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FCMA Public Transportation Strategic Service Evaluation Project

Final Report

Task No. 4.3

Prepared for:



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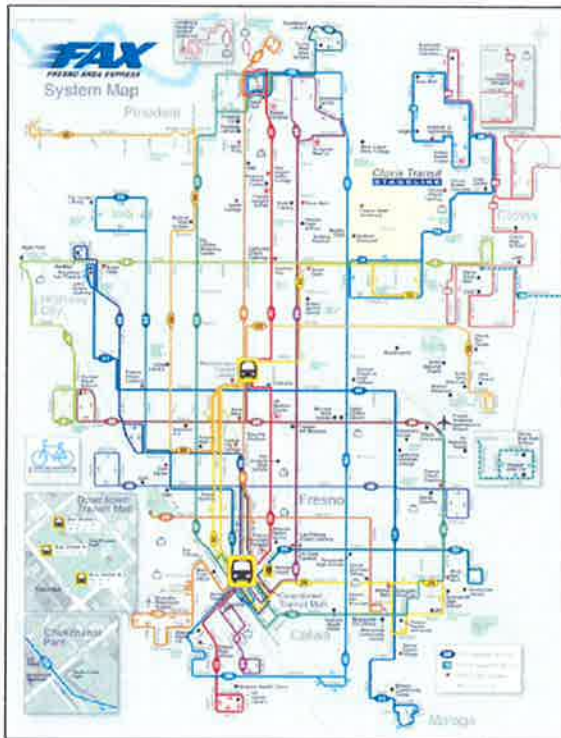
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Preface

The Fresno-Clovis Metropolitan Area (FCMA) Strategic Service Evaluation was funded through the California Department of Transportation (Caltrans) Sustainable Transportation Planning Grant Program. The Study was conducted as a partnership between Caltrans and the Fresno Council of Governments (FCOG).

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Table of Contents

1	Introduction	1
1.1	Study Overview	1
2	Project Summary and Major Milestones	1
2.1	Project Summary.....	1
2.2	Public Outreach Process	3
2.3	Project Milestones	5
3	Recommendations	6
3.1	Preferred Network Plan	8
4	Implementation Strategy and Schedule	9
6	Attachments.....	11

List of Tables

Table 1: Project Milestones	5
Table 2: Preferred Network Plan	6
Table 3: List of Attached Reports.....	11

List of Figures

Figure 1: Frequent Service Network – Long Term	7
Figure 2: Recommended Improvements	10

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1 Introduction

With rapid growth, decentralization, auto-oriented development, difficult economic times, and tougher air quality requirements, the Fresno Clovis Metropolitan Area (FCMA) transit agencies, Fresno Area Express (FAX) and Clovis Transit, are challenged with maintaining a sustainable and efficient public transportation system. The Fresno Council of Governments (FCOG) has established plans to lay the groundwork for more sustainable urban development patterns and transportation network. The Fresno-Clovis Metropolitan Area (FCMA) Strategic Service Evaluation was undertaken with the goal of making transit a viable and competitive alternative to driving.

This Final Report is the culmination of the Strategic Service Evaluation project. The Final Report summarizes the Service Evaluation process, including the assessment of the existing transit system, development of network alternatives, public and stakeholder outreach, and the recommended Preferred Network definition and implementation.

1.1 Study Overview

The Strategic Service Evaluation focuses on reducing transit travel times, improving linkages to major trip generators, and improving overall productivity, cost effectiveness and sustainability of transit. The evaluation focused on three main transit considerations:

- Long-term policy goals
- Cost-effectiveness
- Customer service and safety

In order to identify potential for improved efficiencies, a comprehensive analysis of travel patterns, system performance and customer feedback was undertaken and options for improvement were vetted with the community. This effort resulted in the development and recommendation of a Preferred Network Plan.

2 Project Summary and Major Milestones

2.1 Project Summary

The FCMA Public Transportation Strategic Service Evaluation consisted of four major tasks:

- Task 1: Systems Assessment
- Task 2: Network Alternatives
- Task 3: Implementation Plan

- Task 4: Project Management and Final Report

2.1.1 Task 1: Systems Assessment

The Strategic Service Evaluation began with an assessment of the existing conditions of the FAX and Clovis transit systems. This assessment included a policy review, evaluation of transit

service efficiency, analysis of travel patterns, and public opinion survey.

The policy review examined existing policies which dictate the design and operation of the current transit system in the FCMA. The review laid the framework for the proposed policy recommendations identified in the System Assessment Final Report.

Simultaneous with the policy review, an assessment of the performance of transit routes in the FCMA was performed. This performance analysis helped identify routes that perform below average in terms of their productive hours of operation (revenue hours) as well as identify the most and least efficient portions of individual routes.

An in-depth travel patterns analysis was undertaken to identify major origin-destination pairs and travel times. This effort included the development of a Transit Suitability Index (TSI), which identifies areas of the region with the greatest potential for high transit ridership based on socioeconomic factors. This TSI analysis is useful because, unlike analysis that use existing ridership data, the TSI evaluates ridership potential without taking into account variables such as existing service levels.

AirSage (cell phone) data was used to identify existing trip activities in the FCMA across modes. The AirSage analysis used cellular device activity data to evaluate trip activity by day, time of day, and duration to determine travel patterns and destinations.

The TSI and AirSage data were compared to identify a set of “hotspots” in the FCMA where there appears to be a demand for transit service.

This analytical travel patterns evaluation was supplemented by an on-board passenger survey. The on-board survey provided transit

travel pattern data, which was then compared to the AirSage travel pattern data to identify differences between transit travel patterns and overall travel patterns.

The on-board survey also provided a wealth of demographic information about current transit riders as well as public opinion data on how well the current system meets the needs of the riders.

Stakeholder outreach with community leaders and elected officials provided input on existing perceived challenges and opportunities for the transit system. This outreach highlighted the desire to have a more cost-effective system, and a system that can serve the planned growth for the region.

The evaluation of current conditions was summarized in the FCMA Public Transportation System Assessment Report, which was published in May 2014. The Public Transportation System Assessment demonstrated that FAX is a cost-effective operation for a mid-size transit system, it also showed that FAX has a very high passenger per revenue-hour, which speaks in large part to the strong demand for transit in the Fresno area. However, FAX’s operating cost per revenue-hour is above average. FAX and Clovis Stageline have existing routes that cover most of the major destinations within the Fresno/Clovis area. Areas identified for improvement included overcrowded buses, span of service hours, underutilized bus stops, lack of on-street customer information, and inefficient out of direction bus service patterns.

Most importantly, the analysis concluded that while individual routes may perform efficiently, they do not form a cohesive network. Because service is not coordinated, riders are often left waiting to transfer for a long time. Long waits

for buses means that transit does not provide competitive travel times compared to driving, making it difficult to attract choice riders to transit.

Finally, the review of existing policies found that current policies reflected competing interests, making it challenging to set clear priorities for the network. The most notable competing interests are between the productivity of the network and the coverage provided by the network.

2.1.2 Task 2: Network Alternatives

The Systems Assessment lay the groundwork to develop network alternatives to further improve the efficiency of the system and better meet passenger needs. Three alternatives were developed that reflected different network structures:

- Existing Network Scenario
- Ridership (Productivity) Scenario
- Coverage Scenario

These three alternatives were presented in the FCMA Public Transportation System Assessment Report. The alternatives were then shared with the public and stakeholders for a vetting process.

The scenarios were presented to help guide understanding of what is possible given the current constraints of this exercise – net zero change in service hours – and the necessary trade-offs. The Ridership scenario increased productivity by focusing productive service in a reduced coverage area. The Coverage scenario expanded coverage, but with less frequency of service.

The vetting process resulted in the selection of the Preferred Network, which solidifies the FAX bus service as a productivity based network through a series of operations and capital

improvements that work together to improve efficiencies and customer service.

2.1.3 Task 3: Implementation Plan

In May 2015, the Implementation Plan was submitted to FCOG. The Implementation Plan is the culmination of the Strategic Service Evaluation and provided an overview of the process, defined the Preferred Network Plan, and outlined an implementation strategy. The Implementation Plan outlined a series of service improvements, capital improvements, and customer service improvements. The Implementation Plan also identifies a number of recommended policy changes to better facilitate the implementation of the Preferred Network.

The Implementation Plan also included the Implementation Public Information Plan and the Post Implementation Assessment Plan to evaluate how well the changes are improving system efficiency and customer satisfaction.

2.1.4 Task 4: Project Management and Final Report

Task 4 efforts focused primarily on project management throughout the project, including the provision of quarterly reports to Caltrans. Task 4 culminated in the production of this Final Report, documenting the Strategic Service Evaluation process and results.

2.2 Public Outreach Process

The FCMA Public Transportation Strategic Service Evaluation included an extensive public and stakeholder engagement component.

The consultant team met on weekly basis with the project management team, including FCOG, FAX, and Clovis Transit staff. In addition, a Technical Advisory Committee (TAC) was formed, comprised of key agency

representatives, to help guide the project. The TAC met as requested by FCOG.

In Fall 2013, a series of interviews were conducted with a variety of stakeholders in the FCMA community, including Fresno and Clovis city councilmembers and representatives from schools, universities, and social services. The feedback from these interviews was combined with the results of the on-board customer satisfaction survey to identify potential areas for service improvement. The on-board survey was conducted in October 2013. Over 3,300 weekday surveys and 350 weekend surveys were administered.

In March 2014, workshops were held with stakeholders at Fresno State and Fresno City College to better understand the needs of their students and staff.

The network alternatives were presented at a workshop with the Fresno City Council on May 22, 2014. The presentation provided an overview of the system assessment and the trade-offs between the proposed network alternatives.

Following the City Council presentation, a series of three workshops were held with the public and stakeholders to gather feedback on the trade-offs between the proposed networks. Additional feedback was solicited via a survey posted on the FCOG website, advertisements on all FAX bus lines, and through eblasts to the FAX and FCOG mailing lists.

The results of the on-board survey, workshops, and other outreach efforts indicate that while both riders and non-riders prefer a balanced system, they prefer a productive network over a coverage network. Respondents and stakeholders preferred reducing the number of bus stops to facilitate a faster ride, even if it resulted in longer walks to transit.

The feedback received led to the selection of the Preferred Network, which emphasizes maintaining a productive service network, balanced with coverage, and growing toward a system of Frequent Service corridors.

2.3 Project Milestones

Table 1 lists the deliverables by task and the date submitted to FCOG. As noted, several

deliverables were combined to streamline the process and best present the information in a consolidated, clear manner.

Table 1: Project Milestones

TASK	DELIVERABLE	DATE SUBMITTED
1.1	Conduct Performance Evaluation Of The Current Public Transportation Service	August 30, 2013
1.2	Study FCMA Travel Patterns	September 27, 2013
1.3	Perform A 100% Ride Check And Transfer Study	April 3, 2014
1.4	Public Involvement Program	October 9, 2013
1.5	FCMA Public Transportation System Assessment	May 28, 2014
2.1	Transit Network Plans (combined with Task 1.5)	May 28, 2014
2.2	Public Vetting Network Alternative (combined with Task 3.1)	Draft: September 18, 2014 Final: May 5, 2015
2.3	Preferred Network Alternatives (combined with Task 3.1)	Draft: September 18, 2014 Final: May 5, 2015
3.1	Network Implementation Plan (combined with Task 3.1)	Draft: September 18, 2014 Final: May 5, 2015
3.2	Implementation Public Information Plan (combined with Task 3.1)	Draft: September 18, 2014 Final: May 5, 2015
3.3	Post Implementation Assessment (combined with Task 3.1)	Draft: September 18, 2014 Final: June 4, 2015
4.1	Project Administration	June 2015
4.2	Quarterly Reports	June 2015
4.3	Final Report	June 2015

3 Recommendations

The Strategic Service Evaluation recommends the implementation of a Preferred Network that solidifies the FAX bus service as a productivity based network through a series of

operational and capital improvements that work together to improve efficiencies and customer service with minimal investment (Table 2).

Table 2: Preferred Network Plan

 Service Improvements	 Capital Improvements	 Customer Service Improvements
<ul style="list-style-type: none"> ■ Establish Frequent Service Network ■ Simplify route structure ■ Increase availability of service during evenings and weekends 	<ul style="list-style-type: none"> ■ Enhance on-street transfer locations ■ Develop new transit centers and bus facilities ■ Improve bus stops 	<ul style="list-style-type: none"> ■ Improve on-time performance standards ■ Improve customer information ■ Increase service to relieve overcrowding

3.1 Preferred Network Plan

The Preferred Network solidifies the FAX bus service as a productivity based network through a series of operational and capital improvements that work together to improve efficiencies and customer service with minimal investment.

The cornerstone of the Preferred Network is the establishment of a Frequent Service Network, displayed in Figure 1. In the Frequent Service Network, high productivity routes operate with 15-minutes or better frequencies throughout peak as well as off-peak periods, meaning customers will never have to wait long, improving competition with the automobile.

To pave the way for the implementation of the Preferred Network, a series of service and capital improvements, and policy changes are proposed.

3.1.1 Service Improvements

The service improvements of the Frequent Service Network consists of a set of corridors where headways will operate at 15 minute, or better, seven days a week from approximately 6:30 am to 10:30 pm on weekdays, and 8 am to 10:30 pm on weekends. Based on productivity rankings, the priority corridors for implementing frequent service are ranked Priority 1-4 and will be implemented as funding becomes available, as shown in Figure 1.

The net cost of restructuring is negligible, as the proposed changes will shift service hours from less productive lines to productive lines.

Most riders will experience improved travel time across the network with the implementation of the Priority 1 Frequent Service Network. The travel time savings is

primarily a result of improved frequency, allowing for less wait time.

3.1.2 Capital Improvements

Capital improvements associated with the Preferred Network Plan include additional buses, bus stop enhancements, on-street transfer locations, and new transit centers.

Basic stop improvements are recommended across the network. These improvements include removing low-performing bus stops (stops with one or no boardings/alightings per day) and focusing improvements at more highly used stops that are regularly spaced (approximately every ¼ mile) and aligned at street crossings. These stops would be outfitted with enhanced on-street customer information and pedestrian connectivity.

Bus stop enhancements, such as BRT-style shelters and improved signage and crosswalks, are proposed at eight key transfer locations in the Frequent Service Network.

In addition, four new transit centers are proposed to facilitate more efficient transfers and operations:

- Downtown
- River Park Area
- Fresno State University
- Shaw Avenue

The total estimated capital cost (not including transit centers) is approximately \$12.5 million.

3.1.3 Customer Service and Safety

Customer service improvements are recommended to improve on-street and online customer information, on-time performance and reliability, and address overcrowding.

On-street information improvements will include easy-to-read schedules and maps, and naming bus lines by streets and locations to better link the service to a place – e.g., “Shaw to Fresno State.”

The branding development can be associated with new BRT service or implemented separately as a part of a “family of brands” concept. Ideally, the brand development should commence concurrently with the Implementation Plan development, and be well defined prior to the commencement of the Public Information Plan’s implementation.

Performance data and real-time information will be available for third-party web and app developers to provide customer information apps and programs to help customers use the system.

On-time performance standards to promote schedule reliability will be established through new policies regarding early departures and late arrivals.

The Preferred Plan also includes recommended service improvements to immediately relieve overcrowding on the most crowded trips.

4 Implementation Strategy and Schedule

The recommended improvements will be implemented in phases over a five year period from FY 14/15 through FY 18/19. Figure 2 summarizes the proposed short, mid and long term improvements.

Immediate improvements (FY 14/15 – FY 15/16) include a comprehensive outreach program prior to the adoption of policies for efficiencies and customer service. The proposed policy changes will lay the groundwork for the rollout of a system focused on productivity over coverage. Immediate service improvements include the simplification of route structures and extension of evening service to create a foundation for the implementation of the Priority 1 Frequent Service Network. For proposed long-term capital improvements, the planning and preliminary design should begin immediately. On the customer service side, overcrowded buses can be addressed, low-performing bus stops can be removed, and performance data and real-time information can be made available in the short-term.

In the two year time frame (FY 16/17), focus will shift to more comprehensive service improvements and aggressively improving customer service. Service improvements include increasing frequency of service along the Priority 1 network, complementing the Blackstone/Kings Canyon BRT line. The proposed on-street transfer enhancements, new transit centers, and bus stop improvements will be constructed. Customer service improvements will include increased service on identified lines to relieve overcrowding.

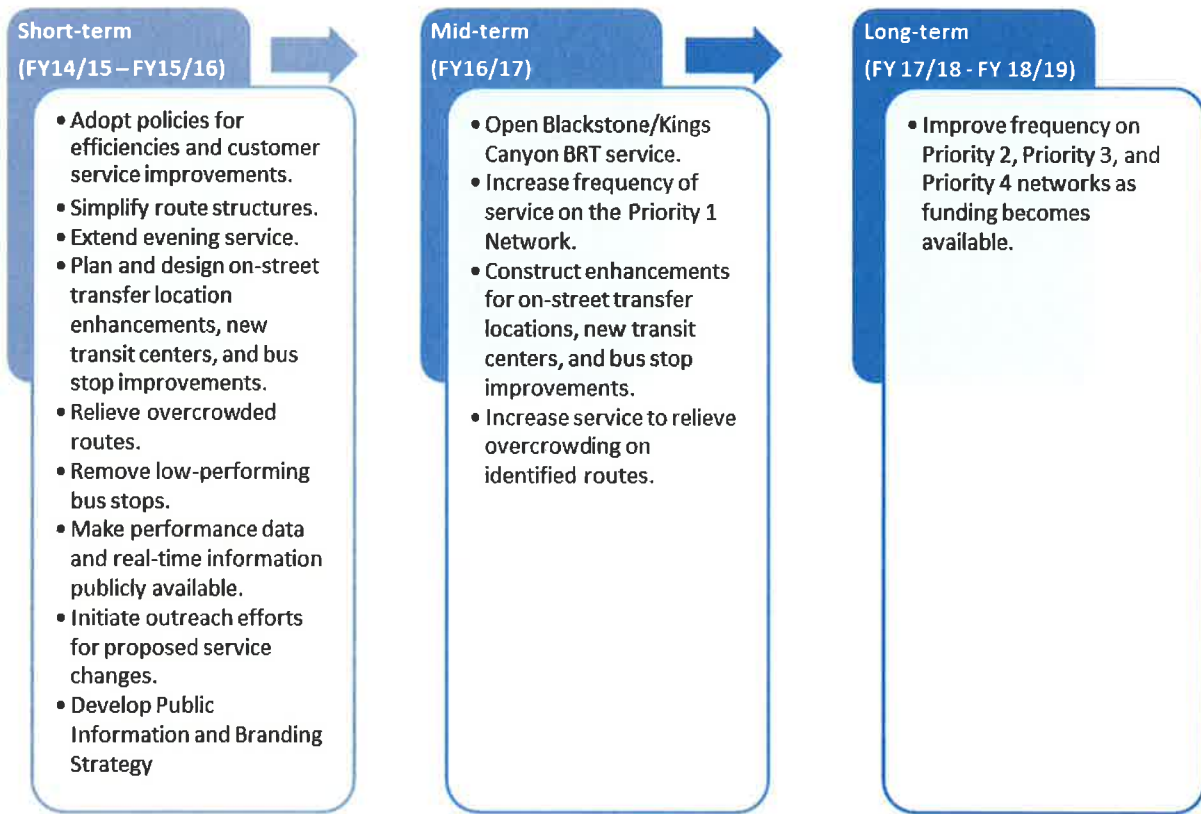
In the long-term (FY 17/18 to FY 18/19), the focus will shift to improving headways along the Priority 2, Priority 3, and Priority 4 Frequent Service Networks as funding becomes available.

The Priority 1 implementation of the Preferred Network Plan can occur within existing resources for operations. Capital improvements are estimated to cost \$12.5 million to implement and will be rolled out over the next

two to five years. A majority of the changes would align with the implementation of the

Blackstone/Kings Canyon BRT in 2017.

Figure 2: Recommended Improvements



6 Attachments

Table 3 lists the reports submitted during the Fresno-Clovis Metropolitan Area (FCMA) Strategic Service Evaluation project. The final

versions of these reports are attached for reference.

Table 3: List of Attached Reports

TASK	DELIVERABLE	DATE SUBMITTED
1.1	Policy Review	August 30, 2013
1.1	Performance Evaluation	September 27, 2013
1.2	Major Travel Markets	September 27, 2013
1.3	Origins and Destinations Survey Report	April 3, 2014
1.4	Public Involvement Program	October 9, 2013
1.4, 1.5, 2.1	FCMA Public Transportation System Assessment	May 28, 2014
2.3, 3.1, 3.2, 3.3	Transportation Network Implementation Plan	Draft: September 18, 2014 Final: June 4, 2015