect and Analyze Current Service Data and Service Standards

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

**Methodology**: This task will be divided into the following four sub-tasks: (1) Review of Existing Data, (2) Rider Survey, (3) Origin and Destination Survey and Service Area Field Observations, and (4) Comparison of performance indicators to comparable transit systems. The methodology for each sub-task is described below.

1) **Review of Existing, Planned, Future Conditions**

The TMD team will organize and review available data and reports that pertain to the existing and envisioned transit system, transportation network, and land use conditions that could affect transit service.

The team will review daily and monthly route summary reports, farebox reports, and productivity and ridership reports which RTD prepares to determine ridership characteristics of each route. TMD will develop productivity factors, such as passengers per mile and passengers per hour, to establish a preliminary route ranking by service type. A trend analysis of this data will be undertaken over the previous five years to provide a better understanding of RTD service ridership.

To facilitate project work and maximize value for RTD, where possible, data and information will be requested in both summary form and its original electronic form (e.g., detailed APC and farebox data, GIS files for cartographic data, and possibly any geographic files from Trapeze). TMD will also review existing conditions and plan documents for the San Joaquin County and note key findings relevant to COA transit development.

**Key issues for review will include:**

- Current and future land use development, demographics, and employment/school enrollments and their attendant effect on travel demand. Specific areas or corridors with critical density to support core transit service (multi-purpose, all week demand) will be identified, as will areas that will support specific transit market demand (e.g., employment or school concentrations).

- Road network, operating speeds, and LOS will be a key determinant in both transit’s attractiveness (especially when a competitive advantage is possible, such as with transit signal
priority) and transit operating costs. Both existing conditions and trends will be important considerations.

- Existing operating conditions related to service quality (reliability, predictability, availability), efficiency (includes scheduling and labor agreement considerations), and effectiveness (productivity against both service units and net operating cost).

2) Ridership Counts
To gain a better understanding of RTD's level of service, samples of ridership counts and service performance for weekdays, Saturdays, and Sundays for the RTD system will be taken. TMD has 20 years of experience counting passengers using manual techniques, handheld counters, and automatic passenger counters (APCs) at a wide variety of transit systems, as shown in the exhibit below.

### Recent TMD Experience

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<tr>
<th>Service Area</th>
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<td>SANDAG Passenger Counting Program</td>
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<td>Torrance Transit Line-by-Line Analysis</td>
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<td>Los Angeles DOT Line-by-Line Analysis</td>
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<td>Baltimore MTA Bus Initiative</td>
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<td>Charlotte Countywide Transit Services Plan</td>
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<td>Chicago Transit Authority Bus Efficiency Study</td>
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<td>Suburban Chicago Pace South Halsted Plan</td>
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<td>AC Transit Bus Efficiency Study</td>
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3 Comprehensive Operational Analysis (Service Restructuring)
In order to provide an accurate and statistically-significant sample of weekday, Saturday, and Sunday transit activity, TMD proposes collecting a sample for weekdays, Saturdays, and Sundays using manual counts with available APC data used for augmentation purposes. A subset of RTD trips will be sampled based on a statistical methodology.

The table below illustrates our sampling methodology for both weekday and weekend trips, however we are flexible regarding the sampling schedule.

The following data will be collected at a minimum:

- Passenger on/off activity and ongoing passenger on-board load at each bus stop for each individual trip.
- Actual arrival and/or departure times at all scheduled timepoints for each trip. Sampling will be scheduled to take place in consecutive 1 to 2 day periods, wherever possible.

Costs for performing a sample manual count ridecheck for RTD routes were based on SIRTID provided platform hours.

TMD will undertake the necessary training using TMD's regular Training Manual, found in the Appendix, which will be adapted as needed for RTD. Data collection activities will be closely monitored to ensure that a thorough and accurate check is undertaken with complete data. The surveyors will be supplied with pre-printed survey sheets (from the Hastus data set) listing all the scheduled times and all bus stops for the trips that they are scheduled to ride during their work shift. In addition to collecting ridership information, the surveyors will also be distributing and collecting completed rider questionnaires which serve as part of the origin destination survey (another Task 3 subtask). As discussed earlier, in cases of lines with heavy ridership, a second surveyor will be present in the peak periods to assist in collecting the desired information and distributing questionnaires to customers. TMD has successfully undertaken numerous ridecheck/questionnaire distribution efforts using checking staff in cost effective dual roles. TMD has targeted to collect a statistically significant fully completed rider questionnaires to assist in the customer profiles and O/D patterns, transfer patterns, and latent demand analysis.

TMD is proposing to build on its current best practices in data collection to ensure a successful survey effort with a supervisor provided by the staffing agency on-site for eighteen hours per checking day and additional surveyors on hand in case of no-show situations. Any late night checking is assigned to proven reliable staff that will turn in the work the next morning. Checker work is reviewed daily for completeness and accuracy and again during the data entry process involving customized validation routines to ensure an accurate result for San Joaquin County. Only after the data undergoes a third and final validation process is it available for SAS analysis report generation. During the entire survey period a TMD team surveyor will be on-site providing oversight and monitoring of checker performance.

Data Processing: TMD will tabulate the data on computer spreadsheets. TMD's Service Analysis System (SAS) is an MS Access based program that outputs tabulations into Excel spreadsheets. While the system provides many pre-structured reports in Excel and some additional special graphics in Access and mapping in ArcGIS, additional analysis is easy using the comprehensive Excel spreadsheets. The current range of SAS output is provided in the proposal Appendix.

Before developing summaries, simple logic checks will be performed on the resulting files to identify any anomalies. The SAS produces a summary of boardings, alightings, and departing load by route, stop,
time period, segment, and for the full day. The SAS also produces a loading profile on a per trip basis or over the full day or other time period of interest.

The completed SAS reports will contain all of the RTD key variables noted in the RFP plus additional detailed data for a wide variety of service quality, service effectiveness (productivity), and cost effectiveness metrics by time of day and by route segment.

3) Origin and Destination Survey and Service Area Field Observations:
TMD also proposes to conduct an on board transit rider survey to collect various data items about the current customer base for the RTD service area.

On-board surveys will be conducted at the same time as ridership counts on routes that have lower passenger volume. For the routes we know to have heavier loads, TMD proposes utilizing a second checker during peak periods to assure the highest accuracy sample is achieved.

Although we may see the same passenger several times during the survey day, each passenger would be asked to fill out the form only once. This increases the willingness of passengers to participate. The survey will be designed to elicit information on a passenger’s complete trip, including demographics, how the passenger currently uses the system, and what service opportunities are available. The result will be meaningful complete data within a compact data set, for maximum efficiency in analysis at minimal inconvenience to RTD passengers (making for maximum participation).

Survey Instrument: TMD will design the survey form dual-sided in both English and Spanish. The survey form should be as brief as possible, including the required questions in the minimal necessary space. It will be designed to minimize data input while ensuring that the data can be easily manipulated and provide meaningful output. The survey instrument will be approved by RTD prior to printing by the TMD team. A sample origin-destination survey that TMD has used in the past is provided in the Appendix.

TMD expects to obtain at least the following information from the On-Board Rider Surveys:

- Origin/destination information
- Passenger demographics
- Trip purpose
- Frequency and history of system use
- Attitudes toward and perceived importance of various transit attributes
- Fare type and pass usage
- Route transfer information
- Passenger service perceptions
- Suggestions for improvements

TMD has broad experience in the design and analysis of such surveys. Through the application of this experience and the input of RTD staff, a broad range of pertinent data can be collected and analyzed as part of this study. TMD is proposing the following data collection and analysis methodology:

1. Develop Survey Instrument. In collaboration with RTD, TMD will develop a bilingual survey instrument consisting of key trip and demographic information.

2. Establish Preferred Rate of Return. TMD will establish the proper statistical sample size to ensure a proper rate of return and high (>90%).
3. **Placement of Rider Alerts.** TMD encourages RTD to consider the placement of Rider Alerts to improve response rates. Our expectation is that RTD will assist in this subtask. To further improve recognition of the importance of the survey and increase response rates, the surveyors will be outfitted with some clearly visible identification that encourages participation.

4. **Recruit and Train Surveyors.** This will be accomplished in conjunction with the ridecheck training sessions. TMD plans to use training materials developed and refined during previous surveys.

5. **Print Survey Instruments.** TMD will print the survey instruments on cardstock paper.

6. **Secure RTD Identification and Passes and Notify Vehicle Operators.** The surveyors and project field staff will need identification from RTD to use the transit services. Further, the bus operators will need to be notified in a fashion that fosters their support and cooperation in a successful on-board survey/ridecheck. TMD will coordinate the operator notification with assistance from RTD, perhaps centering on a “drop-in” operator forum in the driver’s room.

7. **Survey Execution.** TMD will bear responsibility for placement of surveyors on the buses and the distribution and collection of questionnaires. TMD supervision will be present throughout the survey field collection.

8. **Data Entry and Geocoding.** Completed questionnaires will be edited and processed. One of the most time-consuming aspects of survey data entry is geocoding, the interpretation of information given about origins and destinations. To simplify this analysis, we recommend doing all geocoding by zip code. The survey would ask passengers to provide the zip code of their origin or destination if known, while also giving a more detailed location. This produces a self-coding result. If certain zip codes need to be disaggregated because they are too diverse this can be done based on the written location. However, written origin/destination information is much more prone to incompleteness, so zip codes will be used wherever possible. TMD has currently budgeted for the data-entry of up to 6,000 surveys, if additional surveys are submitted, a stratified sample that meets statistical reliability standards will be selected and input.

9. **Data Tabulation and Analysis.** TMD will generate tabulations and cross tabulations for up to 15 tables. These can include:
   - Validated Surveys by Route
   - Trip Purpose
   - Fare Category
   - Ethnicity
   - Gender
   - Age
   - Income
   - Trip Purpose by Fare Category
   - Type of Fare Paid
   - Fare Category by Fare Paid
   - Passengers Weekly Use of Buses
   - Cars Available to Make Trip
   - Means of Bus Stop Access/Egress
   - Trip Purpose by Route
   - Fare Category by Route

10. **Reports.** TMD will prepare a report that discusses key survey findings. It will include socioeconomic, trip characteristic, and community/travel behavior of RTD bus riders, organized by route. The report will also include descriptions and explanations of the surveying methodology. All appropriate graphics will be included. TMD will provide RTD with the original data files.

*Field Observation:* TMD views field observation as a critical component to the process of understanding existing service ridership, markets, and operations. TMD is prepared for each key team member to spend
time in the field with time split between riding (being the “customer”), trailing RTD buses, and driving the routes and service area. This field time will help the TMD team to understand not only the routings and route network, but how the service is delivered in terms of operator and schedule performance, how the customers are treated, interaction between operators, passenger boarding/alighting procedures, and vehicle and passenger facility performance, maintenance, and cleanliness. The local geography, street network, transit markets and trip generators, and operating conditions will also be important. We welcome RTD staff participation as this is an effective part of the stakeholder inreach program. Institutional history and direction regarding challenges and opportunities will enhance the team’s understanding of the service area and operating environment.

Route-specific characteristics and items of interest will be noted and discussed with RTD staff.

Other items that will be considered include:

1. **Park and Ride Origin and destination survey.** This informal windshield survey will be augmented by data from the customer questionnaire described earlier in this subtask to investigate network-wide origin-destination rider travel patterns.

2. **Aspects and conditions of the RTD service area.**

3. **Current route alignments and passenger transit facilities.** Specific issues will be identified such as difficult turns and narrow street lanes, choke points, lack of pedestrian amenities and access, presence or absence of passenger facilities in key locations, and availability of operator rest facilities.

4. **Major traffic generators, street networks, community characteristics and geographic areas.** This information will be augmented by the work in Task 2.0 (Major Generators, Street Performance) and in 5.0 (Market Latent Demand Assessment).

4) **Best Practices Evaluation**

In consultation with the RTD staff, TMD will evaluate current transit services with respect to current industry best practices. The work will build on RTD’s existing service guidelines and performance standards utilizing a best practice peer analysis that TMD recently undertook for Denver RTD covering these areas. We will confer with RTD to ensure that the peer systems are appropriate (generally combination of mid-size and larger bus and rail properties). The work will cover new service warrants, guidelines, and performance standards. For TMD’s work with Denver, key areas were adjusting the service classification definitions to reflect the evolving network and service types, the relationship of coverage and density, the deployment of shuttles and circulators, where to set the bar for remedial action for low performing services, and lastly developing a mechanism to recognize and support additional investment in top performing lines and corridors.

Given the array of services offered by RTD including regular route service, limited-stop service, community-based service, and express service, each with their own markets and objectives, it would be prudent to classify the routes for comparison. We will work with RTD to develop a refined classification based on a number of criteria, including network role, target markets, how passengers use the service, expected range of performance, and operating characteristics.

We anticipate that the performance standards will fall into three groups:

a) **Service effectiveness or productivity** – examples include passenger boardings per revenue hour/mile, passenger-miles per revenue hour/mile, and passenger mile: per route mile (intensity).
b) **Service cost effectiveness** – examples include farebox (operating) ratio, subsidy per passenger boarding or passenger mile.

c) **Service quality** – examples include predictability metrics like schedule adherence, headway internal adherence; LOS metrics like service frequency and passenger load ratio; and reliability metrics like trip completion (trip interruptions), miles between roadcalls, and miles per vehicle and passenger accidents.

Throughout TMD’s evaluation of services, specific attention will be given to optimizing service effectiveness and efficiency through the following approaches:

- Streamlining routing to focus on major corridor and minimize route deviations. TMD has an out-of-direction model that can be used to evaluate impacts (model won TRB award).
- Replacing or modifying low productivity fixed routes with flex or demand-responsive services in areas with low densities and/or poor street network if coverage is necessary.
- Developing a core network of high frequency trunk routes with consistent headways, taking into consideration previously identified corridors.
- Modifying routes to respond to the service characteristics and geographic patterns identified in the recently completed market segmentation study.
- Review bus stop spacing using RTD standards and applying TMD Travel Delay Index that measures impact on through-riders per boarding passenger.

**Deliverable:** A Technical Memorandum of compiled performance indicators, existing conditions and performance evaluations. TMD will provide full SAS output utilizing Excel spreadsheets and Adobe PDF graphics and maps.

**Task 4: Market Analysis**

**Purpose:** To assess the potential of expanded RTD service within the current system service area, particularly where service does not currently exist, where service needs adjustment (decreases or increases in service), or where alternative service options are more appropriate. Where possible, identify the latent demand by time of day, origin-destination zones, and user group.

**Methodology:** TMD will undertake the latent demand analysis using three approaches that together will provide comprehensive insight into opportunities for RTD to improve its market position and through ridership growth, service performance.

1. Market Segmentation
2. Travel Demand
3. Transit Competitiveness Analysis
This work will build on previous work and data including the Regional Transportation Long Range Plan, the RTD Short Range Transit Plan and other transit documents. The work will also be corroborated by field investigations, public service requests and interviews with RTD Management and line personnel. Analysis of current period data will consider only the current service area. The 2010 and 2020 latent demand analysis will consider areas outside of the present RTD service area.

One of the key markets in the SMA is school and University travel. TMD has significant experience working within this market to develop solutions that are cost-effective and address the market’s need. Our work developing “U-pass”-type programs has helped our clients improve service to the University community and simultaneously improve revenue.

Market Segmentation

With the advent of GIS, the opportunities to learn more about the market conditions that affect mobility choice have greatly expanded. A variety of data would be utilized, including the recent 2005 update of the Census 2000 population and demographic data, employment, school, commercial, and land use data to assess the market conditions for RTD bus service at multiple geographic levels from TAZ into area zones. The GIS analysis is adjusted to match the available data and geography and any special market segment needs and normally includes:

- Population and employment density distributed over land use geography.
- Existing and planned land use including new developments.
- Markets of disadvantaged populations who are more likely to rely on public transportation
  - Economically disadvantaged (lower income households and households with low private vehicle availability)
  - Disabled population.
  - Senior population.
  - Student population.
- Residential transit orientation using a consolidated index of transit potential including both densities and disadvantaged populations.
- Commute travel market and relative transit use; travel time index for key destinations.
- Employment levels and densities by classification.
- Key trip generators including major destination and regional transportation portals.
- Special GIS regression of actual transit ridership at the stop level to identify where current transit is more or less successful than expected against underlying conditions and where existing transit supply is greater or less than predicted.

The key objective of this task is to begin to identify the connections between underlying market conditions and the opportunities for increased RTD transit service success. Besides the extensive mapping and findings, a set of target market opportunities will be identified to help guide the development of the recommended service restructuring. One outcome in other suburban environments has been the stratification of the service area into a) a core transit area where development densities, presence of disadvantaged populations, school and employment destinations, and current ridership intensity have the critical mass to support a network of frequent transit that provides mobility of all trip purposes, all week
and b) market-based services including work and school commute and basic transportation for disadvantaged populations.

Current and Future Travel Patterns
While the previous subtask focused on the intensity of origin and destinations for transit market segment opportunities, this work looks at the travel patterns to identify both the connections and volume of travel flows throughout the RTD service area both today and into the future, in 2010 and 2020. Available current and future travel model projections for San Joaquin County will be used to identify major work and non-work travel patterns within, from, and to the RTD service area using GIS. This analysis will provide a basis for the transit competitiveness analysis in the next subtask.

These findings regarding overall travel patterns (all modes) can be augmented by specific origin-destination travel flows for existing RTD customers from on-board surveys to be conducted in Task 3.0. The key travel pattern findings and opportunities for RTD customers will be identified by market group.

Using this information, we will help identify “RTD Core” and “RTD Commute” markets. The specifics will need to be developed during the course of the analysis, but the RTD Core market could be defined as an extended area with a network of high volume origin-destination pairs that are transit competitive for all-day trips. The RTD Commute market could be defined as those high volume origin-destination pairs that are transit competitive for journey-to-work/school trips.

Transit Competitiveness
Overall transit competitiveness with other modes, including the private automobile, will be studied. Several elements affecting mode choice will be considered:

- Travel times, including wait times and access times for all modes. Research in other regions indicates that perceived travel times are more important than actual and may be influenced by amenities and service quality.

- Based on user and non-user survey work, identify key attributes or features that transit must have to successfully attract from broad-based markets.

We will develop an attribute matrix by service type regarding level of importance of various service qualities. Prepare regional and sub-regional maps indicating where transit is/can be competitive from a travel time standpoint. Identify changes required for improved competitive position, such as availability of HOV lanes, less/more expensive parking supply, priority treatments, new buses, improved maintenance or operator training, additional street supervision, etc.

**Deliverable:** The outcome of this work will be a report outlining the existing and likely future concentrations of those most oriented to transit usage, as well as key employment and student concentrations. Supporting analysis and findings will be presented outlining how well these concentrations are served by the local and regional transit networks. Opportunities to enhance these services to better meet current and future needs and opportunities will be documented.

Task 5: Alternative Services Evaluation
Purpose: Based on data and public input gathered through Tasks 1-4, TMD will provide, in consultation with the Advisory Committee, detailed recommendations to RTD staff in the development of a series of recommended service alternatives. The objectives of these alternatives will be to increase ridership, improve service productivity, and improve system connectivity.

Methodology: TMD will undertake the development of Service Alternatives through a process of collaborative brainstorming with both the core consultant team and with RTD. Input from all previous tasks will form the basis for developing alternative service proposals. Our previous COA experience has found that while much of the network evolves into a single recommended option, there will be areas or corridors where multiple options are developed and often carried through stakeholder/public vetting. We understand the need to implement service changes as part of the January 2010 shakeup. We will provide an early action plan that lays out operating efficiencies SJRTD can implement as part of the June 2009 shakeup. This is often the time when an agency can implement some early winners to energize its customer base.

The recommendations will address the service issues identified in Task 3 as well as the market demand projections in Task 4, and will likely involve network, service type (fixed route versus flexible/demand response, different fixed route bus modes, and potentially rail options), route alignment, service frequency, and service span. The following subtasks have been identified:

- **Optimal Routing and Service Level by Corridor.** TMD will develop detailed service parameters for each route or service by day of the week, including:
  - Proposed route maps
  - Network maps comparing existing/proposed service alignments, service levels, service classifications, and impacted riders
  - Frequencies and service span
  - Estimated hours and miles of service
  - Vehicle requirements
  - Ridership estimates
  - Operating costs
  - Net financial impacts

Service efficiencies (round trip cycle times) and effectiveness (ridership generation) will be a key consideration in the design at the route and network levels (top-down/bottom-up).

- **Optimal Mix of Transit Service Options by Corridor.** Recommendations regarding the type of transit mode to be provided including a range of possible bus and van options from RTD, Rapid Transit, express/limited stop, local, streetcar, flexible route and schedule services, demand response, private sector shuttles, taxis, and other shared ride travel (e.g., stations cars and vans). The COA will also consider the opportunities for an incremental solution where the initial service evolves over time with additional transit investment.

- **Contracted Service Analysis.** As part of this analysis, we will also ascertain how the current contracted routes are structured and whether this structure is optimal and how to best minimize costs. We have often found that services that have irregular schedules can be best serviced through a contract arrangement.

- **Opportunities to Reduce Travel Delay.** As part of our analysis we will closely review in-vehicle travel time. We will monitor out-of-direction travel and look for opportunities to reduce the overall travel time for customers.
• **Bus Stop Spacing.** TMD's data analysis will show if bus stops are spaced effectively and efficiently throughout the SMA and region. By efficiently spacing stops in the route network, SJRTD can reduce dwell time and improve overall schedule adherence.

• **Optimal Capital Needs.** Capital Needs for the COA recommendations will include vehicles (revenue and non-revenue), passenger facilities (transit centers, stations, stops, enhancements), operating facility changes or additions, and new or enhanced technology. TMD will pay particular attention to:
  - Fleet replacement, rehabilitation and expansion needs as well as the potential proliferation of fleet types (different vehicles or branding for each service) and the impact on cost effectiveness, reliability, and operating facility modifications.
  - Enhanced vehicle and passenger facility attributes needed to attract ridership from various target markets and how to deploy these attributes cost effectively (e.g., LA Metro Rapid cost per mile of just $250,000 including priority and stations).
  - The return on investment (ROI) from various transit priority and preferential street measures.
  - Understanding not just the capital cost for program initiatives, but capturing the ongoing capital maintenance costs (e.g., facilities, technology).
  - The Capital Investment Plan as part of overall sustainable financial capacity for RTD.

• **Performance Measures Policy Identification.** TMD staff in collaboration with RTD will build on the findings of the best practices review from Task 3 and market demand issues noted in Task 4 service brainstorming to develop an overall policy recommendation for RTD. As noted in Task 3, these may include adjusted service classifications, new service warrants, service guidelines, and service performance standards (and actions). These elements will also be embraced as part of the COA Service Framework.

• **Administrative Policy Identification.** Any changes in the existing transit sections of San Joaquin's Code based on COA-updated RTD Performance Standards and the recommended 15-year Service Plan will be identified for consideration by RTD.

• **Design Standards.** Over the course of undertaking nearly 80 COAs, we have found that simple design standards are often inadequate in guiding development, facilitating public discourse and board action, and lastly achieving successful implementation outcomes. To this end, we are proposing development of a COA Service Development Framework with service design standards and guidelines that are better linked to actual transit market success. The transit competitive analysis proposed in Task 3 will help provide the foundation of the Framework. The Framework is not just a technical planning tool, but also a mechanism for facilitating stakeholder and Board discussion of a market-based prioritization of shorter term transit investment building on the City/Regional Mobility Vision. Our experience with actual Framework development has been highly successful in informing stakeholder and Boards regarding the strategy before anyone is asked to decide on actual service recommendations. This experience in areas similar to the San Joaquin Valley with both urban cores surrounded by substantial suburban environments (e.g., Los Angeles, Minneapolis, San Diego, Santa Clara County, Denver, Charlotte, Cleveland, Cincinnati— all places where TMD has successfully redeveloped transit), we suggest that the Framework initially focus on identifying:

  a) The core area of the system where market conditions (high current all-week ridership, land use patterns, and densities, population demographics, and travel patterns) provide the necessary conditions for people to use transit as a primary mode for all trip-making, seven days a week, and
b) Where transit can succeed in providing specific market-based travel (work and school commute, disadvantaged populations not in core, and special markets like peripheral parking shuttles or "last mile" commute connections). The transit competitiveness modeling will be very helpful in identifying both the core area and in identifying these specific market opportunities with a high probability of success.

One example of the San Diego consultation with key stakeholders follows:

<table>
<thead>
<tr>
<th>Markets Served</th>
<th>Frequency</th>
<th>Span of Service</th>
<th>Service Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Network</td>
<td>Wide range of all week travel needs</td>
<td>15 minutes or better all day along key corridors, with a minimum of 30 minutes throughout the network</td>
<td>Consistent all day/every day service on key corridors, with a minimum of all day weekday service throughout the network</td>
</tr>
<tr>
<td>Commuter Services</td>
<td>Peak period work trips</td>
<td>15 minutes or better during peak periods and 60 minutes during off-peak periods on key corridors</td>
<td>During prevailing work hours along key corridors, and peak period only on other corridors</td>
</tr>
<tr>
<td>Community Based Services</td>
<td>Specifically defined market needs, such as local school travel, seniors, disabled, and special fund districts</td>
<td>Tailored to specific market needs</td>
<td>Tailored to specific market needs</td>
</tr>
</tbody>
</table>

**Deliverable:** Identified service alternatives will be used to develop a technical memorandum summarizing the alternative services, ridership demand methodology, traffic signal operation improvements, and other factors that were identified in the course of this task.

**Task 6: Develop Range of Service Plan Alternatives and Evaluation Criteria**

**Purpose:** Refine the service delivery methods from Task 5 and assign costs to use in conjunction with the goals and objectives identified in Task 2 to evaluate alternative service scenarios.

**Methodology:** As a first step, TMD will work with staff to collaboratively define a set of three short-range and two long-range funding scenarios to serve as the fiscal constraints for service plan development. It is assumed that the short-term funding scenarios will apply only to the existing San Joaquin RTD service area while the long-range service scenarios will be for an expanded service area. The short-term funding scenarios will likely vary as to the level of transit service to be provided (e.g., existing level of revenue hours, a 5% increase in revenue hours, and a 5% decrease in revenue hours.)
TMD will review RTD's current cost data with Finance and Planning staff. Given recent impacts of rising fuel costs TMD will need up to date cost data for calculating the cost of the various service alternatives.

Using the funding level scenarios agreed upon with RTD staff, TMD will develop service two to three alternative packages for each funding scenario. In developing these packages, TMD will take a top down/bottom up approach of first deciding what the network should be accomplishing in addition to using the goals and objectives that were developed in Task 2 to develop the component services to accomplish those objectives. Using RTD's unit cost data, TMD will calculate the cost of each service alternative package, and through a series of iterations adjust the service proposals to meet the financial target. Concurrently TMD will calculate the impacts of the service packages upon estimated ridership using the previously agreed upon techniques. The goal will be to develop a service package that meets the targeted funding level and that maximizes ridership and passenger revenue within existing and expected operating constraints.

Estimating Available Revenues
To make a meaningful decision on the level of service or service plan being considered, it is TMD’s experience that the full impacts in terms of ridership, fare revenue, operating and capital costs, and various federal, state, and local funding must be identified. Further, a successful financial plan should anticipate all the implications of expanded transit service on staffing, information technology and other infrastructure requirements, facilities and vehicles as well as the direct operating cost and oversight of operators. With close guidance from RTD staff, TMD will identify all existing and projected financial resources (local, state, and Federal) for funding operating and capital expenses over the 5-year horizon of the service recommendation plans. As part of this effort, TMD will estimate net impacts on system fare revenues based upon a combination of:

- Known impacts to existing riders
- Estimated impacts due to frequency or service span changes
- Estimated impacts to ridership from changes in route coverage

The financial plan will be carried out in the following steps for two or three final service plan alternatives:

- Assemble Vehicle and Operating Data for Recommended Alternatives – Key indicators regarding alternatives will be provided in tables. Each alternative will include revenue miles, hours, and peak vehicles for comparison to the base line recommendations.

- Assemble Infrastructure and Vehicle Cost Estimates – Rough orders of magnitude will be used for capital cost estimates using actual historical unit costs, e.g. cost per bus shelter or per park-and-ride space.
  - Passenger Facilities – Stops will be available from the service plan, and bus shelters or other stop amenities will be estimated as a proportion of the total stops. Other passenger facilities (park and rides, transfer stations, etc) will be individually identified and scaled to demand
  - ITS – If applicable, current status and plan will be assessed, but the order of magnitude of the forecast operation will dictate the assumptions regarding investment in traffic signal priority, automated vehicle location, automated passenger information and supporting information technology at appropriate points in the growth of the system
- Support Facilities & Equipment – a careful estimation of operating cost will include an allocation of the operator responsibility for support facilities (storage and shops) and equipment (shop equipment, washers, office space, etc). The portion of support facilities and equipment to be provided by the Region can be reliably estimated based on fleet size.

- Vehicles – cost of new or replacement vehicles will be based on recent fleet purchases of nearby peers for similar vehicles in similar size orders as inflated for the plan year.

- Establish Fare Assumptions and Forecast – The service scenario should include an assumption regarding fare policy as this must be consistent with the ridership forecast; and capacity provided; the financial plan will refine this as an average fare paid per passenger by service type and fare zone together with a projection of a fare increase policy.

- Forecast Financial Need – the net result of the assumptions listed above is an annual forecast of local transit assistance requirement, which will be the critical result from the financial pro forma model.

- Evaluate Existing Funding sources – The sources will be evaluated according to the magnitude of the yield, the stability of the source, its relevance to transportation (an advantage for impact fees, for example), equity of the burden imposed by the source, and any boundary competition problems. By providing a service plan that accurately addresses the need of the community, TMD can assist SJRTD to develop a dedicated stream of funding that is supported by the community.

Deliverable: A Technical Memorandum which details: a) all available funding sources for operations and capital expenditures; b) all operating and capital expenditures; c) a prioritized list of service recommendations which can be realistically implemented within the study horizon with respect to established evaluation criteria, and with particular emphasis on the near-term period.

Task 7: Recommend Preferred Service Plan

Purpose: To refine the Service Alternatives Plan into a Final Recommendations Plan through feedback received from the public forums detailed in Task 2.

Methodology: TMD envisions recommending not a single service plan, but rather a preferred plan for various funding situations RTD may find itself in. Using evaluation criteria previously discussed with staff during Task 5, TMD recommend a preferred service alternative package for each of the funding scenarios. TMD will then develop detailed service plans for each preferred alternative, including preferred alignments and parameters, and implementation strategies using a five year timeframe.

TMD will present the Service Alternatives Plan to the public for comments and feedback using similar public forums used in Task 2. As part of the comprehensive public outreach discussed earlier, TMD and RTD will conduct a second round of meetings with the public. This second round of meetings will come after the Advisory Committee has thoroughly reviewed the original plan. The final product will be a plan that establishes the direction for future transit growth in the San Joaquin Valley. It will incorporate a mix of transit uses as well as land use and TOD considerations and incorporate public comment.
The preferred service plan will provide options for SJRTD to reinvest resources in the most effective manner possible. We have worked with several clients that have budget shortfalls or cost overruns and we have been able to develop a preferred service plan that helps them garner savings and additional revenue that they can reinvest into future service.

**Deliverable:** A Final Preferred Service Plan Report that establishes the direction for future transit growth in the San Joaquin Valley.

**Task 8: Fleet Plan**

**Purpose:** Develop a fleet plan to support preferred service plan implementation, plan will address vehicle issues, facility needs, phasing of obsolete equipment, and staffing issues.

**Methodology:** TMD will meet with RTD Planning and Maintenance staff before Task 5 to discuss the current fleet plan. The development of the short-range service alternatives will be impacted by the current fleet plan. TMD will want to understand any constraints regarding fleet size, spare ratio, vehicle types, equipment and facility needs, etc.

Working with RTD staff TMD will develop revised fleet plans based upon the preferred service plan scenarios. The fleet plan will address not only the number and type of vehicles required, but also impacts in terms of maintenance staff requirements.

**Deliverable:** A technical memorandum detailing the proposed fleet plans required to support the recommended preferred service plan from Task 7.

**Task 9: Implementation and Financial Plans**

**Purpose:** To create a realistic but aggressive implementation timeline for RTD's annual service changes.

**Methodology:** Based on the past experiences of TMD with similar projects as well as the expectations of RTD, TMD will develop a Timeline Plan listing out relative due dates and project milestone goals. The timeline will be easy to read and follow and will list out all tasks necessary to completing the planned service changes as well as the deadlines for each task. This will allow RTD to effectively follow up on its tasks with the appropriate responsible parties.

A target date will be set that is achievable and consistent with the timing of initial implementation of other COA projects in TMD's experience. If fact, many COAs have moved forward with Early Action Programs that include “easy agreement, affordable” options and the “low hanging fruit” of improved financial budget performance.
Implementation Plan

After the development of the recommendations for improvement to existing services and the draft/final recommendations for new services developed within this task, the project team will develop a plan to implement changes. This will include:

- Short-term and long-term recommendations with operating costs
- Maps and alignment descriptions of all route alignment changes
- Complete service attributes for each route or service by day of the week and time period, including service frequencies, service hours and miles, running times, trip distances, and vehicle requirements
- Required staffing, fleet facility, or equipment additions or modifications
- Implementation schedule

**Deliverable:** 5-Year Implementation plan that complies annualized Excel worksheet data reviewed from previous tasks as well as a PowerPoint Presentation of the proposed transit plan.

Task 10: Final Report

**Purpose:** To document the results of the study in sufficient detail to enable SJRTD staff to successfully implement the service recommendations, and provide local decision-makers and public stakeholders with valuable information regarding existing performance and future direction.

**Methodology:** The TMD Team will assemble the chapters into a final report written for its target audience, local decision-makers and the public, and to enable SJRTD staff to successfully implement the service recommendations. Technical appendices will provide staff with all needed detail regarding the recommendations. The team will prepare a PowerPoint presentation of the transit plan for presentation to both internal and external stakeholders.

- Create final report.
- Submit one Camera Ready Report, and 20 copies.
- Graphics, appendices, and supporting documents to be provided in format specified by RTD

Task 11: Develop complete run-cut based on proposed service plan.

**Purpose:** Complete run-cut, paddles, roll-out, and headway reports for review based on proposed and approved service implementation plan.

**Methodology:** We had evaluated a number of options that would accomplish this task in the most cost-effective manner for SJRTD. TMD does currently hold a license with GIRO, Inc. for the use of Hastus scheduling software to produce timetables and runcuts, which we found could not be used given the current budget constraints. Instead we will complete onsite runcutting using Trapeze.

Under this optional task, TMD would produce timetables, vehicle schedules, and runcut for the final service plan that will be implemented under the CDA. Production material would include headway
reports, vehicle blocks, roll-out reports, driver paddles, and weekly rosters (if applicable). Rules and parameters would be reviewed to ensure the runcut meets existing practices and work rule provisions.

This COA Production Run cut would include the following subtasks:

- Review current route definitions and rules from SJRTD’s database
- Enter COA route definitions and timetables
- Build vehicle blocks, making any necessary changes to the timetables for improved efficiency
- Develop the runcuts, making any necessary changes to vehicle blocks for improved efficiency
- Review results against budget targets and make necessary revisions
- Produce bid materials in electronic PDF format

This proposal assumes that all production bid materials would be produced in electronic PDF format and that RTD scheduling staff would be available to provide timely review and feedback throughout the scheduling process.

**Deliverable:** A set of Run-cut, paddles, roll-out, and headway reports.