

FCMA Public Transportation Strategic Service Evaluation Project

Public Transportation System Assessment - Outline

Task No. 1.5

Prepared for:



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1.0 INTRODUCTION

This System Assessment will summarize the policy, existing service, and travel patterns analysis to conclude with a set of recommended policy and service changes. The recommended policy and service changes will be vetted with the TAC to develop a set of recommendations for the network alternatives, which will be further defined in Task 2.

2.0 POLICY REVIEW

This section will summarize the main findings of the Policy Review and recommend policy changes that could improve in more efficient service in the FCMA. As in the Policy Review, this section will be organized around the following major topic areas:

- **Coverage** - Where is service provided? Is service location determined by geography, population density or another metric? Where is service being expanded or reduced?
- **Frequency** - What are headway requirements? What are the criteria for determining headways along different routes?
- **Stop Spacing/Location** – What is the minimum and maximum distance between transit stops? How is spacing determined?
- **Shelter/Amenities** - What are the transit station amenities required?
- **Span of Service** – What are the required hours of operation? What are service requirements on weekends and holidays?
- **On-Time Performance** – Are there requirements for on-time performance of the transit network?
- **Route Deviations** – How are route deviations identified and corrected?
- **Load Standards** – What are maximum loads for transit vehicles?
- **Customer Complaints/Customer Service** – How are customer complaints addressed? What customer service policies are in place?
- **Accidents/Security** - What polices are in place to provide a safe and secure transit system?
- **Number of Transfers** - Are there policies limiting the number of transfers necessary?
- **Productivity** – How is service productivity measured and what are the productivity requirements? Metrics could include passengers per hour and cost per passenger.

2.1 Summary of Existing Policies

The following policies and studies were evaluated as part of the Policy Review and will be summarized in this section:

- Regional Transportation Plan
- FCMA 2014-2018 Short Range Transportation Plan
- FAX 2014-2018 Short Range Transportation Plan
- City of Clovis Short Range Transportation Plan
- City of Fresno General Plan
- City of Clovis General Plan
- Fresno Area Express Transit Facilities and Development Standards

- 2006 Measure “C” Extension Expenditure Plan
- Public Transportation Infrastructure Study
- Transit Productivity Evaluation FY2011-12
- Fresno FAX Route Restructure Study
- Title VI Report
- Americans with Disabilities Act (ADA)

2.2 Recommended Policy Changes

This section will present the recommended policy changes to result in a more efficient system.

3.0 TRAVEL PATTERNS AND MARKET

This section will provide a comprehensive summary of the largest markets for all trips and whether of how transit is serving those trips. This input will provide the basis for recommended network design in Task 2.

3.1 Top Seven Travel Origins/Destinations

The following data analyses were utilized to identify the top seven origins/destinations in the FCMA:

- **Transit Suitability Index** - combines population and employment density, auto ownership and household income to identify hotspots where there is a potentially high demand for transit. The TSI maps will be presented.
- **Air Sage** – utilizes cell phone data to track travel patterns. The Air Sage data was overlaid with the TSI data. The Air Sage data maps will be presented.

Based on the TSI and Air Sage data analysis, the top seven origins/destinations identified and approved by the TAC are:

- Downtown
- Fresno Pacific University
- Manchester Transit Center
- Belden Field/Bulldog Stadium
- Highway City residential area
- Shaw City/Northgate Shopping Centers
- Fresno Yosemite Airport

3.2 Transit Capture Areas

Transit travel times from the travel model will be used as the primary indicator to determine whether the existing transit system efficiently connects the seven major origins/destinations.

- **Heat Maps** – a series of heat maps will illustrate the transit travel times to the seven major origins/destinations to determine who can access these major hotspots within 15 minutes, 30 minutes, 60 minutes and 90 minutes.
- **Mode Share** – a breakdown of origin-destination and mode share tables to identify areas with high transit demand, but low existing transit mode share, indicating an area for potential for transit improvements.

3.3 Origin-Destination Patterns

The existing origin-destination patterns will be informed by the results of the ride check and transfer study. The study is designed to determine origin-destination and mode of access as well as the travel behavior of bus patrons in the FCMA region. This section will summarize the findings of the survey.

4.0 EXISTING SERVICE ASSESSMENT

This section will focus on both quantitative and qualitative measures listed in the above sections to determine the performance of the entire system and by routes. Operational measures, such as on-time performance, will be matched with efficiency measure, such as rides/hour, to suggest routes that need modifications of routing, structure, frequency or management. System accessibility (including bicycle, pedestrian) will also be documented in this section.

4.1 Existing Service Evaluation White Paper

This section will summarize the findings of the Existing Service Evaluation White Paper, which provides an assessment of the performance of transit routes in the cities of Fresno and Clovis. Its primary objective is to evaluate transit routes based on well-established measures of transit service efficiency. This analysis helps identify routes that perform below average in terms of their productive hours of operation (revenue hours) as well as identifies the most and least efficient portions of individual routes (in terms of balancing bus capacity with passenger loads). This section will summarize the main findings, including:

- FAX Route Efficiency Performance Indicators – Weekday
- FAX Route Efficiency Performance Indicators – Weekend
- Stageline Route Efficiency Performance Indicators – Weekday
- FAX Passenger Load Summary - Systemwide
- FAX Estimated Average Weekday Boardings

4.2 Public Outreach

We have been actively engaging the community to assess satisfaction with the existing system and identify potential areas of improvement. This section will summarize our findings to date, based on the following outreach activities:

- Stakeholder Interviews
- Meetings with Policy Level Staff

- Public Surveys

5.0 EVALUATION CRITERIA

Draft evaluation criteria will be vetted with the TAC to determine which factors will be used to guide service development. The criteria will be designed to evaluate how well the alternatives meet the three transit considerations – long-term policy goals, cost-effectiveness, and customer satisfaction and safety. This section will summarize the criteria, which are likely to include:

- Service coverage/accessibility
- Land use compatibility/economic development potential
- Travel time savings
- Ridership
- Cost
- Service safety
- Customer input/comments
- Service efficiency and integration with BRT

6.0 RECOMMENDATIONS FOR SYSTEM CHANGES

The report will conclude by presenting recommendations for networks and policy changes that can potentially best meet the criteria will be developed and evaluated in Task 2.1. Example alternatives of general system changes could include an optimized modified grid system option, trunk routes and circulators/many centers option, and transit propensity/sustainability option.