SHORT RANGE TRANSIT PLAN

2010-2014

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Chapter 1

Introduction

1.1.0 Purpose of SRTP

The Fresno Area Express (FAX) Short-Range Transit Plan (SRTP), FY 2009-2014, is the bi-annual update to the operating plan and the capital program. The purpose of this Plan is to promote a comprehensive, coordinated and continuous planning process for transit service in the Fresno-Clovis Metropolitan Area (FCMA) over a five-year planning horizon. This plan proposes specific recommendations for implementing the long-range objectives of Fresno County's Regional Transportation Plan, and will guide the provision of transit services in the FCMA over the next five years.

The Plan is also used to develop transit capital programming documents which are the basis for State and Federal funding decisions. The Plan provides both the Federal Transit Administration (FTA) and the Council of Fresno County Governments (Fresno COG) with the detailed planning justification for awarding operating and capital grants to FAX. This Plan was developed through an analysis of existing needs and available services, and provides an evaluation of projected needs and funding availability for the next five years.

1.2.0 Summary of Existing Transit System

FAX is a department of the City of Fresno and is governed by the Fresno City Council. The City of Fresno is the responsible agency for implementing this SRTP, and for providing transit service within the city limits. FAX's ability to deliver transit service will be impacted by laws, regulations, and policy decisions of several external agencies. These agencies include: the Federal Transit Administration (FTA), the State of California Transportation Department (CALTRANS), the Council of Fresno County Governments (Fresno COG), Fresno County, the City of Clovis, the Fresno County Rural Transit Agency (FCRTA), the Consolidated Transportation Service Agencies (CTSA), and various private transportation operators. Although the City of Fresno is the agency responsible for providing metropolitan transit service and for implementing the Plan's recommendations, its actions will be influenced by the actions of these external agencies. This document will also address the same issues for Handy Ride and the City of Clovis Transportation systems which are described as follows;

- The FAX fixed-route network follows a modified grid pattern with intersecting north-south and east-west bus lines. The Plan proposes to maintain the grid network in the service area, provide higher levels of service and improved amenities to make transit more attractive and implement innovative approaches to address congestion and air quality concerns. The Plan establishes an ongoing process of system evaluation and management to assess the effectiveness and efficiency of existing and proposed services.

- Handy Ride is a demand-responsive program oriented toward providing a high level of service to elderly and disabled persons who, because of physical or mental disabilities, are unable to ride the fixed-route system. In December 2005, FAX awarded the contract for

Handy Ride services to MV Transportation, Inc. The Plan proposes to evaluate MV Transportation to ensure that FAX meets its responsibilities under the Americans with Disabilities Act (ADA) for Handy Ride service.

FAX operates some service to the unincorporated urban areas and receives funding from the County of Fresno for this service. It is appropriate that both agencies have a role in the policy making process impacting FAX. The Plan includes a mechanism for such a role.

1.2.1 Mission Statements

In 1997, Fax and Handy Ride adopted the following Mission Statements which set a strategic direction and a framework for making policy, planning, and budgetary decisions:

FAX Mission Statement

The mission of Fresno Area Express is to provide a comprehensive transportation system that improves the quality of life in our community.

Handy Ride Mission Statement

Handy Ride provides transportation comparable to the FAX City fixed-route bus system to meet the needs of American with Disabilities Act (ADA) eligible persons who cannot functionally use the FAX City fixed-route bus system.

1.2.2 Public Transportation Policy Directions

The policies contained in the 2007 Regional Transportation Plan for Fresno County, (adopted by the Council of Fresno County Governments, May 2007) provide general guidance to transit operations within the metropolitan area. The following Goals, Objectives, and Policies provide the framework for developing a sound public transportation system throughout Fresno County. They are specifically targeted toward the public and social service transportation systems.

Policy Direction for FAX

Goal: Provide public transportation mobility opportunities to the maximum number of people in the region.

Objective: Continue to pursue expanded federal, state and local funding for both public and social service transportation.

Policies:

- *Provide a transit system that meets the public transportation needs of the service area.*
- *Provide transit services that serve low income, elderly, and disabled communities.*
- *Support the coordination and consolidation of social service transportation.*

Goal: Provide quality, convenient and reliable public transportation service.

Objective: Encourage safety, appropriate frequency of bus service, reasonable fares and the provision of adequate service to satisfy the transit needs which are reasonable to meet.

Policies:

- *Provide reliable and convenient public transit service.*
- *Provide clean, attractive and comfortable vehicles and facilities.*
- *Provide a safe system.*

Goal: Provide an efficient and effective public transportation system.

Objective: Consider advantages and disadvantages of projects, including economic, environmental and social factors.

Policies:

- *Maximize public transportation patronage.*
- *Minimize operating and capital expenses.*
- *Encourage the private sector to provide service when economically feasible.*

Goal: Promote public transit's service and image in community.

Objective: Provide complete and accurate information that makes public transportation "user-friendly".

Policy:

- *Create and produce publications that promote the use of public transportation.*

Goal: Provide for an integrated multimodal transportation system which facilitates the movement of people and goods.

Objective: Develop a multimodal transportation network.

Policies:

- *Coordinate service to facilitate multimodal and inter-system transfers.*
- *Coordinate fare and transfer policies along with service information programs*

Goal: Coordinate public transportation policies with land use and air quality policies.

Objective: Support transportation investments that work toward accomplishing air quality goals, optimize utilization of land, and encourage a stable economic base.

Policies:

- *Provide incentives to reduce dependency on automobile travel without compromising travel mobility.*
- *Evaluate the transportation system for air quality, energy and efficiency impacts.*

1.2.3 Strategic Plan

At the core of the FAX strategic plan are seven goals, each with specific performance measures. The performance measures encompass the full range of FAX's responsibilities. The transit specific performance measures reflect FAX's current targets for achievement and are discussed below;

Goal 1: Service Levels

FAX will provide public transportation service to a maximum number of people in the Fresno-Clovis Metropolitan Area (FCMA).

Objective A: To provide a transit system that meets the public transportation needs of the service area.

Standard 1: FAX's fixed-route bus system should be designed so that a minimum of 90% of the service area population resides within one-half mile of a bus route.

Standard 2: FAX scheduled service should provide for maximum headways of 60 minutes on every route whenever service is operated.

Standard 3: FAX should meet the demand for public transit service, at some level, seven days a week.

Objective B: To provide a transit service (fixed-route and demand-responsive) that adequately serves the elderly and disabled population.

Standard 1: FAX should maintain fixed-route fare levels for elderly and disabled persons no higher than one-half the base fare.

Standard 2: All wheelchair lifts should be operable at all times.

Standard 3: FAX will continue to operate Handy Ride demand-response service in compliance with the requirements of the Americans with Disabilities Act of 1990.

Objective C: To secure a stable and sufficient local funding mechanism.

Standard 1: FAX should identify and coordinate funding mechanisms that will address all transportation funding needs in the Fresno-Clovis Metropolitan Area.

Standard 2: FAX should identify short and long-range funding needs, and maximize revenue resources utilizing all funding mechanisms including federal grants, state enabling legislation and farebox revenue.

Goal 2: Service Quality

FAX will provide a quality, convenient and reliable service.

Objective A: To provide reliable and convenient public transit service.

Standard 1: FAX should operate its fixed-route buses so that on-time performance is achieved at least 90% of the time. A bus is considered "on-time" if it leaves no more than five minutes after the scheduled departure time.

Standard 2: FAX should complete 99.5% of all scheduled trips.

Objective B: To provide clean, attractive and comfortable vehicles and facilities.

Standard 1: All buses returning to the yard after revenue service should be vacuumed and dusted before being assigned for service the following day.

Standard 2: The exteriors of FAX buses should be cleaned at least once a week, when there is inclement weather, or as needed.

Standard 3: Bus stops should be serviced weekly, to including sign, bench and shelter repair, litter removal and weed control as needed.

Standard 4: In the winter, the heaters on FAX buses should work 100% of the time.

Standard 5: In the summer, 100% of all buses on the street should have operable air-conditioners.

Standard 6: Ensure public information at facility kiosks is accurate and up to date.

Objective C: To provide a safe system.

Standard 1: FAX buses should, at a minimum, operate in excess of 100,000 miles between preventable accidents, and bus operators should be formally recognized for their safe driving.

Standard 2: Buses should be checked daily for proper operation and condition of lights, mirrors, radios and fluid. Detailed mechanical inspections should be done every 1,000 miles. Operations, Maintenance and other employees will be provided safety training at the beginning of their employment and such training will be updated on a regularly-scheduled basis.

Standard 3: FAX should continue to implement a security program.

Objective D: To record and respond to all public comments.

Standard 1: FAX will continue to track, evaluate, and follow-up to all compliments, complaints and inquiries from the public.

Goal 3: Provide Efficient and Effective Service

FAX will operate an efficient and effective bus system.

Objective A: To establish and maintain system-wide productivity indicators.

Standard 1: FAX should achieve a 24% farebox recovery ratio.

Standard 2: FAX should achieve a system-wide standard of 40 boardings per revenue hour system wide.

Standard 3: FAX should record and report at least, monthly, the following performance indicators:

- Total Monthly Ridership
- Total Monthly Revenue
- Total Monthly Expenses
- Total Revenue Hours
- Total Revenue Miles
- Farebox Ratio
- Total Operating Expense per Passenger
- Total Operating Expense per Revenue Hour
- Total Revenue per Revenue Hour
- Total Operating Expense per Revenue Mile
- Total Revenue per Revenue Mile
- Passengers per Revenue Hour
- Passengers per Revenue Mile
- Average Weekday Ridership
- Average Saturday Ridership
- Average Sunday Ridership
- Percentage of Scheduled Trips Completed
- Percentage of Trips on Time
- Total Road Calls

Goal 4: System Image

FAX will promote its service and image in the community.

Objective A: To maintain an active marketing program.

Standard 1: FAX should stress the positive impact of its operation in the community through press releases, speeches and involvement in community activities.

Standard 2: FAX should become involved in and work with citizens' groups, the Chamber of Commerce, the Downtown Association and other area merchant associations to communicate its services and benefits.

Standard 3: FAX should maintain public outreach programs with area employers to promote transit.

Objective B: To provide complete and accurate public transit information.

Standard 1: Current bus schedules and system information should be available to the public at all major public facilities, trip generators and transfer points.

Standard 2: Service information should be available by telephone to the public at all times.

Goal 5: Private Sector and Citizen Involvement

FAX will provide opportunities for citizens and private business to participate in public transportation operations.

Objective A: To provide opportunities for citizen input into FAX's operations.

Standard 1: FAX will hold public hearings, as required by the federal government;

(a) When there is a change in any fare, except promotional fare changes for up to 180 days.

(b) When there is a service change leading to a 25 percent or greater reduction in total revenue service hours or revenue service miles.

Standard 2: FAX should coordinate and cooperate with the Council of Fresno County Governments (Fresno COG) in its annual "unmet transit needs" process, including participation in the Fresno COG Social Services Transportation Advisory Council (SSTAC) meetings and Public Hearing.

Goal 6: Integrated Multi-Modal Transportation

FAX will provide an integrated multi-modal transportation system which facilitates the movement of people.

Objective A: Develop a multi-modal transportation network.

Standard 1: FAX will provide transit service to all airport and passenger rail facilities in the FCMA.

Goal 7: Coordinate Transportation, Land Use, and Air Quality Policies

FAX will coordinate transportation policies with land use and air quality policies.

Objective A: Support transportation investments that work toward accomplishing air quality goals, optimize utilization of land and encourage a stable economic base.

Standard 1: Evaluate FAX system for air quality, energy, and efficiency impacts.

Standard 2: FAX will coordinate with City, County, and Regional agencies to promote efficient transportation policies.

1.2.4 Organization

FAX

FAX is operated by the City of Fresno and is a department headed by the City's Director of Transportation. The Organizational Structure of FAX is shown on Exhibit 1.1.

Fresno City Council

The Fresno City Council consists of seven members within seven jurisdictions of the City of Fresno, and is the policy making board for FAX. The Council is responsible for setting operating policy and annually adopting the budget. FAX underwent a major reorganization of the Department in FY87. The reorganization eliminated the Research and Development Division. The Fresno COG is under a contract agreement with FAX and is responsible for planning, service evaluation, service development, and public outreach functions. This cooperative agreement between the agencies has eliminated duplication of effort and has resulted in substantial cost savings.

Total No. of City Employees	391.80
No. of Management Employees	39.00
No. of Line Staff Employees	352.80

DEPARTMENT of TRANSPORTATION
FISCAL YEAR 2010
CURRENT SERVICE LEVEL

Director of Transportation 1.00

Executive Assistant 1.00

OPERATIONS DIVISION

Transit Operations Manager 1.00

Transit Supervisor II	2.00
Transit Supervisor I	18.00
Full Time Bus Drivers	247.00
26 PPT Bus Drivers *	20.80
Senior Secretary	1.00
Account Clerk II	2.00
Senior Administrative Clerk	1.00
Radio Dispatcher	2.00

DIVISION TOTAL 294.80

MAINTENANCE DIVISION

Transit Maintenance Manager 1.00

Equipment Supervisor	6.00
Bus Mechanic Leadworker	5.00
Bus A/C Mechanic Leadworker	1.00
Body and Fender Leadworker	1.00
Bus Equipment Leadworker	2.00
Bus Mechanic I/II	20.00
Storeskeeper	4.00
Utility Leadworker	1.00
Laborer	7.00
Bus A/C Mechanic	2.00
Body and Fender Repairer	2.00
Equipment Serviceworker I	15.00
Equipment Serviceworker II	1.00
Fleet Operations Specialist	1.00
Senior Account Clerk II	1.00
Account Clerk II	1.00

DIVISION TOTAL 71.00

ADMINISTRATION DIVISION

Transit Administrative Manager 1.00

Management Analyst II	2.00
Management Analyst III	1.00
Information Services Supervisor	1.00
Senior Secretary	0.50
Principal Account Clerk	2.00
Senior Account Clerk	1.00
Account Clerk I/II	1.00
Computer Systems Specialist II	1.00
Computer Systems Specialist III	1.00
Programmer/Analyst III	1.00

DIVISION TOTAL * 14.50

SUPPORT SERVICES DIVISION

Transit Support Services Manager 1.00

Management Analyst II	1.00
Senior Administrative Clerk	3.00
Administrative Clerk I/II	4.00
Staff Assistant	1.00
Paratransit Specialist	1.00

DIVISION TOTAL * 11.00

PLANNING DIVISION

Transit Planning Manager (COFCG Emp.)
Senior Transit Planner** 1.00

COG EMPLOYEES

Planning Coordinator III	1.00
Subtotal - Contract Employees	2.00

FAX EMPLOYEES

Transit Supervisor I	1.00
Community Coordinator	1.00
Planner II	1.00
Senior Secretary	0.50
Subtotal - FAX Employees	3.50

DIVISION TOTAL 5.50

* 26 PPT Driver positions or 20.8 FTE's.
** COFCG Employees not included in the management to staff ratio listed above.

Q:\BUDGET DOCUMENTS\FY'10\Completed\2010 FAX Org Chart CSL

FAX Committees

The FAX Americans with Disabilities Act (ADA) Committee was absorbed into the recently created Disability Advisory Commission (DAC). The DAC was established by the City of Fresno in 2008 and is focused on promoting the inclusion of people with disabilities in all areas of community life. The Commission membership is representative of the diversity of the disabled community. In addition, the Social Services Transportation Advisory Committee (SSTAC) was formed by the Fresno COG Policy Board to aid in its review of transit issues with emphasis on the annual identification of transit needs within Fresno County. These include the needs of transit dependent and transit disadvantaged persons, including the elderly, disabled and persons of limited means. This Advisory Council to the Fresno COG consists of a committee of members from the public who advises the Fresno COG Board on any major transit issues. FAX staff participates as part of this committee on a regular basis.

FAX Staff

The Department of Transportation is responsible for the day to day management of FAX and reports directly to the City Manager. FAX consists of four divisions, all headed by a Director of Transportation. Divisions include Administration, Operations, Maintenance, Support Services, and Planning.

The Administration Division is responsible for intergovernmental coordination, budgets, grant management, data collection, computer services, personnel, contract administration and policy development.

The Operations Division is responsible for managing the day-to-day operations of transit service, including driver training. In FY10, FAX vehicle operations will consist of 286 permanent bus driver positions and 20 Transit Supervisor positions. Weekday service currently requires an average of 173 drivers with Saturday and Sunday service requiring 72 drivers. The remaining drivers are designated for the extra-board, vacation and sick relief.

Maintenance is responsible for maintaining the fixed-route vehicles, monitoring the maintenance of Handy Ride vehicles, and maintaining bus stops and shelters.

Planning prepares transit related documents such as the Short Range Transit Plan and Regional Transportation Plan, and develops routes and scheduling of transit service. The Planning Division analyzes ridership data of the FAX system in order to do system evaluation and system adjustments. The Planning Division is also responsible for public information and outreach.

The newest division at FAX is Support Services. This division is responsible for oversight of the paratransit service contract and the customer service outlets.

1.3.0 Overview of SRTP

The SRTP is divided into 5 chapters:

- **Chapter 1** provides an overview of FAX and Handy Ride, and the purpose for the SRTP.
- **Chapter 2** provides a general overview of the existing FAX and Handy Ride transit systems, including descriptions of current transit services and transit related programs.
- **Chapter 3** describes the proposed service improvement plan for FAX and Handy Ride, including recommendations for enhancing customer service and improving mobility and access.
- **Chapter 4** sets out the detailed five-year financial plan for FAX and Handy Ride. It also describes the Capital Plans which support the services described in Chapters 2 and 3.
- **Chapter 5** provides an overview of the existing City of Clovis transit system, including descriptions of current transit services, recommendations for enhancing customer service, and a detailed five-year financial plan for the transit system.

The SRTP includes appendices which provide more detailed information on the Fleet Inventories of each transit agency. In addition, a Glossary of terms is included in **Appendix E** to provide assistance in defining transportation related terms.

Chapter 2

System Description

2.1.0 Introduction

Public transit began in Fresno, as in many cities, with horse drawn street cars. The first horse car franchise was issued to the Fresno Street Railroad in 1887, and it began operation in 1889. By the turn of the century, interest in electric streetcars had grown to a point where the Fresno City Railway (FCRY) had been granted a 50 year franchise for the operation of electric streetcars. The system started operations in 1902, and by the end of World War I (now the Fresno Traction and Rail Company) had 50 miles of track. In 1939 the bus service completely replaced the streetcar system. A description of the current services is as follows:

Fixed-Route Service

From the 1930's to 1961, fixed-route bus service was provided by Fresno City Lines, Inc., which was a private corporation. In 1961 the corporation sought to discontinue public transportation due to increasing deficits. The City of Fresno entered into a lease-purchase agreement with Fresno City Lines, Inc., in 1961, and established the City of Fresno as the operator of transit services in the Fresno metropolitan area. The early system configuration consisted of a modified radial pattern with all routes originating in the downtown area. This pattern remained essentially the same until 1977. During FY77, FAX instituted numerous changes which increased service to nearly all of the urbanized FCMA, the most significant being the implementation of a grid system consisting of 19 lines in place of the former 13 line radial system. The change was made possible by the purchase of 50 full-sized buses. Today FAX operates 19 routes on 15, 30, 45, 50, and 60-minute headways. The system continues to be operated on a modified grid pattern with nine routes intersecting in downtown Fresno, six connecting at Manchester Transit Center, and seven making connections at The Market Place Shopping Center.

Demand-Responsive Service

Specialized transportation services for Fresno's elderly and disabled were started in 1967 by the West Fresno Federation, a non-profit corporation. The City provided increasing support to the program, and in 1975 assumed the service. In April 1977, FAX began operating Handy Ride service. Handy Ride operates as a generalized demand-responsive service for those who are unable to use the regular fixed-route service due to a disability. Handy Ride offers advanced reservation and limited subscription service to "ADA Certified" riders. In order to effectively carry out the provisions of the Americans with Disabilities Act of 1990, FAX awarded the contract for Handy Ride service to Laidlaw (formerly Mayflower) Contract Service effective April 3, 1993. In December 2005, MV Transportation was awarded the contract to continue paratransit operations. Service hours for Handy Ride mirror those of FAX fixed-route service, and reservations are required one day in advance of the scheduled trip in order to comply with ADA regulations. A limited number of will calls are provided each day based on availability, with priority going to medical appointments. FAX is in full compliance with the ADA. For a more detailed discussion of the ADA, refer to the Americans with Disabilities Act Section 2.3 or the FAX ADA Paratransit Service Plan Updated in June 2003.

2.2.0 Bus Transit

FAX's service area population is shown on Table 2.1. The service area is consistent with the Planned Urbanized Area (PUA) of the Fresno County General Plan and represents the area planned for urban growth during the 20 year planning period. Within the PUA are the Cities of Fresno (2000 census population of 427,652) and Clovis (2000 census population of 68,468). The 2000 census population of the Fresno-Clovis Metropolitan Area (FCMA), an area slightly larger than the PUA, is 570,169 (Fresno COG). The FCMA contains 299 square miles; and a population of 628,655 (2000 Census) and the overall average population density is 3 persons/acre. In the more populated areas of the FCMA, the average density ranges from four to fifteen persons per acre.

Table 2.1
FCMA Population Trend

Year	Population	Source
1970	289,200	Decennial Census
1980	358,800	Decennial Census
1990	477,400	Decennial Census
2000	628,655	Decennial Census
2010	674,500	COG

2.2.1 Bus Services

The core bus routes which are operated by FAX and other service agencies are as follows;

City of Fresno

The City of Fresno, through FAX, provides two categories of public transportation service in the FCMA. First, the Department of Transportation/FAX provides fixed-route service for the general public seven days a week. Secondly, Handy Ride service, which is contracted through MV Transportation, Inc., provides demand-responsive service seven days a week. Handy Ride generally serves those persons unable to use the regular fixed route bus service.

- **FAX Fixed Route** - The Fresno-Clovis Metropolitan Area (FCMA) has developed north, west and east of the Central Business District (CBD). The Central Business District is the regional and local governmental center for federal, state, county, city and educational offices. In addition, Community Regional Medical Center is also located in the downtown triangle, which is bounded by Fwy 41, Fwy 180 and Fwy 99. The CBD is a regional financial and legal center, as well as regional shopping center (Fulton Mall). The Fresno Convention Center, two major hotels, various private office buildings, and the railroad and bus station are also located in this area. Nine of FAX's seventeen routes converge in the CBD. There are five other regional shopping centers located within the FCMA. They Include: Fresno Fashion Fair (First/Shaw), Fig Garden Village (Palm/Shaw), Manchester Center (Blackstone/Shields), Sierra Vista Mall in Clovis (Clovis/Shaw), and the Market Place at River Park (Blackstone/El Paso). While FAX operates service to all of these Centers, Manchester Center and the Market Place are major connection locations. Six routes converge at the Manchester Transit Center to form a major transfer point in Fresno's geographic center, and seven routes serve Market Place in north Fresno.

Other commercial land uses are spread throughout the FCMA with strip commercial concentrated along Shaw and Blackstone Avenues. Additional office commercial is located along Shaw Avenue, N. First Street, and in the vicinity of the Fresno Yosemite International Airport (FYI). Significant commercial development continues in the Woodward Park community near the River Park Business Complex (Friant/Audubon) and Kaiser Permanente Hospital (First/Nees). The FAX network serves various high schools, colleges and universities as well as numerous parks and entertainment complexes.

The FCMA population has a broad ethnic diversity, including a substantial Hispanic population and significant numbers of African American and Asian residents. In the 2000 Census, 8.0% of the population of the City of Fresno was described as African American, 11.1% as Asian or Pacific Islander, and 39.9% as Hispanic.

FAX operates on a modified grid system and provides service on fifteen transit corridors on weekdays and Saturdays and Sundays. The route system is composed of nine lines that provide service in two directions to and from downtown and five cross-town lines. FAX also operates a free downtown trolley service which connects to parking, retail, and restaurant services in the downtown area. The system is designed to facilitate bus travel by making transfers convenient between intersecting lines and between nine lines which converge in the CBD. The FAX system map is shown in Exhibit 2.1.

- **Handy Ride Demand Response -** Handy Ride's service area is bounded by Copper to the north, Central Avenue to the south, Temperance Avenue to the east, and Polk Avenue to the west as identified in Exhibit 2.2. Handy Ride service is available to persons who, because of an impairment or disability, are unable to use Fresno Area Express fixed-route system. Population numbers developed for the FAX Americans with Disabilities Act Paratransit Service Plan indicates that the FCMA contains between 7,000 and 12,500 persons who would be eligible for paratransit service under these guidelines.

Fresno County

Fresno County reimburses FAX to partially offset operating costs for fixed-route and Handy Ride services in the unincorporated urbanized area. As of January 1, 2002, an estimated 45,000 unincorporated area residents lived within one-half mile of a FAX route. Fresno County also provides support for rural transit services as described below;

- **Fresno County Rural Transit Agency (FCRTA)** - In August 1979, a joint powers agency was created to coordinate and operate rural transit services in Fresno County. FCRTA, through contract providers or private carriers, provides intra-city and inter-city service to rural communities and downtown Fresno. Inter-city service to Fresno is provided via municipal providers and through Greyhound and Orange Belt Stages. The rural systems interface with FAX in downtown Fresno.

- **Consolidated Transportation Service Agency (CTSA**) - In 1980, the Council of Fresno County Governments (Fresno COG) adopted "Assembly Bill 120 Action Plan for Fresno County" (AB120, September 1979) to coordinate social service transportation in Fresno County. The Plan co-designates the City of Fresno and the Fresno County Economic Opportunities Commission (FCEOC) as the CTSA for the Fresno Metropolitan Area and the City of Clovis as the CTSA for the Clovis Urbanized Area. The Fresno County Rural Transit Agency and FCEOC are the co-designated CTSA for the rural area.

Social service transportation in the FCMA began in April 1983 and was initiated in the rural county area in May 1983. Services are provided through vehicle timesharing, ridesharing and consolidation and include those agencies and services listed on Exhibit 2.3.

- **Private Operators -** Inter-city bus service to the FCMA is provided by Greyhound Lines, Transportes Inter-Californias, and Orange Belt Stages while Amtrak provides inter-city rail service. The FCMA is served by numerous private taxi companies and a dial-a-ride service providing shared-ride, demand-responsive service. Several non-profit agencies and private companies operate services designed to accommodate disabled riders. Exhibit 2.3 lists current public and private transportation providers in the FCMA.

- **Ridesharing -** The Fresno COG is responsible for administering the Program and retains a Rideshare Coordinator to implement the Program. The Rideshare Coordinator has been instrumental in developing an effective outreach program to major employers throughout Fresno County for providing match lists for both carpools and vanpools. In addition, through Measure C, a ½ cent sales tax approved in 2006, the Fresno COG manages a Taxi Scrip program that allows seniors 70 years of age and older to purchase taxi scrip at a reduced rate. Measure C also provides a subsidy for vanpools originating in Fresno County.

Exhibit 2.1
FAX Service Area

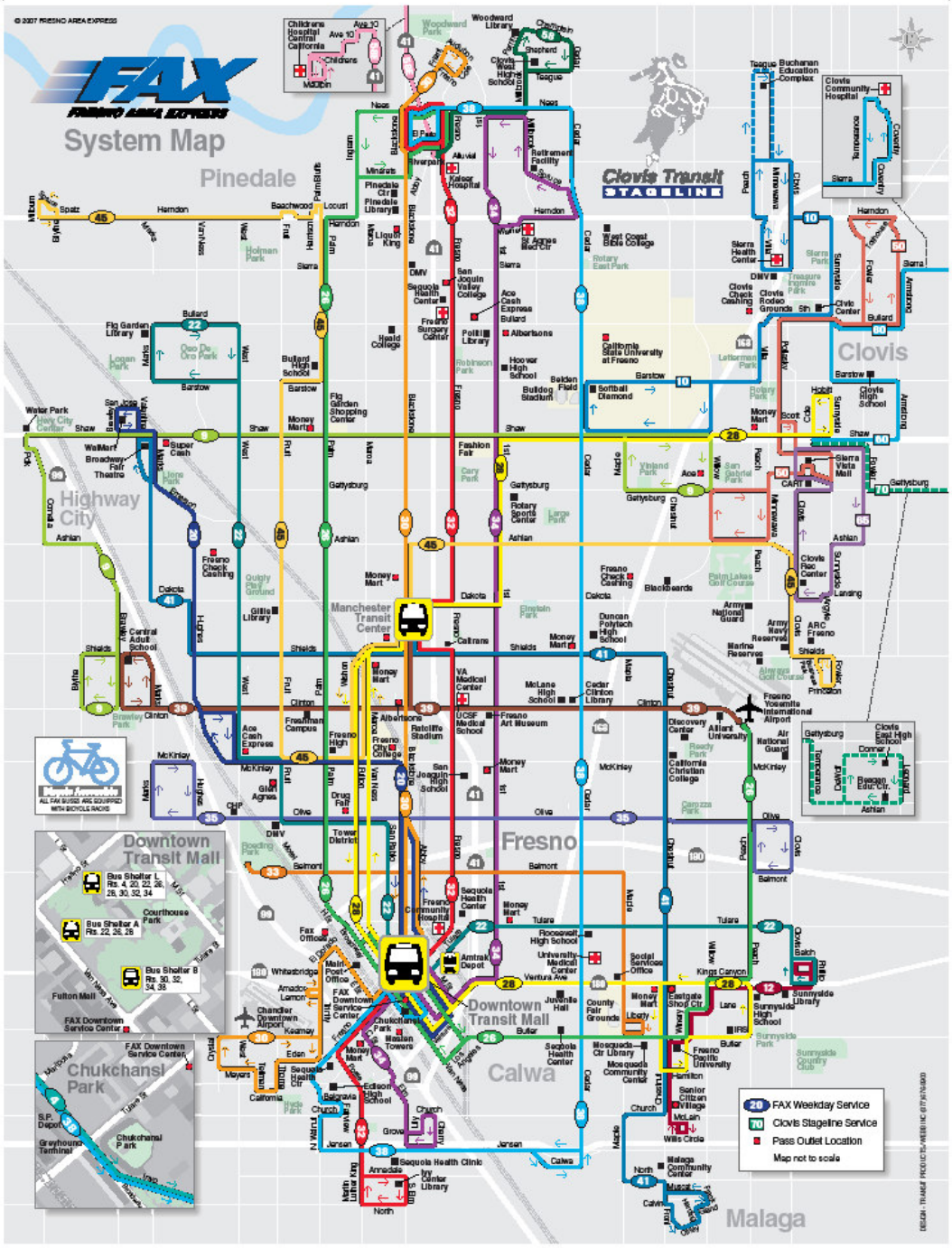


Exhibit 2.2
Handy Ride Service Area

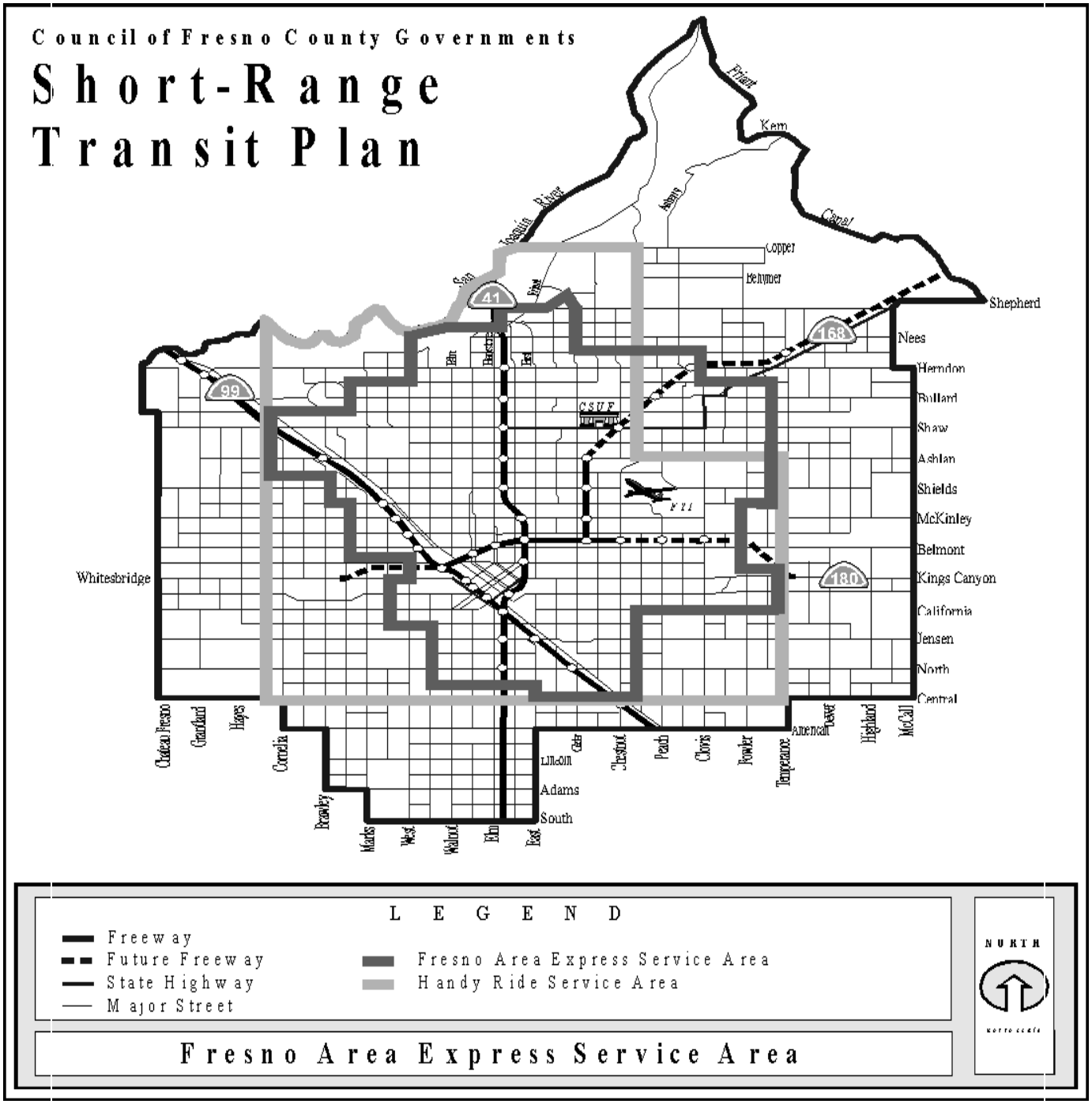


Exhibit 2.3
Service Providers in the FCMA 2008

BUS LINES & VAN SERVICE

Clovis Roundup*
Clovis Stage Lines*
Fresno County Consolidated Transportation Agency*
Fresno County Rural Transit Agency*
Fresno Handy Ride*
Fresno Area Express*
Greyhound Bus Lines
Fresno Transportation Center
Transportes Inter Californias

BUSES CHARTER & RENTAL

Golden Eagle Charter
Limo For You
Classic Charter
Orange Belt Stages

BUSES -- SCHOOL TRANSPORTATION SERVICES

Laidlaw

DIAL-A-RIDE

Dial-A-Lift
Dial-A-Ride
Handicab
Fresno County Rural Transit Agency

AMBULANCE NON-EMERGENCY

American Ambulance
Fresno Transportation Company

TAXICABS

A Checker Taxi Company
A1 Yellow Cab
A-1 Taxi Cab
AA Yellow Cab
AAAA Yellow Cab
AAA ASAP Yellow Cab
Ace Yellow Cab Co.
Alpha Cab
American Taxi
American Yellow Cab
Azteca De Cab
Bulldog Cab Co.
City Cab Company
Clovis City Cab Company
Clovis Yellow Cab
Faretta Cab Company
Fresno Independent Cab
Fresno Yellow Cab
Kiddie Cab
Pacific Airport Express
Star Yellow Cab
Taxi Azteca
Taxi El Cora
Taxi Latino
Taxi Mexico
Taxi Service
Trans System
USA Taxi Cab Co.
Union Cab
United Cab of Clovis
Yosemite Cab

* Public Agency

Source: Pacific Bell Yellow Pages.

2.2.2 Bus Fleet

FAX- FAX's policy is to operate equipment which is suitable to the needs of the public, and is cost effective to operate and maintain. In making decisions regarding vehicle procurement, FAX considers passenger needs and comfort, standardization of parts and equipment, ease of operation and maintenance, and conformity to the latest clean air, accessibility and safety requirements.

FAX currently has an active fleet of 125 vehicles, which includes over 50 Compressed Natural Gas buses. In addition, all new FAX buses are low floor buses, which are outfitted with ramps that are much easier to maneuver than traditional lifts. The low floor buses also have the ability to lower or kneel to reduce the angle of the ramp. FAX received 15 standard CNG 40-foot buses provided by New Flyer in 2006.

FAX also has four (4) Ford Econoline vans, two (2) of which are used for the Fresno Area Neighborhood Service (FANS) circulator route in the southeast part of the City. FAX's next major order of sixteen (16) standard CNG 40-foot buses, to be provided by New Flyer, is anticipated to arrive in 2009. FAX will also take delivery of another gasoline hybrid bus, totaling three (3), which continues to showcase FAX's commitment to cleaner vehicles and a cleaner environment.

All new buses meet the accessibility requirements of the Americans with Disabilities Act (ADA), the standards mandated by the Federal Clean Air Act (CAA), the California Air Resources Board (CARB) exhaust emissions standards, the Federal Transit Administration (FTA) First Article Bus Durability Tests and the California Highway Patrol (CHP). Buses in the active fleet operate an average of 45,000 miles annually. An inventory of the current bus fleet is presented in Table 2.2. Bus replacement needs are detailed in Chapter 4 of this document.

Table 2.2
FAX Fleet Inventory

#	Make	Model	Year	Comments
15	New Flyer	CNG	2006	40' Low Floor-Ramp
2	New Flyer	Hybrid (Gas/Electric)	2005	40' Lift Equipped
10	New Flyer	CNG	2005	40' Low Floor-Ramp
25	Orion	CNG	2003	40' Lift Equipped
4	Optima	CNG	2004	30' Trolley Replica
2	Orion	Hybrid Drive	2001	40' Hybrid Electric
4	Ford	240	2000	28' QRV Vehicle
10	Gillig	Phantom	1999	40' Low Floor
14	Gillig	Phantom	1997	40' Lift Equipped
6	Gillig	Phantom	1996	40' Lift Equipped
12	Gillig	Phantom	1994	40' Lift Equipped
20	Gillig	Phantom	1993	40' Lift Equipped
1	Gillig	Phantom	1991	40' Lift Equipped
125	**Total Active Fleet**			

Handy Ride- Handy Ride offers demand-responsive, curb-to-curb service seven days a week during the same hours as the Fixed-Route service. Handy Ride service is provided throughout the service area covered by the Fixed-Route, and additionally extends out 3/4 mile further than FAX routes. The current service area is bounded by Copper to the north, Central Avenue to the south, Temperance Avenue to the east, and Polk Avenue to the west. The requests for service are accepted on a previous day basis for ADA Certified City of Fresno residents and visitors, and on the same day, if space is available, for ADA and Handy Ride general passengers. In December 2005, a contract was awarded to MV Transportation, Inc. for the provision of the Handy Ride service. FAX's Support Services Division monitors MV in order to assure compliance with the city contract and with the ADA requirements. Handy Ride's fleet is composed of 48 wheelchair lift-equipped mini-buses and 7 sedans, all operated and maintained by MV Transportation, Inc.

2.3.0 Accessible Transit Service

In 2008, the City of Fresno created the Disability Advisory Commission (DAC). The Commission's charge is to advise the Mayor, City Council and staff on issues affecting persons with disabilities and seek avenues for improving services for people with disabilities in the larger community. Included in

this charge is public transportation. The FAX ADA Advisory Committee continues to function in a slightly reduced role, providing input to the DAC and providing sensitivity training to bus operators.

2.3.1 Americans with Disabilities Act

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. FAX implemented key ADA requirements and compliance regulations issued by the U.S. Department of Transportation (DOT) and the Architectural and Transportation Barriers Compliance Board as described below:

- *All newly constructed transit facilities such as bus stops and transit centers must meet ADA accessibility design guidelines*. The renovation of the Manchester Transit Center in 2001 helped to meet the standards. Over the last year new bus stop signs which meet the standard have been installed Citywide, and FAX has improved over 570 bus benches and 190 shelters to meet ADA requirements.

- *All procurement of bus vehicles must meet the ADA accessibility design guidelines.* FAX has procured over 100 buses since 1992 that meet ADA standards. All future vehicle procurement will meet the standards, including recently received Hybrid Electric buses, Vans and Clean Fuel buses.

- *Information distributed to the public is also required to be made available in accessible formats, such as audio cassettes, discs, large print, via telephone, etc.* FAX has prepared and distributed a video which highlights FAX fixed route services. This video provides passengers with relevant information on the FAX system and is made available to the public upon request.

- *As an operator of a fixed route service, FAX is required to provide complimentary paratransit services.* A combination of accessible fixed route transit service and paratransit services are provided for the transportation needs of individuals with disabilities and senior citizens.

The FAX ADA Paratransit Service Plan and subsequent updates have been adopted by the Fresno City Council and approved by the FTA. The Paratransit Service Plan addresses FAX's responsibilities under the ADA for both fixed-route and demand-responsive service. The FAX Complementary paratransit service has been in complete compliance with federal requirements since 1995.

Among other things, these mandated changes required FAX to expand Handy Ride hours of service to match those of FAX fixed-route service.

2.3.2 Accessible Bus Service

FAX designated all buses as accessible effective July 1, 1997. All of FAX's buses are equipped with devices to secure a wheelchair or other mobility devices and with lifts and/or ramps for boarding passengers using common mobility devices. Buses purchased since 1993 are equipped with automatic announcements to assist passengers with visual impairments. The announcements are activated when the doors are opened and provide information on the route number and destination

FAX has adopted standard operating policies and procedures for compliance with ADA which include the following: regular maintenance and prompt repair of accessibility equipment; providing assistance with boarding; calling out bus stops and stations; providing alternative transportation if a passenger

cannot be boarded because of failure of accessibility equipment; allowances for service animals; and specialized training for operators.

2.3.3 ADA Paratransit Services

Paratransit service is a specialized form of transportation operated for people, who, because of their disabilities cannot use conventional public transit service. As an operator of a fixed route bus service, FAX is required under ADA to ensure that paratransit service is provided to eligible individuals with disabilities. The level of service provided must be comparable in terms of hours of service and area served to the service provided through the fixed route bus system. Since 1990, FAX has been in full compliance with ADA paratransit provisions.

FAX - FAX contracts for paratransit services with MV Transportation, Inc. Eligible riders call MV to schedule their trips and MV provides the trips accordingly. MV also provides subscription trips according to policies developed and adopted by FAX.

In FY08, FAX's annual operating budget for MV was $4.1 million. MV provided 191,500 paratransit trips during this period, which included over 9,400 taxi trips. MV's operating budget for FY09 is $4.9 million with an increase in service demand estimated at close to 200,000 passenger trips to be provided.

2.4.0 Transit Maintenance Program

FAX takes a functional approach to the maintenance and servicing of all vehicles, equipment, and facilities, and emphasizes preventative maintenance, comprehensive inspections and overall efficiency and cost effectiveness to ensure reliable and safe transit service.

The mission of FAX's Maintenance Division is to provide clean, reliable, safe and well maintained vehicles, equipment, and facilities through the efforts of a competent and committed work force using modern facilities, tools and equipment. The purpose of FAX's Maintenance Plan is to provide consistent, systematic and integrated program guidance that will enable the Maintenance Division to properly maintain and service the assigned vehicles, equipment and facilities in support of revenue operation. Policies of the Maintenance Division reflect the following:

- Standardized procedures and practices;
- Compliance with all applicable regulatory requirements;
- An effective maintenance program.

Key components of FAX's current Transit Maintenance Program are as follows:

- A comprehensive bus vehicle maintenance program that includes daily maintenance;
- An aggressive preventative maintenance and component change out program;
- A running repair procedure to avoid removing vehicles from service;
- A centralized overhaul and repair program;
- A new maintenance management system.

Maintenance Program

The following maintenance functions are described below:

- Bus Maintenance
- Facilities Maintenance

Bus Maintenance

Components of FAX's Bus Maintenance program are as follows:

Daily Servicing - Daily servicing items include the following:

- Vault pull
- Driver defect card analysis
- Fuel island servicing
- Interior/exterior cleaning
- Seat and window cleaning/replacement

Preventative Maintenance - Regular maintenance is performed at prescheduled cycles to ensure optimal performance, efficiency, safety and reliability of assigned equipment. Preventative maintenance inspections are performed within four hundred miles of scheduled cycles. Table 2.3 shows FAX's Preventative Maintenance cycles.

Table 2.3
FAX Maintenance Schedule

P.M. Type	Inspection	Cycle	Within
Minor/safety	A	3,000 miles	+/- 400 miles
Intermediate	B	12,000/14,000 miles	+1,000/-400 miles
Intermediate	C	18,000/21,000 miles	+1,000/-400 miles
Major	D	24,000/28,000 miles	+1,000/-400 miles
Special Service	Winter	Seasonal	
	Summer	Seasonal	

Note: Services vary by mile ranges depending upon warranty and manufacturer's requirements.

Running Repair/Corrective Maintenance - This establishes a procedure to repair items identified by operators during the daily operation of a bus. These repairs are usually completed without

removing or withholding a vehicle from normal service. Maintenance repairs or actions for road calls are documented in the fleet information system to assure that proper corrections are made, to provide for consideration of fleet inspections, and to modify the Preventative Maintenance Program, as needed.

Scheduled Component Change Out - FAX's component change out program is based on manufacturer's recommendations, failure history and failure analysis. Designated components are tracked and monitored to ensure that the program is efficient and cost effective. This program allows for the preparation of complete standardized kits with standardized replacement practices for improved efficiency.

Overhaul and Repair Program - The O & R Program is a centralized maintenance program which includes paint and body repair, upholstery, farebox repair, component overhaul, and heavy repair/rebuild of engines and other components.

Facilities Maintenance

FAX's Facilities Maintenance includes overall environmental regulatory record keeping and oversight; hazardous waste disposal and manifests; timely and reliable maintenance, preventative maintenance, inspections, repair and servicing of FAX's communication system, buildings, shelters, grounds, bus stops and related equipment.

FAX's maintenance facility consists of 49,000 square feet and can accommodate up to 150 buses. However, limited bus parking space has prevented this facility from serving more than 125 buses. The Maintenance Division provides standard bus maintenance and has facilities for body work, painting, welding, machine tooling, and air conditioning. Since the facility enables FAX to perform nearly all maintenance work in-house, reliability of the fleet maintenance is ensured.

In FY08, FAX's service level required approximately 71,000 gallons of diesel fuel per month and an additional 203,000 therms of compressed natural gas per month. FAX has four underground diesel fuel storage tanks each providing 19,500 gallons of capacity. Approximately 100 days of service could be provided with the existing fuel storage capacity. FAX has completed the installation of a CNG fueling station, which produces the required CNG fuel for the 50+ CNG buses and the 16 additional CNG buses to be delivered in 2009.

Handy Ride - Handy Ride maintains a total of forty-eight vans and 7 sedans which are maintained and serviced by MV Transportation. The preventative maintenance schedule for Handy Ride vehicles include a regular tune-up of vehicles to ensure that the maximum performance and fuel economy are obtained. Gasoline tune-ups are performed at 12 months or 24,000km/15,000 mile intervals. Additional vehicle components such as brakes and oil filters are changed at various intervals according to MV's certified inspection interval and procedures maintenance plan.

2.5.0 Transit Passenger Facilities

This section describes FAX's passenger facilities including transit centers, transit stop improvements and amenities. It also addresses actions to improve operations and passenger convenience as part of FAX's goal to enhance customer focus and improve mobility and access.

2.5.1 Transit Improvements and Amenities

FAX

Bus Stop Accessibility - FAX maintains one transfer center at Manchester Mall and three additional transfer centers in the downtown area, all within the City of Fresno. The transfer centers are safe and convenient facilities for bus-to-bus transfers as well as for inter-modal passenger transfers. Due to age and usage, periodic rehabilitation of FAX's transit amenities have been necessary to maintain them in an attractive, safe and functional condition. Examples of rehabilitation needs include sidewalk repair, painting and repair of structures, and replacement of benches and trash receptacles. Minor enhancements planned in conjunction with rehabilitation include upgrading of information signage, security lighting, and bicycle accommodations. In 2002, the Manchester Center was improved and upgraded to accommodate more client service.

In addition, FAX has more than 2,000 bus stops which need to be maintained. An ongoing transit stop improvement program provides convenient passenger access and assures safe operation of transit service. Passenger amenities such as shelters, benches, information signs, and trash receptacles are provided at many transit stops. Transit stop improvements are provided by FAX and by private developers as conditions of project approval by the City.

As part of the Department's American Recovery and Reinvestment Act (ARRA) capital projects plan, FAX plans to enhance the look and safety of its passenger amenities. This project includes increased security cameras, lighting and electrical work at shelters and bus stops, concrete work, and a themed look for shelters, benches, trash receptacles, signage and lighting.

Bus Stop Accessibility Improvements - To assure compliance with ADA, FAX established a program to construct passenger waiting pads, sidewalk extensions, and wheelchair curb ramps where needed. These bus stop improvements benefit transit operations by improving the efficiency of boardings by disabled patrons and reducing the need for ADA paratransit trips. These improvements also provide improved accessibility to non-disabled transit riders. In addition, it should be noted that these improvements are the responsibility of the City of Fresno and not the Transit operator.

Bus Stop Shelter Program - FAX shelters are designed to include a brown frame with a dome, lighting for security, and a bus bench and trash receptacle. Design and placement of shelters complies with ADA guidelines. FAX inspects, cleans and maintains shelters as required. FAX works closely with the community in providing shelter service and has allowed one of the local high schools to paint the bus shelter with their school colors.

Transit Stop and Information Signs - FAX maintains over 2,000 bus stop information signs throughout the service area. Since 1999, FAX replaced most of its bus stop signs with more customer friendly informational signs. As part of the ARRA funding, FAX anticipates a renewed signing program system-wide.

Bus Stop Amenities - Benches are provided at over 500 bus stops for the comfort of waiting passengers, and are often provided at bus stops with concentrations of elderly and mobility impaired patrons. Benches are installed based on passenger request, ridership and acceptable site conditions, although the current bench program consists primarily of replacement of old or damaged benches.

Bikes on Transit - In 1997, FAX installed bike racks on all fixed route buses. The Bikes on the Bus Program significantly enhanced mobility and access for cyclists in the Fresno City area and helped to increase transit ridership by creating a new ridership market. Beginning in 2008, FAX has installed bike racks which will hold three bikes at a time. To date, all FAX buses have bike racks which can only hold two bicycles at a time. All future bus procurements will include a three position bike rack.

2.6.0 Fare Structure

As part of FAX's Strategic Goal to provide affordable fares, FAX has not requested a fare increase since 2002. In FY02, FAX initiated a fare increase of its regular one way fare from the current $.75 to $1.00 which became effective in August 2002. FAX did however retain the Senior/Disabled one way fare at $.35. Beginning in 2005, FAX introduced the Metro Pass, which allows passengers access to unlimited use of the FAX and Clovis fixed route systems. See Table 2.4 for Fare Structure.

Table 2.4
FAX Fare Structure

Fare Category	Adult Fare FAX	Adult Fare HANDY RIDE
Single Ride	$1.00	$0.75
Token/10 Tokens	$ .85/$8.50	N/A
#Metro Pass	#$40.00	N/A
Monthly Pass	$35.00	$25.00
***Half month pass**	*$17.50	N/A
	Senior/Disabled Fare FAX	**Senior/Disabled Fare HANDY RIDE**
Single Ride	$ .35	$.75
Monthly pass	$10.00	N/A

* The FAX Half month pass is available after on the 15th day of each month
# The FAX Metro Pass is for use on FAX and Clovis Stageline services

Note: FAX fare increase became effective August 1, 2002.

2.7.0 Customer Services

FAX has made a commitment to provide high quality service, and to portray a positive image of FAX, Handy Ride and public transit in general by providing customer services described below:

2.7.1 World Wide Web

FAX as part of the City of Fresno maintains a World Wide Web page on the Internet (**http://www.fresno.gov/fax**) which includes maps and schedules of the transit system.

2.7.2 Public Information Programs

Public information is the cornerstone of a successful transit system. FAX's public image has been enhanced and shaped by a focus on accuracy and consistency of message. Described below are various information services and programs FAX offers to meet the needs of our customers.

Information Services - FAX provides transit information and trip planning services by phone, through mail or in person. FAX's maps and schedule guides are available in over 30 locations citywide. In FY 2004, FAX introduced the 621-RIDE number which provides easier access for passengers to all FAX services. FAX has installed announcements on all buses which provide passengers with bus stop locations and times while on the buses. FAX has also installed On-Street Signs at the Manchester Transit Center, Downtown Shelters, Fresno State University and other locations, which provide actual real arrival and departure times for all routes while passengers are waiting for instant assurance that they have not missed their bus.

Manchester Information Center - FAX operates a walk-up Customer Service Center at the Manchester Mall in central Fresno. The center allows customers to receive personalized trip planning, pick up schedules, purchase passes and tickets, and register a passenger suggestion or complaint.

Downtown Information Center - In 2005, FAX opened the Downtown Service Center. This office is located near the Downtown shelters and provides passengers with access to FAX services such as route information, trip planning, pass sales, Lost and Found, and other customer related issues.

Outreach and Partnership Programs - FAX provides public outreach to various social service groups in the area including Senior groups, Students and new immigrants in an attempt to familiarize citizens with the advantages of using transit. In FY08, FAX staff attended over 20 different events in the community. Staff provided these public groups with information on how to use public transit, how to read schedules and maps, and about the role transit plays in protecting the environment.

Multi-cultural Marketing Programs - FAX provides bilingual materials and use of bilingual advertisements to reach, educate, and promote ridership among the multi-cultural communities. In a July 2007 customer satisfaction survey conducted by AIS Research it was determined that over 45% of FAX passengers were from the multi-cultural community.

Employer Services Program - FAX's employer services program is designed to benefit local employers by increasing awareness and interest in FAX services. Among the services offered are free informational and promotional materials, on-site promotions, and trip planning assistance. FAX also provides service to several major employers in the area and continues to seek ways to encourage Single Occupant Vehicle riders to consider alternative transportation choices.

Media Relations - FAX interacts as needed with local media to promote existing and new services, programs and issues involving transit. Information is provided in English, and Spanish, and is designed to provide general awareness of FAX to both the media and the public alike.

2.7.3 Transit Security Program

FAX customers value safety and security when using the transit system and to address these concerns:

Transit Security Plan - FAX security plan provides a highly visible security presence for our transit customers and employees. FAX uses City of Fresno police officers to deliver system wide protection. Our customers see uniformed patrol officers on buses and at transit facilities. As a result of the police presence, passengers feel safer, and public property has been protected from vandalism and graffiti. Since the introduction of the police officers, the number of crimes has been reduced.

Video Surveillance System - In an effort to prevent graffiti and vandalism on buses, FAX identified the need for an On Board Video Surveillance program. It is believed that the presence of the video surveillance cameras serve as a deterrent to vandalism and other crimes. FAX is in the process of evaluating new technology in the field of on-board video surveillance, with the intention of procuring new equipment in 2009. Another capital project utilizing ARRA funds is the transit facility security enhancements, including an access control system.

2.7.4 Special Community Services

FAX considers itself a good neighbor and a vital part of the community we serve. The following programs illustrate steps FAX has taken to give more than just transit services to the community:

Project Safeplace - FAX leads the nation in transit properties for the number of youth who have taken advantage of the Safeplace Program. The program is a national partnership of community organizations, schools and neighborhood businesses that provide Safeplace designated locations for children and runaways who may be exposed to crime and exploitation. Each one of FAX's 125 buses is a designated Safeplace, and since the inception of the program, over 300 youth have been assisted through the program.

Bus Interior Public Service - In an effort to work more closely with the non-profit community, FAX provides space within the buses for various organizations to provide information at no charge. During FY08, over 20 different agencies used this service to provide information regarding social services such as Narcotics Anonymous, Girl Scouts of America, Social Security Administration, and the Workforce Development Department.

Clean Fuels Program – FAX has been very involved in converting its fleet to cleaner burning fuels in an attempt to attain maximum efficiencies and to protect the environment. As part of its overall fleet FAX has 50 CNG buses with 16 more to be delivered in 2009, 3 hybrid electric buses, 4 CNG trolleys, and 62 vehicles converted with aftermarket Cleaire kits which reduce NOx emissions by 30% and PM10 by 90%. FAX has another gasoline/electric hybrid on order and completed an on site CNG fueling station which will provide fuel for the entire fleet.

2.8.0 Integration of Transportation and Land Use

Continuing growth in the FCMA over the past decade has led to increasing traffic and air quality concerns, and has elevated the role of efficient land use planning and its relationships to transportation. Land use determines commute patterns by influencing where people live and work and what convenient means of transportation are available to them to travel between these two

points. The sprawling leap frog development patterns that have characterized the growth in Fresno have placed increased pressure on the roadway system and have reduced the convenience of alternate options, such as transit, bicycling and walking. The transportation system also shapes land use patterns as development tends to occur along major transportation corridors. A key effort in achieving this goal is the City of Fresno's General Plan update which was adopted in 2003. Implicit in this document is a section on transportation and land use strategies to create better communities with multiple transportation choices such as Transit Oriented Developments (TOD's) and Pedestrian Oriented Developments (POD's).

FAX has no direct control over land use decisions. Land use policy rests with the cities and County. However, in 2002 FAX updated its Long Range Transit Master Plan which provided two strategies for encouraging growth around transit stops and stations. One of the two scenarios envisaged is a Productivity-oriented system designed to run high quality service where demand is high, and little or no service where demand is low. However, since transit is a public service paid by all taxpayers, the productivity goal must be balanced against its opposite, the need to provide benefit to everyone, which is the purpose of the coverage system. Coverage-oriented service penetrates parts of the community where transit cannot expect to operate with high productivity, either due to low densities or a built environment that is unsafe and unpleasant for pedestrians. Transit exists to serve a diverse range of purposes, including community goals for environmental quality, redevelopment, and mobility for people who cannot drive, among many others. FAX has intended to strike a balance between the two systems over the last few years, but continues to seek an optimal system.

More recently, FAX is in the process of undertaking Phase II of a Regional Public Transportation Infrastructure Study with the purpose of defining a countywide public transportation system that maximizes personal mobility by providing functional access to work, education, health care, recreation and other essential services for all county residents. The project will also focus on identifying ways to reduce vehicle miles traveled, improve air quality, and identify alternatives to the private automobile. The final plan should provide some strategies for a countywide transportation system that will be sustainable over a 50 year horizon. This study should be completed in 2011.

2.8.1 Development Review Program

The City of Fresno has a Development Review Committee which reviews all significant projects. Under this program, the City refers proposed new development projects to FAX for comment during the approval process. After comprehensive review, FAX submits recommendations for project conditions or mitigation measures to the City/County. The intent of the Development Review is to ensure compatibility between the transportation system and the development project. FAX reviews over 100 development submittals from the City per year and as a result has been essential in ensuring the construction of numerous transit related and transit friendly improvements by the private sector, such as new bus stops, bicycle and pedestrian pathways and street improvements. FAX continues to be involved in major project developments such as, Fancher Creek, El Paseo, and the South East Growth Area (SEGA) to ensure that transportation issues are given the fullest consideration.

Chapter 3

Transit Service Improvement Program

3.1.0 Introduction

FAX's Strategic Goals reflects a strong commitment to making transit a more attractive option for travelers within the FCMA. To achieve these goals, FAX plans some significant investments in system improvements. The fast growing population and employment base of the Valley has resulted in a tremendous need for additional transit services. FAX is responding to this need through an ambitious expansion plan with innovative programs and improvements to our existing services. However, in order to achieve the level of service improvements needed, FAX has to mitigate for the array of Federal, State and locally-mandated programs and priorities including air quality, energy, congestion management, and alternative fuels. The need for additional transit funding to provide FAX the flexibility to not only conform with mandated requirements, but also to improve the quality of service and initiate progressive transit measures is crucial. The following provides an overview of these areas which will ultimately impact FAX over the next five years and beyond.

Air Quality - Modifying travel demand is an increasingly important issue for the future, both in terms of congestion management and modifying travel demand. Current financial, energy, and environmental resources are overburdened, and the seriousness of this region's air quality problems may lead to implementation of more stringent measures to reduce future vehicle travel. Public transit will continue to play a major role in any proposed transportation systems management activities which are undertaken. This makes it critically important that the state and federal governments continue at least their present level of resource allocation to support local transit programs.

The Federal Clean Air Act Amendments of 1990 (FCAAA) placed tough requirements on the sources and causes of air pollution in areas which fail to meet federal air quality standards, such as the San Joaquin Valley. The Amendments require substantial reductions from all pollution sources, including transportation, and established a strengthened conformity requirement to ensure that these reductions are achieved. The term "air quality conformity" refers to the process whereby transportation plans, programs and projects are shown to conform to the requirements of the Clean Air Act Amendments and applicable State implementation Plan (SIP).

Fresno County is located in the center of the San Joaquin Valley Air Basin (SJVAB) with a rapidly growing population of 900,000. Projections indicate that the population will double by 2050. Fresno County, as part of the SJVAB, faces an air quality challenge greater than any other region in the nation as a multi-nonattainment area for the national ambient air quality standards. Fresno County is designated as non-attainment for particulate matter less than 2.5 microns (PM2.5), non-attainment for ozone (the 2007 Ozone Plan requested redesignation to "Extreme" classification), and has maintenance plans in effect for carbon monoxide and particulate matter less than 10 microns (PM10). The very same characteristics that make the Valley the world's most productive agricultural region also create optimal conditions for creating and trapping pollution. Due to the Valley's unique geography and meteorology, the bowl shaped valley is perfect for the creation of ozone in the long hot summers and the trapping of particulates in the cold damp winter months. This makes it critically important that the

state and federal governments continue at least their present level of resource allocation to support local transit programs.

Federal Requirements - Federal and state legislation requires an integrated transportation/air quality planning process. The Federal Clean Air Act (FCAAA) reaffirmed that all nonattainment areas are required to attain the National Ambient Air Quality Standards. The Amendments called for implementation of all reasonably available control measures to reduce air pollution levels. Numerous specific reductions of emissions and an aggressive attainment time frame were required. Although the San Joaquin Valley Air Pollution Control District is responsible for implementing most Federal Clean Air Act requirements, Metropolitan Planning Organizations are responsible for the development and implementation of transportation control measures and conformity analyses. The FCAA established a close link between clean air goals and transportation investments. Where air quality requirements are not being met, sanctions on highway program funds may be imposed under the act.

- **Charter Service -** On April 30, 2008, the Federal Transit Administration formally adopted a new Charter Service Rule. The new definition of charter service is as follows:
  - "Charter service" means, but does not include demand response service to individuals:
  - Transportation provided by a recipient at the request of a third party for the exclusive use of a bus or van for a negotiated price. The following features may be characteristic of charter service:
    - A third party pays the transit provider a negotiated price for the group;
    - Any fares charged to individual members of the group are collected by a third party;
    - The service is not part of the transit provider's regularly scheduled service, or is offered for a limited period of time; or
    - A third party determines the origin and destination of the trip as well as scheduling; or
  - Transportation provided by a recipient to the public for events or functions that occur on an irregular basis or for a limited duration and:
    - A premium fare is charged that is greater than the usual or customary fixed route fare; or
    - The service is paid for in whole or in part by a third party.

FAX is in compliance with the FTA issued charter service regulations which prohibit public transit operators from utilizing federally-funded equipment or facilities for charter service if there are any willing and able private charter operators available. FAX, however, may provide charter service if it qualifies for one or more of the exceptions stated in Federal Register 49 CFR Section 604.9, as follows:

- Government Officials
- Qualified Human Service Organizations (elderly, persons with disabilities, and low income individuals)
- When no registered charter provider responds to a notice sent by a recipient
- Leasing (must exhaust all available vehicles first)
- By agreement with all registered charter providers
- Petitions to the Administrator:
  - Events of Regional or National Significance

- Hardship
- Discretion

State Requirements - In order to ensure the future health and welfare of the people, the State's environment, and the economy, the California Clean Air Act was adopted. The passage of this bill ensured the protection despite lack of action or direction from the federal government. From a transportation perspective, the bill facilitates the adoption and implementation of regulations to reduce emissions from indirect and area wide sources, to improve motor vehicle maintenance and inspection, the use of cleaner burning fuels, the implementation of stricter than federal new vehicle emission standards, and to encourage mobile source strategies and transportation control measures (TCM) such as ridesharing, vanpooling, flexible work hours, and increased multi-passenger trips through mass transit or other measures in order to reduce single occupancy vehicle usage. The federal CAA allows California to apply for a special federal preemption waiver for programs that are more stringent than federal regulations require.

State legislation was passed during FY91 which allows the formation of an eight-county San Joaquin Valley Air Pollution Control District (SJVAPCD). The eight counties are Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare, and the valley portion of Kern. (The eastern portion of Kern County falls outside the San Joaquin Valley Air Basin and lies within the Mojave Desert Air Basin.) The SJVAPCD has the authority to adopt rules and regulations to protect the public health and prevent violations of ambient air quality standards in the San Joaquin Valley Air Basin. The SJVAPCD prepares attainment demonstration plans (State Implementation Plans) for criteria pollutants. Ultimately, the role of mass transit will be reflected in these plans and will become an important factor in alleviating traffic congestion and improving air quality.

Local Programs - In recognition of the extraordinary challenges that face the San Joaquin Valley Air Basin, AB 2522 was signed into law in 2008. This bill allows the SJVAPCD to increase the surcharge on vehicle licensing fees up to $30 annually per motor vehicle. This bill provides significant additional funding to improve air quality through incentive-based programs. In the past, programs such as auto buy-back, heavy duty vehicle incentive for cleaner engines, vehicle exhaust smoke monitoring and related TCM's have been funded.

Federal Congestion Management System - With the chaptering of AB 2419 (Bowler), Fresno County's Congestion Management Process became optional if local agencies decided to exempt themselves from Congestion Management Process (CMP) requirements. In November 1996, the state CMP requirements were suspended for Fresno County until such time that it is determined that the state CMP is required to fulfill federal Congestion Management Process (CMP) requirements. Fresno County's Congestion Management System was developed to fulfill legislative requirements that the planning process in Transportation Management Areas (TMA) include a CMP. This means that Federal funds may not be programmed for carbon monoxide and/or ozone nonattainment TMA for any highway project that will result in a significant increase in single-occupant-vehicle (SOV) capacity unless the project is based on an approved CMP. Fresno County is designated as a nonattainment TMA for both PM^{10} and ozone and as such is required to follow both planning regulations.

Need for Additional Transit Funding - The key problem facing all transportation modes is still the lack of available financing. For public transportation, both service enhancement and ongoing operations and maintenance funding issues remain. Traditional sources of transit funding even when augmented by a locally approved 1/2 percent sales tax, are inadequate to meet identified public transportation needs within the FCMA. Other sources such as the SJVAPCD Remove grants and Moyer funds, and Petroleum Escrow Violation Account (PEVA) funds continue to be pursued. While these sources may

provide some one-time capital or short-term project demonstration funds, necessary ongoing operating revenues must be obtained if public transportation is to meet the goals outlined in the Regional Transportation Plan.

The financial outlook assumes stable revenue sources over the next five years. Any significant unanticipated decline in this revenue stream likely would result in reduced levels of service to the community or increases in fares to offset any deficits.

The **Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** is a bill that governs United States federal surface transportation spending. It was signed into law by President George W. Bush on August 10, 2005 and will expire September 30, 2009. Congress is expected to begin working on a replacement bill for the next six-year period during its 2009 session.

The $286.4 billion measure contains a host of provisions and earmarks intended to improve and maintain the surface transportation infrastructure in the United States, including the interstate highway system, transit systems around the country, bicycling and pedestrian facilities, and freight rail operations.

SAFETEA-LU builds on the success of two previous surface transportation authorization laws, the Intermodal Surface Transportation Efficiency Act (ISTEA; P.L. 102-240) and the Transportation Equity Act for the 21st Century (TEA 21; P.L. 105-178). Under it, the federal transit program structure remains largely the same, retaining formula programs that target federal investment to systems and communities based on need and capital investment programs that address special needs and projects. Nonetheless, as summarized in this guide, the new law makes a number of changes to existing programs and adds new ones.

SAFETEA-LU represents a hard-fought victory for the public transportation industry and is consistent with the key reauthorization goals adopted by APTA–46; Board of Directors in 2002: grow the program; maintain funding guarantees; and expedite program delivery.

Goals:

- Provides a record level of federal transit investment, $52.6 billion over 6 years, an increase of 46 percent over the amount guaranteed in TEA 21;
- Increases annual guaranteed transit funding from a level of $7.2 billion in FY 2003 (the last year of TEA 21) to $10.3 billion in FY 2009;
- Retains annual funding guarantees to ensure long-term funding stability; and
- Improves program delivery.

Dedicated Local Support - On November 7, 2006 the voters of Fresno County authorized the continuation of a ½ cent retail transaction and use tax over twenty years. The sales tax extension will provide an estimated $1.7 billion in new revenues for transportation improvements throughout the county according to projections estimated through 2027. Prior Measure C funds were allocated at the discretion of the Fresno City Council. The reauthorized measure dedicated approximately 13% of the revenue to FAX as a Local Agency Pass-through. Through Measure C, FAX is estimated to receive

$235 million over the twenty year life of the measure. This amounts to approximately $11.7 million per year. Fresno Area Express has established two programs to guide the expenditures of Measure C funds:

Primary Program – The goal of the Primary Program is to improve the level of public transit services within the City of Fresno and to continue to seek ways to coordinate and/or consolidate public transit services to achieve a seamless transit system for the public.

- Improve bus frequencies to every 15 minutes on the busiest routes on the public transportation system in Fresno
- Enhance the delivery of paratransit services to the disabled community consistent with federal and state law
- Install and integrate a regional Automated Fare Collection System (AFC) to enhance transit coordination and seamless passenger travel between transit systems
- Complete fleet conversion to low emission buses
- Expansion of service areas to all riders, as Fresno's sphere of influence changes
- Free general public transit fares for Seniors 65 years of age and older

Secondary Program – Secondary Programs include improvements that will be funded after projects in the Primary Program are implemented, provided that funding is available.

- Extend weekend service hours
- Enhance the delivery of paratransit services to the senior community
- Pursue other alternative mass public transportation options such as bus rapid transit, automated people movers, light rail, etc.
- Deploy other operational and infrastructure improvements such as "real time" bus arrival and departure information displays to provide better service to transit users
- Taxi Scrip Program for Seniors 70 years of age and older

Measure C has the potential to have a major impact on public transit in the City of Fresno, and to date, a number of the programs goals have been implemented or are in the planning stages. These include free senior travel, taxi scrip, and the AFC (Fall 2009). However, with the recent economic downturn coupled with reduced state funding, FAX has delayed a number of the other projects. In 2008, Actual Measure C revenue was $8.6 million compared to initial estimates of $11.7 million. This represents a 26% decrease in actual revenues. Fiscal year 2009 is budgeted to drop an additional 7% to $8.0 million and FY 2010 is expected to level out at $7.7 million.

3.2.0 Improvement Program for Current Service

In order to achieve the goal of maintaining financial stability, FAX must continuously seek improvements in service productivity and cost effectiveness. Since the majority of FAX's budget is spent to provide service on the street, it is critical that service be regularly monitored to ensure these resources are being utilized to the fullest extent possible. FAX has addressed system productivity by instituting an ongoing program of service evaluation to identify inefficient use of resources and respond with corrective measures. To address cost effectiveness, FAX has instituted programs to reduce

operating costs and help achieve the highest fare box revenue return as possible. The TDA requires FAX to meet a 20% farebox, and in FY08, FAX exceeded this requirement with a 24.1% farebox return.

In addition, transit service as a means of reducing air emissions has been much debated over the years and the results vary considerably, but several points are worth noting: (1) older, diesel buses do not seem to provide an emissions benefit; (2) with improved technology in future years, buses need to carry more passengers to offset the improvements in passenger vehicle emissions, and (3) the passengers must not be transit dependent to achieve an emissions benefit.

Transit serves an essential social need and is necessary for many transit-dependent residents. As Fresno Area Express (FAX) and other transit agencies work to convert their diesel fleet to compressed natural gas (CNG), we will definitely see an improvement over current air quality emissions. Current CNG standards and emissions, including in-use testing, show emission benefits over diesel engines. However, justifying bus transit versus light-duty vehicles as "key" to solving our air quality problems is somewhat difficult to justify, given the average number of non-transit dependent passengers that would need to be on each bus. Nonetheless it is one of the pieces of the clean-air puzzle we will pursue, with sufficient and appropriate ridership to be sought.

Ozone is formed by a reaction of sunlight, NOx, and Reactive Organic Gases (ROG). Buses typically have lower ROG emissions, which would lower the number of passengers necessary to see an emissions benefit. However, NOx emissions were used for several reasons:

Due to the cursory review of the topic, it was more efficient to focus on one pollutant. Pollutant interactions make the analysis more complex with a greater time requirement. Most of the recommended calculations and funding programs for bus and heavy-duty diesel engines, including Carl Moyer and the Congestion Mitigation and Air Quality (CMAQ) program, focus primarily on NOx and Particulate Matter (PM10) emissions. Emission factors for ROG are not usually provided. NOx is considered by the San Joaquin Valley Air District to be a “keystone pollutant”. While ROG is primarily a concern with ozone in the summer months, NOx is a significant precursor to ozone in the summer and particulate matter (PM10 and PM2.5) during the fall and winter. Therefore, equal weighting of both pollutants does not take into account the unequal contribution to annual air pollution. Direct comparisons of PM10 emissions may not represent the true health risk and contributions to air quality. Higher health risks are associated with diesel PM10. ARB has listed Diesel Exhaust PM10 as a toxic air contaminant; in fact, Diesel Exhaust PM10 is believed to represent over 70% of the ambient airborne toxics of cancer risk in the state.

Due to these considerations, NOx was the primary pollutant of concern and considered most relevant for the comparison. However, this first review also had a more limited scope, and, as a result, may be open to additional comments and criticism.

Estimates are based on emission factors from ARB’s “Methods to Find the Cost-Effectiveness of Funding Air Quality Projects,” which is often used for calculation of emission reductions and cost-effectiveness for programs such as the CMAQ program and the San Joaquin Valley Air District REMOVE program. Using a standard Diesel Bus (1998 standards), CNG Bus (2.0 g/bhp-hr NOx certification), and Light-Duty Vehicles (1995 to 2003). Estimates of the number of passengers necessary to achieve a lower emission factor (g/passenger/mi) are summarized in Appendix F.

EMFAC (Emission Factors model) is the Air Resources Board model for local, regional, and state emission calculations. Using vehicle miles traveled from the Fresno COG model, emission estimates were calculated for Fresno County in 2002 and 2010. Recognizing the requirements for conformity and standard modeling procedures, the summer season was modeled for ozone, and annual emissions were estimated for PM10. A comparison of the break-even point for number of passengers indicates little difference between summer and annual ozone calculations.

It appears that the number of passengers necessary to show an emissions benefit increases over time. Reduction in emissions from the light-duty vehicle fleet will exceed those reductions expected by transit buses. The only exception to this rule is directly-emitted PM10; as transit buses continue to see improvement to direct emissions, through control devices and upcoming emission standards, fewer passengers are necessary to offset the emissions.

Additional analysis provided by the Air Resources Board has estimated that a 4.0 g/bhp-hr bus (1998 standards) will "break-even" with passenger vehicles carrying approximately 20 passengers. If a bus has improved emission standards, the number of passengers necessary to "break-even" is even lower. ARB Calculation Methodology for CMAQ and other air quality projects provide the emission factors for various vehicle types. Using these standard factors, which are not necessarily representative of the on-road vehicle fleet, diesel buses, CNG buses, and light-duty vehicles, the Council of Fresno County Governments determined that with this scenario, diesel buses never achieved a lower emission rate than light-duty vehicles. CNG buses, similar to those used by FAX, need to carry 25 passengers to realize an emissions benefit.

In summary, when the Fresno COG used EMFAC 2000 with model runs for 2002 and 2010 Annual Ozone Emissions and similar to the ARB equation used emissions from light-duty vehicles and motorcycles, divided by VMT, to determine the emission factor. The results for 2002 suggest that buses with 14 passengers would have lower emission factors than passenger vehicles. By 2010, buses need to carry 28 passengers to have a lower emission factor. The study is included as Appendix F.

3.2.1 Route Evaluation Process

The primary assessment of transit service is accomplished by measuring individual route performance using FAX's route evaluation process. When appropriate, corrective action is taken to modify route alignments, and change the service schedule to ensure that resources are used in the most productive manner.

3.2.2 Key Transit System Performance Indicators

There are many methods for evaluating the efficiency and effectiveness of public transportation service. Because each method has unique strengths and weaknesses, FAX employs several service evaluation methods. Among the methods used are: peer review analysis, system minimums assessment, and passenger surveys.

Peer Review Analysis - Peer Review Analysis uses standard service measurement criteria to compare one system's performance against another. This kind of analysis is most valuable when standard, well controlled data sets are available, and when the systems being evaluated have similar operating environments.

FAX Peer Review Analysis - For this Peer Review Analysis, five California transit agencies were selected: Modesto Area Express (MAX), Visalia City Coach, Sacramento RTD, Bakersfield (GET), and Stockton RTD. All five agencies are Federal Transit Administration (FTA) Grant Recipients, and therefore, required to provide their system performance data to the National Transit Database (NTD). Furthermore, because these are all California agencies, they must operate under the same California State Transportation Development Act Guidelines.

Modesto Area Express (MAX) and Visalia City Coach were selected because they operate in the closest proximity to Fresno. Sacramento RTD, Stockton RTD, and Bakersfield (GET) were selected

because they are closest in fleet size and operating characteristics to Fresno. None of these properties are an exact match to FAX; however, their experience will help define FAX's stature among peer agencies.

As shown in Table 3.1, System Comparison - Cost Effectiveness, FAX places very well among the selected peers in two of the four categories. With an average of 42.42 passengers per hour, 58 percent higher that the peer system average, FAX ranked number one in this important productivity indicator. In the Cost per Passenger trip comparison, FAX is ranked third with a cost per passenger trip that is 54.3 percent lower than the peer system average.

Table 1 shows FAX's operating expense per hour as $91.90, or 6.3 percent higher than the peer system average. However, an analysis of peer systems also reveals the three lowest hourly expense figures come from properties where the transit operators are contracted outside of the agencies, leading to lower labor costs.

Table 3.1
System Comparison - Cost Effectiveness
National Transit Database FY2007

System	Passengers /Mile		Passengers /Hour		Cost/ Passenger		Operating Expense/ Hour		Overall Ranking	
Fresno (FAX)	***3.59***	***(1)***	***42.42***	***(1)***	***$2.17***	***(3)***	***$91.90***	***(4)***	***9***	***(1)***
Modesto (MAX)*	2.11	(3)	27.14	(2)	$2.56	(1)	$69.42	(3)	9	(1)
Sacramento RTD	2.29	(2)	24.85	(3)	$4.71	(5)	$117.06	(6)	16	(5)
Visalia City Coach*	1.35	(5)	16.88	(5)	$3.66	(4)	$61.78	(1)	15	(4)
Bakersfield (GET)*	1.85	(4)	22.95	(4)	$2.90	(2)	$66.47	(2)	12	(3)
Stockton RTD	1.13	(6)	15.99	(6)	$7.09	(6)	$113.40	(5)	23	(6)
System Average	2.23		26.74		$3.35		$97.65			

(* These systems are operated under contracts with private operators.)

It is important to remember that each of the systems used in this comparative analysis has its own unique set of operating properties that can have significant impacts on various performance measures. For instance, Sacramento RTD's passengers per hour, while less than that of FAX, also includes longer service hours for evening and weekend service and more frequent service headways, typically RTD operates on 15-minute headways rather that FAX's typical 30-minute headways. Because night service is universally less productive, by providing longer service hours RTD's passenger productivity data is driven down.

The same is true for providing more frequent service, increasing service frequency from 30-minute to 15-minutes effectively doubles the number of service hours; however, only in very rare cases would this lead to a doubling of passenger trips. So, while improved service frequency and longer service hours are important and positive service improvements, they also reduce overall passenger productivity.

Similarly, Stockton RTD provides a high level of commuter service to the Bay Area. Commuter services are predominantly composed of long distance express service. In terms of productivity, commuter services tend to be lower in passenger per hour and mile, and higher in cost per passenger. This is certainly reflected in Stockton RTD productivity,

When viewing the cost per hour of the systems under comparison, one notes that costs appear to increase in unison with the size of the system, and/or of the population served. In fact, this turns out to be generally true among all transit systems. There are many reasons for this to happen. First, the cost of living tends to be higher in larger urban areas. We might compare the cost of housing in Fresno versus San Francisco or Sacramento. The higher cost of living in turn drives up the cost of labor. Another fundamental difference in larger systems versus smaller systems is the level of expectation for certain passenger amenities including transit stations and transfer facilities. Further, public information materials and supportive services such as customer service agents and other support staff add significantly to the cost of doing business.

As with improved service frequencies and service duration, improvements in passenger amenities and supportive services are positive improvements in customer service; however, these improvements come at a significant cost.

System Minimums Assessment - System Minimums Assessment uses measurements from the system under evaluation to assess minimum levels of efficiency and effectiveness of its component sub-systems. The strength of this service evaluation method is that it makes allowances for unique operating practices and environments.

FAX Systems Minimums Assessment - FAX Minimum Standards are established both through legislation and local effort. From a legislative perspective, Federal and State regulations require public transit operators to provide and maintain service in some very specific ways. FTA has rules governing the provision of "Charter Service." Also, Title VI of the Civil Rights Act of 1964 states the following:

> ***"No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discriminations under any program or activity receiving Federal financial assistance."***

As part of the Title VI regulations, FAX must provide a Title VI Evaluation Report every three years. There are two sections to this report. The first section, General Reporting Requirements, contains information concerning active lawsuits and complaints, a description of any pending applications for Federal financial assistance, a summary of civil rights compliance review activities, FTA civil rights assurances, and fixed-facility impact analysis. The second section, Program Specific Requirements, contains information regarding the Title VI internal review process for service delivery, the internal monitoring process, the service standard policies, and a description of service changes specific to the Fresno Area Express fixed-route transit system and its impacts on the minority population. The Title VI assessment is designed to ensure that FAX provides its services equally among various population groups. Specifically, census tracts designated as "Minority Census Tracts" must be evaluated and compared to Non-Minority Census Tracts to determine whether any discriminatory practices are evident.

The State TDA regulations require FAX to maintain a minimum 20 percent farebox recovery ratio. The TDA also places restrictions on the use of State Transit Assistance (STA) Funds. Regulations require transit agencies to keep cost increases under the State Cost of Living Index (CPI). If cost increases exceed the State CPI, transit agencies are not allowed to use STA Funds for operating expenses.

Finally, local and regional concerns are used to develop minimum productivity standards. For FAX, these standards are developed through a coordinated, comprehensive, continuous process carried out by the Council of Fresno County Governments (Fresno COG). The Fresno COG's Regional Transportation Plan (RTP) and Short-Range Transit Plan for the Fresno-Clovis Urbanized Area (SRTP), set guidelines for service evaluation. Additionally, each year the Fresno COG prepares the Annual Transit Productivity Analysis. This document assesses all public transit operators in Fresno County, and reviews the most recent Triennial Audit recommendations.

In 1981, and Transit Corridor Analysis was completed which evaluated the efficiency and effectiveness of service on a route-by-route basis. At that time, service measures were developed to assist in evaluating individual route performance in relation to the system-wide performance. Those minimum performance measures continue to be the basis of local service evaluation. At a minimum, an individual route should exceed 60 percent of the system-wide average for a number of key indicators. The 60 percent figure is an overall industry standard that assumes a transit system may tolerate some low performing routes if they provide an important component of the system, and especially if the component helps meet the needs of the transit dependant riders. FAX uses several operational indicators to measure the performance and financial status of the system and individual routes. Individual routes should achieve 60 percent of the system average, except for those indicators which measure cost efficiency. Cost performance measures should not exceed 140 percent of the total system average, with 140 percent representing the system maximum. Table 3.3 shows individual routes and their performance in various categories.

Table 3.2 reflects individual routes and their performance in various categories. The bottom line of the table shows the total gross indicators, and the system-wide performance measure. Starting with the first minimum indicator, Passengers / Service Hour, 60 percent of 45.42 is 27.25. Indicators that do not meet the system standard are shown in **boldface** type. Moving to Cost / Service Hour, the system-wide average is $94.90, with 140 percent of that being $132.86. Route indicators which exceed this maximum are shown in **boldface** type. The third indicator is Cost / Passenger. The FAX system-wide average is $2.09, with 140 percent of that being $2.92. As with the other indicators, those that exceed the maximum have been **boldfaced.** The final indicator is a farebox recovery ratio. The FAX system-wide average is 22.9 percent, with 60 percent of that being 13.8 percent. Again, those indicators that do not achieve the minimum are shown in **boldface** type.

Table 3.2
FAX Summary of Key Operational Indicators
July - June 2007-2008

Route	Passengers	Miles	Hours	Farebox	Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass.	Fare/ Op. Cost
Route 09	902,549	292,165	22,539	$446,801	$2,217,352	40.04	3.09	$98.39	$2.46	20.1%
Route 20	650,197	186,420	13,347	$353,843	$1,414,928	48.71	3.49	$106.01	$2.18	25.0%
Route 22	1,073,753	298,541	22,782	$516,234	$2,265,926	47.13	3.60	$99.46	$2.11	22.8%
Route 26	1,792,668	512,987	39,138	$899,687	$3,893,571	45.80	3.49	$99.48	$2.17	23.1%
Route 28	2,928,496	555,784	52,172	$1,345,565	$4,218,401	56.13	5.27	$80.86	$1.44	31.9%
Route 30	1,848,923	449,899	39,578	$868,989	$3,414,733	46.72	4.11	$86.28	$1.85	25.4%
Route 32	1,400,694	301,712	28,157	$627,827	$2,289,994	49.75	4.64	$81.33	$1.63	27.4%
Route 33	281,469	100,875	6,924	$141,104	$765,641	40.65	2.79	$110.57	$2.72	18.4%
Route 34	1,519,724	449,612	38,082	$725,635	$3,412,555	39.91	3.38	$89.61	$2.25	21.3%
Route 35	592,140	177,379	13,100	$288,037	$1,346,307	45.20	3.34	$102.77	$2.27	21.4%
Route 38	2,027,336	634,314	45,298	$1,014,107	$4,814,443	44.76	3.20	$106.28	$2.37	21.1%
Route 41	1,363,242	331,881	25,521	$654,323	$2,518,977	53.42	4.11	$98.70	$1.85	26.0%
Route 45	376,147	186,566	12,493	$194,269	$1,416,036	30.11	**2.02**	$113.35	**$3.76**	**13.7%**
*Route 18	34,323	5,507	428	$17,300	$41,798	80.12	6.23	$97.57	$1.22	41.4%
*Route 58	18,747	55,192	3,799	$12,957	$418,907	**4.93**	**0.34**	$110.27	**$22.35**	**3.1%**
Route 12	14,958	31,185	2,082	$4,043	$236,694	**7.18**	**0.48**	$113.69	**$15.82**	**1.7%**
*Route 40	215	5,966	707	$22	$45,282	**.30**	**0.04**	$64.06	**$210.77**	**0.0%**
Route 56	12,829	59,800	3,740	$3,706	$453,882	**3.43**	2.21	$121.37	**$35.38**	**0.8%**
*Route 04	89,880	23,866	2,795	$0	$181,143	32.16	3.77	$64.82	$2.02	**0.0%**
	16,928,291	4,659,651	372,683	$8,114,448	$35,366,751	**45.42**	**3.63**	**$94.90**	**$2.09**	**22.9%**
System-Wide Totals						**System-Wide Ratios**				

(* Routes indicated receive funding support from outside agencies.)

At this point in the analysis, it is important to note the routes marked with an asterisk. Routes 18, 58, 40 and 4, are routes that are subsidized by outside agencies. In the case of Route 18, Fresno County Unified School District pays the incremental costs associated with this service in order to maintain service to the Regional Occupational Program (ROP) Campus located at Teilman and Nielsen Avenues. Route 58 provides service to Children's Hospital of Central California (Children's Hospital), and receives incremental funding from Children's Hospital. Route 4 is the Downtown Parking Trolley service, and is paid for through an agreement with Fresno County. Route 40 was a service extension to route 33 that was funded by the developer of a large, low-income housing development. Route 40 was discontinued in 2008 due to a loss of funding. It should be noted that at that time, route 40 was severely under-performing in nearly all categories.

Incremental costs are the direct costs associated with the service (such as fuel, tires, and driver wages). Incremental costs do not include overhead costs (such as, FAX Administration costs or facility costs). Revenues received from the farebox on these routes are earned in addition to incremental costs.

The two routes shown in gray fill indicate service performance outside of established minimum or maximum standards (Routes 45 and 12) deserve further explanation. Route 45 (Herndon Avenue, MTC, Ashlan Avenue) is the only weekday route that FAX operates on an hourly headway. This route has had low performance in every evaluation over the last ten years. In 1999, at the request of Council, Route 45 was extended north of Shaw on Palm, and east on Herndon to serve the medical center

located at Herndon and Milburn. At the time, Council had received numerous requests to serve the medical facility. Currently, Route 45 is the only route providing service to the medical facilities at Herndon and Milburn, and is also the only route providing service to the Association of Retarded Citizens (ARC) Production Center located at Shields and Clovis Avenue. This route has the highest number of disabled riders in the system.

Route 12, the Fresno Area Neighborhood Service (FANS), is deviated fixed-route circulator service. This is an unconventional service which is a hybrid between conventional fixed-route service and demand-responsive service. Residents in this area can call as little as an hour ahead of time and reserve a ride to or from any location within the FANS service area. Other customers use the service as a conventional fixed-route system. Although the FANS service is performing well below established FAX fixed-route norms, the system is operating at twice the productivity level of our typical demand-responsive service. This program is primarily serving the residents of the Senior Citizens Village in southeast Fresno.

FAX Route Ranking – As shown in Table 3.3 reflects how each route compares with other routes in the system. Using five key indicators including, Percent of Farebox Recovery, Passenger Trips per Revenue Hour, Passengers per Mile, Operating Cost per Hour and Operating Cost per Passenger. The five key indicator scores for each route were then averaged to develop an overall route ranking score. As expected, the overall ranking places the routes which exceeded system minimum and maximum standards at the bottom of the list. Also, routes 4, 40, 18 and 58 operated on schedules limited under contracts with outside agencies.

Table 3.3
FAX Route Ranking
July - June 2007-2008

Route	Passengers/ Hour	Passengers/ Mile	Cost/ Hour	Cost/ Passenger	Farebox Recovery	Rank
*18	1	1	7	1	1	1
28	2	2	3	2	2	1
32	4	3	4	3	3	3
30	7	4	5	4	5	4
41	3	5	9	5	4	5
22	6	7	10	7	8	6
20	5	9	13	9	6	7
26	8	8	11	8	7	7
*4	14	6	2	6	19	9
34	13	10	6	10	10	10
35	9	11	12	11	9	11
9	12	13	8	13	12	12
38	10	12	14	12	11	13
33	11	14	16	14	13	14
*40	19	19	1	19	18	15
45	15	15	17	15	14	15
*58	17	17	15	17	15	17
12	16	16	18	16	16	18
56	18	18	19	18	17	19

(* Routes indicated receive funding support from outside agencies.)

Weekend Service Indicators - Table 3.4 (Fresno Area Express Saturday Service), and Table 3.5 (Fresno Area Express Sunday Service Indicators) utilize a similar methodology to assess weekend route performance. As indicated by the **bold type**, two routes show indicators outside of acceptable standards (Routes 45 and 58). System-wide, FAX's weekend service provides 45.56 passengers per revenue hour on Saturday, and 39.18 passengers per revenue hour on Sunday. The minimum acceptable would be 60 percent of those measures, or 27.34 passengers per revenue hour for Saturday and 23.51 passengers per revenue hour for Sunday.

Passengers per mile averaged 3.45 on Saturday, and 2.96 on Sunday, therefore, the minimum productivity standards is 2.07 and 1.78 respectively. Cost per passenger average on Saturday was $2.20 and on Sunday $2.56. Using the 140 percent standard, the Saturday maximum would be $3.08 and the Sunday maximum would be $3.58. The farebox recovery ratio for Saturdays averaged 21.3 percent, while on Sundays the average farebox recovery ratio was 18.5 percent. As with the passengers per hour measure, we evaluate individual routes based on a minimum of 60 percent of the system average, or 12.8 percent for Saturdays and 11.1 percent for Sundays. As noted earlier, Route 58 receives funding support from Children's Hospital.

Table 3.4
Fresno Area Express Saturday Service Indicators
July 2007 to June 2008

Route	Passengers	Miles	Hours	Revenue	Operating Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass	Farebox Recovery
9	101,016	41,050	2,706	$51,801	$311,570	37.35	2.46	$115.14	$3.08	16.6%
20	47,193	17,928	1,286	$24,194	$136,074	36.71	2.63	$105.84	$2.88	17.8%
22	91,600	26,917	2,017	$43,349	$204,300	45.42	3.40	$101.31	$2.23	20.7%
26	137,272	39,678	2,713	$63,906	$301,156	50.60	3.46	$111.00	$2.19	21.2%
28	232,752	47,058	3,905	$105,764	$357,170	59.61	4.95	$91.47	$1.53	29.6%
30	176,667	39,801	3,450	$78,773	$302,090	51.21	4.44	$87.57	$1.71	26.1%
32	150,014	41,295	3,512	$67,949	$313,429	42.71	3.63	$89.24	$2.09	21.7%
33	23,724	8,527	585	$11,682	$64,720	40.58	2.78	$110.71	$2.73	18.1%
34	152,551	40,272	3,408	$71,595	$305,664	44.77	3.79	$89.70	$2.00	23.4%
35	54,293	17,624	1,301	$26,117	$133,766	41.73	3.08	$102.80	$2.46	19.5%
38	171,436	54,491	3,908	$83,099	$413,587	43.87	3.15	$105.84	$2.41	20.1%
41	114,950	28,710	1,964	$55,040	$217,909	58.52	4.00	$110.94	$1.90	25.3%
45	29,020	20,400	1,366	$14,167	$154,836	**21.24**	**1.42**	$113.32	**$5.34**	**9.1%**
*58	921	6,528	438	$672	$49,548	**2.10**	**0.14**	$113.20	**$53.79**	**1.4%**
	1,483,459	430,279	32,557	$697,108	$3,265,818	45.56	3.45	$100.31	$2.20	21.3%
	System-Wide Totals					**System-Wide Averages**				

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Table 3.5
Fresno Area Express Sunday Service Indicators
July 2007 to June 2008

Route	Passengers	Miles	Hours	Revenue	Operating Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass	Farebox Recovery
9	64,524	36,665	2,351	$33,148	$270,697	27.44	**1.81**	$115.13	**$4.20**	12.2%
20	34,244	15,576	1,117	$17,278	$118,222	30.65	2.20	$105.82	$3.45	14.6%
22	67,316	23,402	1,752	$30,957	$177,621	38.42	2.88	$101.36	$2.64	17.4%
26	113,409	34,478	2,357	$52,932	$261,688	48.11	3.29	$111.01	$2.31	20.2%
28	177,588	40,877	3,393	$80,580	$310,256	52.34	4.34	$91.45	$1.75	26.0%
30	122,026	34,587	2,997	$55,591	$262,515	40.71	3.53	$87.58	$2.15	21.2%
32	116,750	35,880	3,052	$53,579	$272,329	38.25	3.25	$89.22	$2.33	19.7%
33	18,623	7,406	508	$9,496	$56,212	36.67	2.51	$110.67	$3.02	16.9%
34	114,069	34,995	2,961	$54,485	$265,612	38.53	3.26	$89.71	$2.33	20.5%
35	37,751	15,309	1,131	$17,838	$116,195	33.39	2.47	$102.77	$3.08	15.4%
38	141,573	47,373	3,395	$70,864	$3529,561	41.70	2.99	$105.90	$2.54	19.7%
41	80,099	24,947	1,707	$38,981	$189,348	46.93	3.21	$110.95	$2.36	20.5%
45	19,770	17,725	1,187	$9,732	$134,533	**16.65**	**1.12**	$113.31	**$6.81**	**7.2%**
*58	609	5,651	379	$487	$42,891	**1.60**	**0.11**	$113.05	**$70.48**	**1.1%**
	1,108,351	373,8718	28,288	$525,856	$2,837,681	**39.18**	**2.96**	**$100.31**	**$2.56**	**18.5%**
	System-Wide Totals					**System-Wide Averages**				

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Weekend Service Ranking - As with the weekday service, Tables 3.6 and 3.7 use performance standards to rank each route in the system, with routes that fall below the minimum standard are ranked at the bottom.

Table 3.6
Fresno Area Express Saturday Service Ranking
July 2007 - June 2008

Route	Pass/Hour	Pass/Mile	Cost/Hour	Cost/Pass	Revenue	Rank
28	1	1	4	1	1	1
30	3	2	1	2	2	2
34	6	4	3	4	4	3
41	2	3	10	3	3	3
32	8	5	2	5	5	5
22	5	7	5	7	7	6
26	4	6	11	6	6	7
38	7	8	7	8	8	8
35	9	9	6	9	9	9
33	10	10	9	10	10	10
20	12	11	8	11	11	11
9	11	12	14	12	12	12
45	13	13	13	13	13	13
*58	14	14	12	14	14	14

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Table 3.7
Fresno Area Express Sunday Service Ranking
July 2007 - June 2008

Route	Pass/Hour	Pass/Mile	Cost/Hour	Cost/Pass	Revenue	Rank
28	1	1	4	1	1	1
30	5	2	1	2	2	2
34	6	4	3	4	4	3
26	2	3	11	3	5	4
32	8	5	2	5	7	5
41	3	6	10	6	3	6
38	4	7	8	7	6	7
22	7	8	5	8	8	8
33	9	9	9	9	9	9
35	10	10	6	10	10	10
20	11	11	7	11	11	11
9	12	12	14	12	12	12
45	13	13	13	13	13	13
*58	14	14	12	14	14	14

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Night Service - Table 3.8 below includes productivity data for FAX night service. Night service is defined as all weekday service after 6:00 p.m. As with day-to-day service evaluations, individual routes are evaluated using system productivity standards. A minimum of 60 percent for passenger performance measures, and system maximum of 140 percent for system cost measures is applied to the system averages for service after 6:00 p.m. Again, routes not performing as required are shown in boldface type. In the case of FAX night service, Routes 33 and 45 are the only routes performing outside of productivity guidelines. We note that Route 45 service stops at 9:00 p.m., and is the earliest end time for all night service routes.

As the table shows, FAX night service performance is far lower than either day or weekend service performance; however, this is typical of transit systems across the country.

Table 3.8
Fresno Area Express Night Service
July 2007 - June 2008

Routes	Passengers	Miles	Hours	Revenue	Operating Cost	Pass/ Hour	Pass/ Mile	Cost/ Pass	Farebox Recovery
9	77,020	58,968	4,939	$34,942	$447,567	15.59	1.31	$5.81	7.8%
20	53,881	41,580	3,276	$19,682	$315,592	16.45	1.30	$5.86	6.2%
22	87,070	64,764	5,292	$31,517	$491,559	16.45	1.34	$5.65	6.4%
26	134,510	116,172	9,324	$53,586	$881,745	14.43	1.16	$6.56	6.1%
28	173,163	74,844	7,560	$64,526	$568,066	22.91	2.31	$3.28	11.40%
30	112,847	66,024	6,048	$43,771	$501,122	18.66	1.71	$4.44	8.7%
32	98,480	59,724	5,141	$35,857	$453,305	19.16	1.65	$4.60	7.9%
33	13,645	22,428	1,890	$5,426	$170,229	**7.22**	**0.61**	**$12.48**	**3.2%**
34	96,219	60,984	5,267	$37,842	$462,869	18.27	1.58	$4.81	8.2%
35	18,065	38,052	3,213	$16,039	$288,815	14.96	1.26	$6.01	5.6%
38	141,710	86,940	6,653	$54,147	$659,875	21.30	1.63	$4.66	8.2%
41	112,033	76,860	5,443	$40,798	$583,367	20.58	1.46	$5.21	7.0%
45	23,074	32,760	2,240	$7,891	$248,648	**10.30**	**0.70**	**$10.78**	**3.2%**
	1,171,717	800,100	66,286	$446,024	$6,072,759	17.68	1.46	$5.18	7.3%
		System-Wide Totals					**System-Wide Averages**		

Clean Air Express Vanpool Program – The Clean Air Express Vanpool program came to an end in FY 2008. The original funding for this program was eliminated; however, the newly authorized Measure C has a provision for the operation of a vanpool program. The new program is administered through the Council of Fresno County Governments.

Findings - FAX placed well in the peer review process, with the highest passenger per hour and passengers per mile overall. Further, FAX placed third in operating cost per passenger trip overall, and among the transit operators who employ their own drivers, FAX had the lowest operating cost per passenger trip. In an overall ranking with the peer systems, FAX tied for first place position with Modesto Area Transit (MAX), and FAX scored better than MAX in every category except Operating Cost per Hour and Cost per Passenger where MAX, as a smaller contract property, has a clear advantage.

In the systems minimum/maximum standard assessment, five routes were shown to fall outside of accepted standards. However, Route 40, operated for only a couple of months during the fiscal year under analysis, and the limited amount of data may be misleading. Route 58 is subsidized through a contract with Children's Hospital which pays the incremental cost of operation, and as such, provides service to the citizens of Fresno at no extra cost.

Of the three remaining routes, the City of Fresno has chosen to maintain Route 45 because of its very high patronage by disabled citizens even though it has been a poor performing route for many years. It should also be noted that Route 45, at 30.11 passengers per hour, surpasses the average ridership of Sacramento RTD (24.85), and exceeds the peer system average performance of 26.74 passengers per hour.

FAX Route 12 is a deviated fixed-route service which offers limited demand-responsive trip options within a specified service area. While ridership on Route 12 has grown significantly since its inception, the nature of this hybrid service does not lend itself to high productivity. Instead, it places a premium on convenience by deviating off of its route to pick up and deliver passengers to points very near to their destinations. Route 12's productivity of 7.18 passengers per hour, is dwarfed in comparison to the FAX system average of 45.42. The operating cost per passenger for Route 12 in FY 2008 was $15.82, while operating cost per passenger system-wide was $2.09, and for Handy Ride $29.51.

While the deviated route concept is popular among many passengers because of the convenience it offers, the convenience comes at a significant cost. The high cost per trip of Route 12 subverts one of the primary justifications for the service; that it would reduce the demands on FAX's paratransit service Handy Ride. The decision whether to continue operating premium services such as Route 12 must be carefully evaluated in light of the high cost per passenger trip.

The last route currently under performing, is route 56. This is a new fixed-route service from River Park Shopping Center to the newest State Center Community College District Campus at Willow and International in Fresno. Route 56 falls below standard in nearly all performance categories, including a cost per passenger in excess of $35.00. This service is one of the costliest per passenger and should be evaluated closely as to whether it should continue or not.

Conclusions - The bottom line of table 3.2 shows the total gross indicators, and the system-wide performance measure. Starting with the first minimum indicator, Passengers per Service Hour, 60 percent of 45.42 is 27.25. Indicators that do not meet the system standard are shown in **boldface** type. Moving to Cost per Service Hour, the system-wide average is $94.90, and 140 percent of that is $132.86. Route indicators which exceed this maximum are shown in **boldface** type.

The Third indicator is Cost per Passenger. The FAX system-wide average is $2.09, and 140 percent of that is $2.92. As with the other indicators, those that exceed the maximum have been **boldfaced**. The final indicator is a farebox recovery ratio. The FAX system-wide average is 22.9 percent and 60 percent of that is 13.8 percent. Again, those indicators that do not achieve the minimum are shown in **boldface** type.

At this point in the analysis, it is important to note the routes marked with an asterisk: Route 18, 4, 40, and 58 are routes that are subsidized by outside agencies. In the case of Route 18, Fresno County Unified School District pays the incremental costs associated with this service in order to maintain service to the Regional Occupational Program (ROP) Campus located at Teilmen and Neilson Avenues. Route 58 is the weekday service to Valley Children's Hospital (VCH), and receives incremental funding from Children's Hospital of Central California. Incremental costs are the direct costs associated with the service (such as fuel, tires and driver wages). Incremental costs do not include overhead costs (such as FAX Administration costs, or facility costs). Revenues received from the farebox on these routes are earned in addition to incremental costs. Route 4 is a free downtown shuttle service that provides transportation for County employees, jurors and the general public. This service is subsidized through parking revenues. Route 40 was a service extension to route 33 that was funded by the developer of a large, low-income housing development. Route 40 was discontinued in 2008 due to a loss of funding.

Passenger Surveys:

Passenger surveys allow public transit operators to include human aspects of service in the evaluation mix. Measurements of satisfaction, friendliness, and of opinions about services provided are most appropriately collected through customer surveys. Additionally, customer surveys provide an effective way to measure customer expectations and needs, and provide valuable information for quality decision making.

Passenger Surveys - One of the most important elements of the FAX service evaluation process is the passenger survey. FAX utilizes a variety of survey methods including inexpensive self-administered surveys which are provided in every schedule guide, and more detailed and expensive on-board interviews. These surveys are used to collect information that is required by Federal and State agencies including passenger demographics, origin/destination information, and travel habits. This data also provides FAX with insights into the concerns of our passengers. For example, it was one of these passenger surveys that allowed FAX to prioritize service improvement options and select night service in 1999.

FAX Rider Origin, Destination and Needs Assessment - In conjunction with the Council of Fresno County Governments (Fresno COG), FAX has hired various firms to conduct Customer Satisfaction Surveys since 1994. The purpose of the surveys is to identify areas which need improvement. Based on the survey findings, FAX has developed training programs and procedures to improve customer satisfaction in specifically identified areas. The surveys include a telephone survey and on-board surveys. The on-board surveys consisted of over 1,000 passenger interviews with randomly selected bus riders. The primary purpose of the surveys was to assess the extent to which FAX customers are satisfied with the service they receive. Results of the previous surveys are identified on Table 3.11 Specific areas of inquiry included the following:

- Frequency of riding the bus
- Trip purpose
- Availability of a car for the current trip and other trips
- The extent and ease of using the bus lift
- Interest in training on how to use the lift
- Method of fare payment
- Convenience of the locations where tokens, tickets, and passes are sold
- The extent to which drivers announce the next stop
- Helpfulness of bus stop announcements
- The extent to which riders feel safe while waiting for the bus and while on the bus
- Reasons for not feeling safe
- Effect of knowing that the bus is equipped with a working video camera
- Effect of knowing that there is a vehicle tracking system in place
- Satisfaction with evening service
- Suggestions for improving FAX's overall service
- Respondent demographics such as employment, age, ethnicity, income, and gender

Using a traditional academic grading system, FAX riders gave FAX an 'A' for the following attributes; Bus Drivers Helpfulness, Driving Skills, Safety Awareness, and Availability of Route Information. FAX received a 'B' for Buses Running on Time, Service Frequency, Driver Courtesy, Proximity of Stops, and Cleanliness of Vehicles and Stops. The lowest grade FAX received was a 'C' for hours of operation on Weekends, indicating a strong desire for service later in the evening on weekends. The overall service provided by FAX received a B+. Table 3.10 is the complete FAX report card including a description of the methodology used to develop the grading system.

Table 3.9
Fresno Area Express Passenger Survey Report Card
AIS Market Research - June 2007

Service Attribute	Mean Rating	Standard Deviation	Report Card
Buses running on time	2.4	1.21	B
Frequency of the buses	2.27	1.14	B+
Length of time to complete trip	2.45	1.18	B
Cleanliness inside FAX buses	2.50	1.21	B
Cleanliness of the bus stops and exchanges	2.81	1.37	B-
Bus drivers' courtesy	2.01	1.05	B+
Bus drivers' helpfulness	1.87	0.97	A-
Bus drivers' driving skills	1.82	0.86	A-
Bus drivers' safety awareness	1.83	0.90	A-
The overall comfort of the bus rides	2.16	0.97	B+
Availability of FAX route/schedule information	1.97	1.09	A-
Bus hours of operation on weekdays	2.69	1.55	B-
Bus hours of operation on weekends	3.73	1.77	C-
Proximity of bus stops to home	2.00	1.07	B+
Proximity of bus stops to destination	2.07	1.00	B+
Value provided by FAX for the price paid	1.92	0.90	A-
Overall service provided by FAX	2.04	0.90	B+

Table 3.10
Historical Survey Results

Research Firm	AIS 2007 *	Moore 2005	AIS 2004	AIS 2001	Godbe 2000
Trip Purpose					
Work	41.0%	26.7%	39.0%	26%	37%
School	40.0%	19.0%	14.0%	31%	20%
Shopping	26.0%	10.5%	7.0%	20%	8.4%
Medical	11.0%	7.1%	13.0%	8%	5.5%
Recreation	16.0%	4.3%	8.0%	N/A	N/A
Personal Business	26.0%	23.8%	9.0%	N/A	N/A
Other	6.0%	8.6%	1.0%	N/A	N/A
Transit Dependant	83%	83%	73%	73%	71.9%
Total Annual Household Income Less Than $20K	55%	N/A	46%	46%	52.9 %
Employed Full or Part Time	43%	44%	41%	41%	32%
Student	27%	20%	31%	31%	36%

* Respondents were allowed to select multiple answers for trip purpose.

The most recent survey findings by AIS Market Research in June 2007, reported that 19% of FAX riders use the service 9-10 times per week, with an additional 17% using the system more than fifteen times per week. Overall, over 48% of the transit riders are taking 10 or more trips per week. In 2007, the survey allowed individuals to select more than one answer to purpose of trip. This gives us a better indication of who uses the system for multiple trip types and doesn't force a single answer. The most popular trip purpose was work at 41%, closely followed by school at 40%. Shopping and errands were next at 26% with recreation, medical, and other finishing up the list. Rider demographics are somewhat reflective of the trip purpose findings with 43 percent of all riders interviewed being employed either part-time or full-time, and 27 percent of all riders interviewed were students. A noticeable trend over the last ten years is that although a significant number of trips by passengers are still for work related activity, passengers are using the FAX system more and more for shopping and recreational activities.

Other demographics show that riders tend to be young with 56 percent of riders less than 35 years of age. In addition, Caucasians comprised 31 percent of those surveyed, while African-Americans and Hispanics comprising 26 percent and 35 percent respectively. Asian-Americans comprised 4 percent of the riders interviewed. Finally, over 51 percent of the riders interviewed were female.

The AIS Market Research final report identified several areas for possible improvement including hours of operation on weekends and cleanliness at bus stops and transfer stations. Survey findings show that overall satisfaction with FAX as a transit provider has increased with a combined score of 77% for Satisfied or Very Satisfied. Add in Slightly Satisfied and the overall approval equals 94%. Most FAX riders do not have transportation alternatives for work or school. The fact that FAX riders tend to be young, low-income and ethnic minorities, serves to underscore the importance of FAX service in an era

of welfare reform. It is also significant to recognize that there is substantial demand for providing more frequency of service and more routes. To the extent that providing such service is feasible, it might well increase access to jobs, education, and increase ridership.

Handy Ride - Handy Ride offers demand-responsive, curb-to-curb service seven days a week during the same hours as the Fixed-Route service. The Handy Ride service area is somewhat larger than the fixed-route area, and is described in Chapter I. Reservations for ADA Certified individuals are accepted during normal business hours the day before the desired trip. Service hours for Handy Ride mirror those of the FAX system.

Since December 2005, MV Transportation, Inc. has been contracted to provide paratransit service for Fresno Area Express. Support Services Division of FAX is responsible for directly overseeing the administration of the Handy Ride contract and assuring full compliance with the requirements set forth by the 1990 Americans with Disabilities Act (ADA). Under this organizational structure, FAX and MV Transportation has made significant progress towards improving the efficiency and cost effectiveness of the program. “No Shows”, when a client fails to fulfill a scheduled trip, have historically hindered the paratransit service. In FY 2008 Handy Ride reduced “No Shows” from 10% in FY 2007 to just over 3%. This contributed to an increased productivity of 1.79 Passengers per Revenue Hour, an increase of 8.8% over the previous year.

FAX continues to closely monitor Handy Ride service in order to assure compliance with the city contract and with the ADA, Handy Ride's ridership has grown from 182,818 passenger rides in FY2006 to 191,530 passenger rides in FY08. This represents a 4.5% increase since MV assumed operational control of Handy Ride. Table 3.13 presented below shows Handy Ride's annual ridership. Beginning in late 2002, Handy Ride changed its reservation system from 14 days in advance to 1 day in advance. This change originally resulted in an increase in taxi usage, which peaked in FY 2006 with over 49,000 taxi trips. In FY 2008, MV has reduced that number to 9,400, and continues to experience no trip denials for Handy Ride passengers.

Table 3.11

FAX Fixed Route Service Annual Mileage and Ridership FY80 - FY08

Fiscal Year	Revenue Miles	Revenue Passengers	Total Transfers	Total Passengers	Percent Change
1979-80(31	4,353,209	7,215,085	1,675,679	8,890,764	18.3%
1980-81	4,323,980	7,056,039	1,526,715	8,582,754	-3.5%
1981-82(2)	3,323,085	5,896,767	1,587,875	7,484,642	-12.8%
1982-83(3)	3,202,706	5,667,147	1,533,030	7,200,177	-3.8%
1983-84	3,128,881	5,866,666	1,485,673	7,352,339	2.1%
1984-85(4)	3,177,165	6,419,373	1,538,071	7,957,444	8.2%
1985-86(5)	3,275,000	6,790,820	1,121,811	7,912,631	-0.6%
1986-87(6)*	2,981,923	6,410,164	1,009,520	7,419,684	-6.2%
1987-88(7)*	2,979,980	7,005,165	1,213,572	8,218,737	10.8%
1988-89(8)	2,996,568	7,138,525	1,447,374	8,585,876	4.5%
1989-90	2,994,049	7,403,482	1,578,114	8,981,596	4.6%
1990-91(9)	2,983,317	7,454,390	1,613,109	9,067,499	1.0%
1991-92	3,056,519	6,702,708	1,439,454	8,142,162	-10.2%
1992-93	3,027,376	6,576,724	1,369,259	7,945,982	-2.4%
1993-94	3,023,817	6,695,555	1,400,201	8,095,756	1.9%
1994-95(10)	3,053,058	6,156,948	1,314,860	8,552,797	5.6%
1995-96	3,048,962	6,512,910	1,369,626	9,225,096	7.9%
1996-97	3,053,058	6,886,261	1,474,869	9,545,574	3.5%
1997-98	3,050,894	7,573,274	1,624,443	10,399,087	8.9%
1998-99	3,552,000	7,858,921	1,648,014	11,021,716	5.9%
1999-00(11)	4,262,424	10,184,761	2,041,800	12,419,412	12.6%
2000-01(12)	4,277,175	10,437,540	2,040,597	13,178,495	6.1%
2001-02	4,289,968	9,424,821	1,861,718	11,905,195	-14.91
2002-03	4,026,408	8,952,453	1,808,194	11,213,049	-5.81%
2003-04 (13)	3,957,463	8,710,249	1,775,878	10,854,859	-3.30%
2004-05	4,101,325	8,750,802	1,769,101	11,241,838	3.44%
2005-06	4,229,020	9,269,713	1,855,098	11,808,724	4.80%
2006-07 (14)	4,335,012	12,291,679	2,563,971	15,542,571	24.0%
2007-08	4,676,648	12,477,671	2,783,254	16,925,826	8.2%

(1) Base fare increase to $.35
(2) Base fare increase to $.40, major service reductions
(3) Moderate service reductions
(4) Sunday service re-established
(5) Base fare increase to $.50
(6) Significant service changes
(7) Increased marketing activity
(8) Base fare increase to $.60
(9) Base fare increase to $.75
(10) National Transit Database Data begins
N/R:Not reported in NTDB reports
(11) Night Service established
(12) Base Fare increase to $1.00
(13) Vanpool service added
(14) New sampling methodology for NTD reporting

Table 3.12
Handy Ride Annual Mileage and Ridership FY89 - FY08

FISCAL YEAR	VEHICLE MILES	% CHANGE	TOTAL PASS.	%CHANGE	MILES/ PASS.
1988-89	260,689	- 1.3%	46,040	5.9%	5.7
1989-90	255,279	- 2.1%	45,047	- 2.2%	5.7
*1990-91	274,719	7.6%	52,130	15.7%	6.1
*1991-92	266,539	- 2.9%	53,303	2.2%	5.3
*1992-93	329,387	23.5%	60,599	12.0%	5.4
1993-94	468,151	42.1%	71,227	17.5%	6.6
1994-95	575,345	22.9%	89,256	25.3%	6.4
1995-96	526,562	-8.4%	87,466	-2.0%	6.0
1996-97	402,443	-23.6%	86,504	-1.1%	4.7
1997-98	635,611	57.9%	96,026	11.0%	6.6
1998-99	687,902	8.2%	97,566	1.6%	7.0
1999-00	773,874	12.5%	95,603	-2.0%	8.0
2000-01	868,861	12.2%	100,832	5.4%	8.6
2001-02	920,744	5.9%	102,976	2.1%	8.9
2002-03	1,011,081	16.9%	133,483	29.63%	7.5
2003-04	1,182,065	5.9%	169,898	27.01%	6.9
2004-05	1,084,752	-8.23%	192,556	13.34%	5.6
2005-06	982,540	-10.4%	182,818	-5.3%	5.4
2006-07	963,836	-1.94%	180,674	-1.2%	5.4
2007-08	1,126,489	14.4%	191,530	5.7%	5.9

Source: Handy Ride Operating Summaries

* Passenger Data includes FCEOC weekday contract service.
National Transit Database Data

Handy Ride Assessment of Service and Rider Needs - In March 1994, Bartels Research Inc. conducted the first passenger survey of Handy Ride users. The major objective of the survey was to determine whether or not the current provider, Laidlaw Contract Services, should continue to provide the service, and to determine how the service could be improved.

The sample of respondents was drawn from a list of recent Handy Ride users, all of which had used the service within the four weeks previous the survey. A list of users was supplied by FAX. FAX contracted with Bartels Research Inc. for five additional surveys October 1994, April 1995, November 1996, November 1997, and November 1998. Each survey used the same methodology to determine the survey sample, and the questions have remained relatively the same since the November 1996 survey. AIS Market Research was contracted to do the surveys in 1999, 2000, 2002 and 2004, and maintained the same survey techniques. The 2005 survey completed by Moore and Associates did not include a Handy Ride survey because the current service provider, Laidlaw Transit was working on a month to month contract with a potential contractor change scheduled for the end of 2005. AIS Research conducted the most recent survey in June 2007, again using similar survey techniques in order for FAX to continue to develop a consistent data set which provides a means for assessing performance and measuring improvements.

The purpose of the study was to understand expected usage patterns for Handy Ride in the future. Based on passenger's self evaluation of their ridership plans, ridership is expected to increase in the future due to more frequent Handy Ride trips anticipated ahead. While average cost per Handy Ride trip borne by FAX is high, demarketing Handy Ride services would be challenging. First, 75 percent of Handy Ride users do not make more than four one-way trips in a typical week. There isn't a large segment of heavy users to target. Handy Ride passengers use the service primarily to get to medical appointments. An opportunity to lessen the demand for Handy Ride services is to persuade riders who could, or have taken FAX's fixed-route bus to supplement more of their trips. Overall, a report card with letter grades was generated for the first time in a report on FAX's Handy Ride satisfaction performance. Handy Ride earned 12 A's and 4 B's on the sixteen service attributes evaluated. The relatively less satisfactory performance area was Handy Ride's on-time performance. This includes scheduled reservations and Will Call pick ups.

The other area that received a lower mark was "getting to the destination on-time". Compared to the survey in 2004, a higher proportion of riders in 2007 were allowing only an hour window between their requested pick-up time and the appointment. This may have contributed to this lower satisfaction over Handy Ride pick-up times. Only 20 percent of the sample indicated "always allowing a two hour window between their requested pick-up time and their appointment time". Riders who were late to their appointments or late getting home may have attributed the delay to Handy Ride's long wait times. Riders may feel that the "two hour window" was unnecessary as most of their rides were typically shorter than 30 minutes. Finally, excluding the wait times where Handy Ride was allegedly late, the typical and longest median pick-up times were very reasonable and well within FAX's allowable wait times.

3.3.0 Program for New Transit Service

FAX is pursuing an aggressive program for new and increased transit service as part of an overall effort to increase mobility. Furthermore, FAX has made a commitment to reducing crowding issues created by increases in passenger loads, wheel chair boardings, and by traffic congestion. Transit improvements will be targeted to high growth areas while maintaining our commitment to seniors and the transit dependent community. Specific components of FAX's expansion program and the basis for this program are discussed below.

3.3.1 Basis for Increased Transit Service

An analysis of the FAX system has demonstrated that the services provided are highly utilized and efficient when examined under peer analysis, with the highest ridership per service hour (37 percent higher than the peer average), and $1.18 less than the peer average for cost per passenger trip. An internal Systems Minimums Analysis has demonstrated that five routes are performing at less than acceptable standards, and two of those routes (40 and 58) are supported by outside agencies. Of the remaining low performers, Route 45 is operating very near the peer level performance standard of cost per passenger at $3.76 compared to $3.35.

The other route performing below standards was Route 12, a hybrid between demand-responsive and traditional fixed-route service. Deviated fixed-routes are a relatively new design in public transit, and are being evaluated as a potential system for improving transit's market share. Unfortunately, the transit industry has not had enough experience with this service delivery system to have readily available service standards. However, as more operators experiment with this innovative service design, refinements may improve productivity. Initially conceived as a service that would reduce reliance on traditional paratransit service and add transfer connectivity to the rest of the FAX system, the service is not performing as expected. With the cost per passenger trip approaching that of the paratransit service the system is not an effective way of reducing the demand for Handy Ride.

Finally the two routes shown in gray fill indicated service performance outside of established minimum or maximum standards (Routes 45 and 12) deserve a little explanation. Route 45 (Herndon Avenue, MTC, Ashlan Avenue) is the only weekday route that FAX operates on an hourly headway. This route has had low performance in every evaluation over the last ten years. In 1999, at the request of Council, Route 45 was extended north of Shaw on Palm, and east on Herndon to serve the medical center located at Herndon and Milburn. At the time, Council had received numerous requests to serve the medical facility. Currently, Route 45 is the only route providing service to the medical facilities at Herndon and Milburn, and is also the only route providing service to the Association of Retarded Citizens (ARC) Production Center located at Shields and Clovis Avenue. This route has the highest level of disabled riders in the system.

Route 12, the Fresno Area Neighborhood Service (FANS), is a deviated fixed-route circulator service. This is an unconventional service which is a hybrid between conventional fixed-route service and demand responsive service. Residents in this area can call as little as one hour ahead of time and reserve a ride to or from any location within the FANS service area. Other customers use the service as a conventional fixed-route system. Although the FANS service is performing well below established FAX fixed-route norms, the system is operating at over three times the productivity level of our typical demand-responsive service. This program is primarily serving the residents of the Senior Citizens Village in southeast Fresno.

The most recent Customer Satisfaction Survey identified Operating Hours on Weekends as the least satisfied service FAX provides. The department has evaluated the option of extending weekend service; however, at this time due to less than expected revenue, we will be unable to implement it. Additional issues from the survey were Cleanliness at Bus Stops and Transfer Stations and Operating Hours on Weekdays.

Fifteen minute frequencies had a positive impact on the system. The 2007 survey noted that the “Very Satisfied” percent, for Frequency of the buses for the route taken regularly, has climbed steadily from 14% in 2004 to 19% in 2005 to 23% in the most recent study. 15-minute service was implemented in 2005 through a Congestion, Mitigation and Air Quality (CMAQ) grant. CMAQ funded 15-minute service on routes 28, 30, 34, and 38. The first of these, routes 28 and 30, have expired and are now being funded through Measure C. Routes 38 and 34 will expire this fiscal year, at which time all CMAQ funding will cease and the service will be entirely funded by Measure C. Revenue from Measure C has been severely impacted by the recent economic downturn and actual funding received is well short of projections. This may affect the future service, including existing 15-minute frequencies.

FAX has been providing service within the Downtown area using a CNG Replica trolley. This service has been offered every ten minutes and has been used for shuttling downtown employees from parking lots to their workplace. The service has also been used to provide transportation to downtown restaurants, and jury service trips for the public. The trolley service has been available to the public at no charge and will continue to operate through the next year.

After operating the Downtown Express Vanpool Program for three years, FAX has terminated the program due to a lack of funding. The program was continued through the Measure C extension and is now operated by the Council of Fresno County Governments (Fresno COG). The Fresno COG was able to transfer all of the existing FAX vanpools to the new program.

In 2006, Fresno County voters approved a half-cent sales tax called Measure C. Measure C included a projected $5 million reserve for the completion of the PTIS and the formation of a regional transit agency.

The PTIS is to evaluate mobility needs and opportunities, and to identify strategies for public transit and transit supportive infrastructure development that will result in wider acceptance and use of non automobile transportation modes such as public transit, bicycle and pedestrian travel. In addition to the development of viable alternative public transportation options for Fresno County, this study

seeks to develop ridership projections and cost estimates for various growth and development scenarios that will be used to establish a long-range plan leading to optimum connectivity within the region.

A Regional Transit Agency Formation study was completed in 2007. The Study which included peer evaluations, policy level stake holder interviews, an evaluation of existing system performance and coordination efforts, found that Fresno County public transportation operators already have a high level of cooperation and coordination. Additionally, based on peer evaluations, Fresno County Operators are providing a cost effective and productive service. The Study recommends the formation of a 'Transit Coordinating Council' which would consist of policy level members and technical staff support. The purpose of the Council would be to continue to explore improved coordination potentially leading a regional transit agency.

In another step towards integrating the regions transit systems, FAX under a FTA Job Access Reverse Commute grant, will be procuring a Trip Planning Software System. This system will incorporate the schedules from FAX, Clovis Transit and Fresno County Rural Transit Agency (FCRTA) and allow users to access the information via the internet or telephone. This system will have an Interactive Voice Recognition (IVR) component to facilitate the telephone inquiries. Depending on funding availability, the IVR will be expanded to include Handy Ride reservations, cancellations and status of appointments.

3.3.2 Bus Service Expansion Program

Unmet Transit Needs

The annual Unmet Needs Report, administered by the Fresno COG has not had any findings related to FAX for the last two years and is not expecting any unmet needs to be identified in FY 2010.

Unrelated to the Unmet Needs process, FAX began service to the areas newest community college beginning in August 2007, under direction of the Fresno City Council. Route 56 operates M-F from 7:00 am to 7:00 pm on 30 minute frequencies at peak time and 60 minute frequencies off-peak. This service, as shown in Table 3.2, falls below the productivity standards in both passengers per hour and cost per passenger. Based on our current financial projections, route 56 is a candidate for elimination should reductions in service be required.

The City of Fresno, in cooperation with the Fresno COG, has reached out to all the major employers in the greater Fresno metropolitan area to determine the public's awareness of the availability of the Fresno Area Express (FAX) bus service and the Valley Rides program. Both services offer excellent transportation alternatives to the drive-alone commuter and are almost sure to save the worker now driving alone to work significant savings over his or her current costs.

As a result of this study, FAX, in partnership with the Fresno COG, developed an outreach schedule to present transportation options to those employers requesting the service through the survey. Fifteen employers requested additional information about public transit and Rideshare services.

Future Bus Service

Working with land use and transportation policy makers, FAX hopes to ensure transit friendly development along the principal transit corridors identified in the City of Fresno General Plan. This will allow FAX to concentrate transit resources and provide high frequency service along these designated routes.

FAX will be monitoring route level and system-wide performance indicators to evaluate the effectiveness of the Service Improvements. Refinements in running time, coordinated transfers, on-time performance, and peak period service enhancements will be developed and implemented as funding allows.

In the future, route terminals or end points will become more important as transfer locations, following the model of the Market Place at River Park. Common route terminals facilitate interlining, which in turn, create opportunities for time and equipment savings. Where multiple routes share terminal points the opportunity for transfer centers are best. As such, FAX will be evaluating the opportunities for restructuring routes to facilitate terminal ending at these locations. These major transfer points may also act as collector locations for suburban shuttle and circulator type services as well as park-and-ride facilities.

Maintain Service Reliability - FAX has been experiencing major increases in ridership during peak period service. These capacity issues occur most frequently near schools, and are present for only short periods of time, often less than one hour. The major routes that are impacted have been improved to 15-minute frequency. This has all but eliminated the need for tripper service on these corridors. Currently, only 3 routes still require limited tripper service. Routes 20, 26 and 41 utilize 5 trippers per weekday, during school time, with route 41 requiring 3.

Service Coverage - As the urbanized area continues to spread, more and more development is occurring where public transportation does not currently exist. These newly developed areas, as a rule, do not have the density to justify fixed-route service on 30 minute headways. Additionally, adjusting trunk line service is a difficult and often very costly solution. FAX has evaluated circulator service as an option for providing service in currently un-served and newly developing areas. The FANS service, as discussed earlier, is an example of how this type of service could potentially serve these areas. The concern is the low productivity of this type of service and its ability to meet productivity standards.

FAX continues to promote increased densities in order to create a transit system that functions more effectively and efficiently. We encourage businesses that serve the transit dependent to consider transit developed corridors whenever relocation is needed.

In FY10, FAX will be constructing a new transit facility in the Southeast corridor which will provide more transportation access to passengers in the area. The center will act as a transit multimodal center which will include access to transit, bikeways, walking and some nearby multi-family housing. This facility will be the first multimodal transportation center in Fresno.

Due to a recent reduction in State funding, as well as lower than expected revenues for Measure C, considerations for future service adjustments will be evaluated. Areas to be considered are; service frequency during peak, off peak, night, and weekends; determinations about the effectiveness of the FANS circulator (route 12); and the ability of route 56 to meet productivity standards within a designated time frame.

Under the terms of an agreement between the City of Fresno, the Medical Advocates for Healthy Air (MAHA) and Fancher Creek Properties, LLC (Fancher Creek) the City agreed to prepare, and Fancher Creek agreed to fund a “Master Transit Plan” for the Fresno metropolitan area. As part of the final agreement, the Fresno COG was asked to manage the contract which was executed on December 13, 2006.

As a result of the agreement, a Bus Rapid Transit Master Plan was developed. The Plan identifies key corridors within the Fresno/Clovis Urbanized Area that demonstrate strong potential for development as BRT corridors. The best candidate corridors are identified as Ventura/Kings Canyon from Fowler to Downtown Fresno, and Blackstone Boulevard from Downtown Fresno to Manchester Center. The plan developed ridership and cost projections as well as outlining the steps necessary to pursue Federal Transit Administration Very Small Starts funding. Kimley Horn and Associates has been contracted to complete Phase II of the PTIS and will continue the process of application development for the BRT grant funding. The Consultant will utilize the established Bus Rapid Transit (BRT) Plan for identified transit corridors under current conditions and alternative growth scenarios. Additional corridors may be identified during the study process. The consultant will be expected to further refine the BRT Plan

through this study process, and develop connections with other corridors serving Fresno County communities.

3.4.0 Customer Services and Public Information Program

FAX desires to increase ridership while enhancing customer satisfaction with transit services. To accomplish this, new initiatives have been implemented and described below.

Public Information and Outreach - During FY08, FAX continued the implementation of various Marketing and Service Development strategies. Efforts have been made to provide a program of public information and outreach activities with the intent to increase public awareness and ridership as well as improve public perception of public transportation in the FCMA.

FAX Planning Staff continues to work with major employers at work sites throughout the FAX service area. Work site visits were conducted to promote transit services and gather suggestions to improve existing services. Transit user guides such as transit schedules, bike rack user guides, system maps, transit commuter benefit information, FAX newsletters, and service change announcements were made available. Additionally, transit trip planning was provided to assist new passengers.

In July 2007, FAX introduced the Senior 7 Program, which allows seniors to use the FAX route system each and every day at no charge. Senior 7 was the first Measure C Primary Project to be rolled out. FAX performed extensive outreach to the senior community to promote the program and explain its benefits. FAX accounts for Senior 7 trips through its fareboxes as a free ride. In the first year of the program, free rides increased by 142% to just fewer than 1.3 million passenger trips. This service has been used extensively by seniors for visiting family, going to church, or to just get getting around town.

FAX again, operated the FAX Christmas Bus during the winter holiday season. A bus is decorated by the FAX Maintenance Division and circulated on various routes. Passengers are offered a free ride on the bus as a token of appreciation for riding FAX. The bus helps in promoting the Christmas spirit and to increase public awareness of transit. The bus is showcased at elementary schools during the Christmas season and in the Downtown Fresno Christmas parade. FAX also provided free trolley service along the Van Ness Christmas Tree Lane for passengers which were a very popular and successful event.

Fresno Area Express continues to pursue the Transit Oriented Development (TOD) along Kings Canyon Avenue, which will provide a transit shelter, some market rate housing, bus stop, access to bikeway and walkway, and other transit facilities such as an information kiosks and restrooms. This project was initiated in 2006 and should begin construction this year. The success of this TOD project will set the benchmark for future projects of this type.

Chapter 4

Financial Plan

4.1.0 Introduction

The Financial Plan presents FAX's financial forecasts associated with projected transit services including capital projects to maintain, enhance, and expand FAX services. The Baseline Plan demonstrates that FAX has the financial capacity to operate and maintain all planned services without assuming any significant new local sources of operating revenue. The Fresno COG recently conducted a survey on the Measure C funds, and determined that over the next twenty-year period there will be an increased demand for transit, therefore, public policies in the future should favor support of transit. More recently, the Fresno COG is undertaking Phase II of a Regional Public Transportation Infrastructure Study which will highlight transportation needs for the future and the possible need for future funding sources such as Measure C funds.

4.2.0 Capital Program

FAX presently operates 125 buses including 4 replica trolleys, 48 Handy Ride paratransit cut-a-ways, 4 transit vans, a maintenance facility, and a transit center. Table 4.1 summarizes costs and funding sources for operations from FY10 through FY14. Costs and revenue are shown in FY09 dollars. FAX is proposing some significant capital improvements over the next five years.

The total five-year Capital Improvement Program (CIP) for FY10 through FY14 is projected to cost $224.2 million as identified in Table 4.2 Capital expenditures are targeted in seven primary project areas including:

- Heavy duty 30'/40' buses,
- Automatic Passenger Counters
- Bus Rapid Transit
- New multimodal facility
- Passenger amenities and facility upgrades
- Handy Ride vehicle purchases, and equipment
- Security
- Non-revenue vehicle replacements
- Planning

Additionally, planning expenditures for projects and services performed by Fresno COG staff assigned to FAX are included in the CIP. Preventative maintenance programs and vehicle tire leases are capitalized for reimbursement through FTA. Capital leases for paratransit vehicle tires and the paratransit facility are capitalized, as well as the paratransit maintenance program provided through a contractual agreement with MV Transportation, Inc.

Table 4.1
FAX Five Year Operating Budget
FY10 through FY14
($thousands)

OPERATING REVENUES	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**
Passenger Fares (*0.03 annual increase*)	$8,699	$8,961	$9,237	$9,522	$9,816
FTA Section 5307 (*0.03 annual increase*)	$8,220	$8,467	$8,721	$8,983	$9,252
City of Fresno (Measure C)	$7,745	$7,977	$8,217	$8,463	$8,717
LTF Funds (*0.03 annual increase*)	$15,344	$15,805	$16,279	$16,767	$17,270
STA Funds	$0	$0	$0	$0	$0
Advertising Revenue	$381	$392	$396	$400	$404
Other Revenues	$872	$424	$(20)	$(530)	$(1,067)
Transfers	$3,490	$159	$159	$159	$159
TOTAL OPERATING REVENUES	**$48,988**	**$46,049**	**$42,557**	**$38,444**	**$33,679**

OPERATING COSTS	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**
Employee Services (*0.03 annual increase*)	$26,573	$27,370	$28,191	$29,037	$29,908
Professional & Technical	$298	$202	$200	$200	$200
Property Services (*0.03 annual increase*)	$1,944	$2,002	$2,061	$2,124	$2,188
Other	$255	$262	$270	$278	$287
Supplies	$5,962	$6,141	$6,325	$6,515	$6,710
In-Lieu Payments	$454	$468	$482	$497	$511
Interdepartmental Charges (*0.03 annual increase*)	$4,470	$4,605	$4,743	$4,885	$5,031
Paratransit Contract (*0.05 annual increase*)	$5,238	$5,500	$5,673	$5,849	$6,031
TOTAL OPERATING COSTS	**$45,194**	**$46,550**	**$47,945**	**$49,385**	**$50,866**
TOTAL OPERATING SURPLUS/(DEFICIT)	**$3,794**	**$(501)**	**$(5,388)**	**$(10,941)**	**$(17,187)**

*NOTE: All Revenue and Operating Cost data are projected. Includes FTA reimbursements for capital, planning, and preventative maintenance expenses.

4.2.1 Revenue Vehicles and Vehicle Equipment

FAX's revenue service vehicles include buses and paratransit vans. Replacement of existing revenue vehicles is one of FAX's highest capital priorities. As another priority, FAX will be increasing the number of buses from 125 in 2009 to 139 during the SRTP period. The SRTP projects an annual operating budget of $45.2 million in FY10 increasing 11 percent to $50.8 million in FY14 (see Table 4.1). Projected operating revenues are not anticipated to offset total costs over the five-year period and will result in an estimated shortfall of $17.2 million by FY14. The projected operating budgets assume a six percent annual increase in fares and a 3.25% increase in State LTF funds. A 3% increase in FTA Section 5307 operating assistance is also assumed over the 5-year period.

Bus Replacement

Cost estimates for replacement buses programmed in FY10 and beyond are based primarily on APTA survey data for 30-foot, 35-foot, 40-foot and 60-foot (articulated) buses. Primary funding for replacement buses is assumed to be from the Federal Transit Administration (FTA) in the form of Section 5307 (Urbanized Area Capital) program, with approximately 20% FAX local match and the American Recovery and Reinvestment Act (ARRA) with no local match required. In support of a gradual increase in bus service through FY14, FAX will continue to operate a small number of older buses for a limited time even after replacements for these buses have been placed into service.

Full-size buses - FAX has purchased Hybrid Electric vehicles which comprise the best available technology for reducing harmful vehicle emissions. With their purchase, FAX and the Fresno COG are implementing their commitment to cleaner air by demonstrating this cutting edge technology. In 2010, FAX will receive an additional (1) Hybrid gasoline vehicle for the fleet. The total five-year fleet replacement program cost is over $8 million.

Paratransit buses - As part of the CIP, FAX will be ordering paratransit buses in FY10 through FY14. A total of five replacement vehicles are programmed for a five-year program cost of $309,300. This figure does not include any vehicle funded through the Caltrans 5310 program which includes funding for the replacement and expansion of paratransit vehicles. FAX will continue to apply for these competitive grants in the future to help offset the costs of vehicle replacements.

Bus Expansion

System efficiencies based on productivity will continue to be the basis for shifting system resources in the future. Route cost analysis based on fully-allocated costs will be an integral part in determining feasible tradeoffs and future service improvements. Within the proposed service level, service adjustments will be made during the planning period on individual routes and schedules to reflect existing and changing ridership characteristics and needs. The SRTP recommends that any future required service adjustments continue be made on the basis of the goals, standards and objectives listed in Chapter 1. This type of vehicle will provide relief for some of FAX's highest volume bus routes. Service changes will be made on the busiest routes as required to address on time performance.

Automatic Passenger Counters

Fresno Area Express currently has APC's on approximately 20% of its fleet. These units, manufactured by Red Pine will no longer be supported and will become obsolete by year's end. The procurement of APC's will allow FAX to gather data provided by the APC's that include: boardings and alightings at each stop; load factor at each stop; on-time performance at each time point; running time between time points; the number and location of each use of the wheel chair lift and bike rack; total ridership on the trip; passenger miles; and average length of each passenger trip. This data will enable FAX to determine more accurate ridership patterns and improve schedule adherence.

Paratransit Facility

Fresno Area Express (FAX) is required by law to provide transit service to ADA certified eligible citizens in an overlay of its fixed-route transit service in time and geography. This service, known as Handy Ride, is demand-response and therefore requires extensive reservation and dispatch functions, including computer and radio technology applications and the staff to operate the system. Additionally, Handy Ride includes the paratransit staff and equipment involved in the certification of ADA eligible customers, as well as a fleet of 50 vehicles that require secure parking and maintenance facilities. Due to the growth of the Handy Ride service over the years, it is currently housed in two locations. The current facilities are leased and do not adequately meet the current or long-term needs of the operation. FAX will seek to purchase property that includes the space and structures needed to appropriately house its paratransit equipment and operations, thus meeting current and future needs for years to come. The FY 2010 budget has $3,200,000 budgeted for the procurement of this facility.

4.2.2 Support Vehicles

FAX has determined that the optimal point to replace non-revenue vehicles to minimize capital outlays, maximize reliability and minimize repair costs, ranges between 6 and 20 years and a minimum of 85,000 miles, depending on vehicle type and usage. Vehicles are generally scheduled for replacement according to age, mileage, vehicle condition, and reliability requirements for each vehicle type as follows:

Field supervisor accessible handivans	6 years or 100,000 miles
Sedans & passenger vans	8 years or 85,000 miles
Mini pickups, station wagons,	
Road call trucks, utility vehicles	10 years or 100,000-120,000 miles
Cargo vans, medium trucks	12 years or 100,000 -120,000 miles
Heavy trucks, utility equipment	15-20 years

FAX's fleet of non-revenue vehicles assists in the operation of the fixed-route service. This fleet is composed of stock vans which are used to make driver shift changes, provide for road supervisor inspection and assistance and response to road calls. Also included are large trucks, pickup trucks, fork lifts and trailers which are used in maintenance and operations. The replacement program for non-revenue vehicles over the next five years will cost $352,700.

4.2.3 Passenger Facilities Expansion and Rehabilitation

FAX's passenger facility capital improvement program includes bus stop improvements, and replacement of transit passenger amenities such as information signs, benches and bike lockers.

Bus Stop Accessibility Improvements - To meet ADA requirements for bus stop accessibility, FAX has developed a program to upgrade all deficient bus stops. To date, improvements to over 550 of the over 1,900 stops have been completed. The construction of bus stop areas for convenient, comfortable, and

safe passenger waiting areas will also include upgrading of benches and bus shelters in the project area. FAX has replaced over 500 benches and 190 bus shelters over the last few years, and will continue to upgrade these facilities throughout the system.

Included in the CIP is a plan to enhance the passenger amenities in the downtown area. As part of the ARRA capital projects, FAX plans to remodel the shelters at Courthouse Park, including security cameras, shelter lighting and the addition of lighted pathways for the increased safety of our passengers. This project is programmed for over $2.8 million over the life of the SRTP.

Planning Projects - Planning projects provide support of planning functions. An on-going planning function is necessary to provide FAX with information to adjust the system for long-range and short-range transit needs, and to meet the various complex Federal and State Transportation planning requirements. Fresno COG planning staff performs all service planning functions for FAX, through a contractual agreement with the City of Fresno, Department of Transportation. A Transit Supervisor is included in the FAX Planning section to perform scheduling duties. Consultant studies are also coordinated by Fresno COG staff which includes the Regional Transit District Formation Study and Regional Public Transportation Infrastructure Study, Phase II, which will be completed in 2011. Planning Projects are programmed for a total of $2.4 million over the life of the SRTP.

4.2.4 Total Capital Program

The total capital program to be undertaken by FAX includes both the Capital Program and the Measure C Program.

FTA - Operating and Maintenance expense reimbursement - This project provides FTA reimbursements for expenses in programs directly related to preventative maintenance on fixed-route and paratransit vehicles, capital lease of vehicle tires, and allowable contracted paratransit expenses. Fixed-route vehicle preventative maintenance programs are eligible for 80% FTA reimbursement. Handy Ride contracted vehicle maintenance expenses are eligible for 25% reimbursement, while contracted vehicle operations are eligible for 20% FTA funding.

Third Shift and Weekend Evening Service - The SRTP does not provide for extended fixed-route evening service on weekends, nor does it provide for third shift service at any time. All weekend operations are completed by 7:45 P.M. The need for night service on weekends, and the potential need for third shift service to satisfy the needs of transit dependant populations to seek and maintain employment will be evaluated during the course of this SRTP and is contingent on future revenue.

Service to Newly-Developing Areas - Many of the new moderate-income areas within FAX's service area are developing beyond existing transit routes. The SRTP provides for limited extension of some existing routes into these new areas with proposed circulator service. However, FAX cannot assure additional expansion of service over the next five years in order to meet this tremendous growth. Additional service to new areas will be evaluated and implemented when warranted, and as funding allows.

Table 4.2
FAX Five Year Capital Improvement Plan
FY10 through FY14

Project Descriptions FAX Fiscal Year	FY2010	FY2011	FY2012	FY2013	FY2014
Maintenance Truck	$35,000				
Replacement 30'/40' Standard Transit Buses	$8,881,500				
Bus Video Surveillance	$1,477,600				
Facility Surveillance/Access	$636,300				
Parking Shelters with Solar Panels		$2,000,000			
Planning Projects					
Fresno COG Planning	$610,000	$320,000	$330,000	$340,000	$350,000
FAX Planning	$515,000	$525,000	$535,000	$545,000	$556,000
Downtown Circulator	$1,200,000				
Trip Planning Software	$550,000				
Automatic Passenger Counters	$1,000,000				
Travel Training	$40,000				
Bus Rapid Transit	$2,000,000	$4,000,000	$10,000,000	$11,000,00	$7,000,000
Way Finding Study & Implementation	$119,000				
Intermodal Transit Facility	$2,618,500				
Handy Ride (Paratransit) Vehicles	$309,300				
Replacement Vehicles	$70,000				
Non-Revenue Vehicles	$352,700				
Handy Ride Rebrand		$450,000			
Paratransit Facility	$3,200,000				
Streetcar Feasibility & Implementation			$1,500,000	$11,000,000	$11,000,000
Preventive Maintenance - 80% FTA	$6,275,800	$6,464,100	$6,658,100	$6,857,800	$7,063,500
CNG Facility	$468,300				
Contracted Paratransit Service	$1,309,800	$1,349,100	$1,389,600	$1,431,300	$1,474,200
Capital Lease - Vehicle Tire Lease - 80% FTA	$160,800	$165,600	$170,600	$175,700	$181,000
Capital Lease - Handy Ride Facility - 80% FTA	$69,400	$71,500	$73,600	$78,800	$78,100
Maintenance Facility Improvements	$50,000				
Fare Collection System	$2,300,000				
Handheld Radios	$20,000				
Install Replacement Lift Pump and Cylinders	$116,000				
Transit Enhancements	$4,750,000	$1,100,000			
Passenger Amenities/Kiosks	$421,000	$108,000	$111,000	$114,000	$117,000
Total Capital Local Match Funds Required	$2,104,800	$4,719,240	$3,638,200	$3,777,240	$3,485,960
Section 5307 Formula Grant Funds	$9,952,900	$23,596,200	$18,191,000	$18,886,200	$17,429,800
Congestion Mitigation Air Quality (CMAQ) Funds	$10,872,800	$236,342	$3,425,762	$6,974,736	$4,145,591
Total Federal Capital Funds Available	$16,585,100	$17,422,718	$11,127,038	$8,134,224	$9,798,249
State Funds	$4,423,500	($1,454,242)	($3,425,762)	($6,974,736)	$(4,145,591)

4.3.0 Transit Revenues

Projected revenues and expenditures for operation of the transit system are summarized in dollars.

FAX State TDA and STA – Transportation Development Act (TDA) revenue is received through the State of California based on gas tax revenue and population allocation. In recent years Proposition 42 revenues were added to this revenue source. State TDA funds have been impacted in two ways this year, resulting in a $2.6 million impact to transit operating revenues.

- Reduced fuel usage in California has resulted in decreased TDA revenues.
    - With a $1 million annual impact to FAX operating revenues.
- With sales tax revenues decreasing, the State has looked to transit funds to help solve State budget issues. Millions of dollars in gas tax revenues that have historically been used to fund transit have been diverted to other State funding needs. Transit experts do not expect to see these funds returned to transit for several years.
    - Resulting in a $1.6 million annual impact to operating revenue and
    - Approximately $2 million annual impact to capital revenue.

Measure C funds - Local funding for public transit historically has been limited to general revenue sharing funds. FAX, however, currently receives no general revenue funds. In November 2006, a local proposal to continue a one-half cent sales tax county-wide for the next twenty years was approved by a majority of voters in Fresno County. The reauthorized Measure C local sales tax dedicates a percentage directly to FAX as the local public transit operator. Revenues from this recently reauthorized local transportation sales tax have declined as a result of reduced consumer spending.

- In FY09 Measure C local tax funds for transit are expected to be 4% or $325,000 less than budgeted
- Measure C revenues are expected to remain flat in FY10.
- When the measure was reauthorized in 2006 it was anticipated that by FY10 FAX would receive over $9 million annually in Measure C funds.
- The $7.7 million expected in FY10 is $1.3 million less.

Farebox and Other Revenues from Operations - FAX Strategic Plan envisions an increase in transit service with major gains in ridership and farebox revenues. Fare revenues are projected based on ridership forecasts and assume an increase in ridership based on the increases over the last few years. In FY08, FAX provided over 16-million passenger rides. FAX is budgeting for $8.7 million from fare revenue in FY10.

In August 2007, FAX contracted with Lamar Transit Advertising to provide exterior and interior advertising on all FAX buses. To date, over 90% of the buses have some form of advertising and over the five year contract this program will provide FAX with over $2.2 million in revenue.

Table 4.4 reflects FAX's overall operating budget for both fixed-route and demand-responsive service for the past ten fiscal years. As shown, fixed-route service has decreased from 91% of the budget to 89.7%. This is a direct result of the increased cost of providing paratransit services, which has increased from 8.6% of the total operating budget to over 12% in FY09. Table 4.5 shows the Transit Division's operating budget broken out by major cost categories for the same period and includes the following categories: "Employee Service"; wages, salaries, and fringe benefit costs, "Operation, Maintenance and Training"; fuel, parts, inventory, supplies, building maintenance, training and travel, "Interdepartmental Charges"; self-insurance, fleet rental, data processing, and fixed reimbursements to the General Fund, “In-Lieu Payments”, and “Paratransit”; the cost of providing Handy Ride services. The Transit Division's operating budget has increased from $25.9 million in FY04 to $42.1 million in FY14.

Expiration of CMAQ Funding - The Department has received CMAQ grants to implement increased frequency routes. The grants fund three years of service, allowing the department to implement increased frequencies on routes and evaluate their efficiency and popularity. Increased frequencies on Routes 28, 30, 38 and 34 have been successful, with route ridership increasing 20%-50%. Grant funds for Routes 28 & 30 expired in mid-FY09 and Measure C funds are being utilized to continue increased frequencies on these routes. At the end of FY10, grant funds for all four 15-minute frequency routes will expire. This presents a challenge to the department. The impact of the current economic situation on Measure C and other funds means that there will not be sufficient Measure C dollars available to fund all increased frequency services as the CMAQ grants expire.

Table 4.3
Transportation Development Act Fund History - FY99 through FY08
(Thousands)

FY	LTF Article 6	STA	Total	% Change
1999	$8,482,107	$814,559	$10,296,970	3.95%
2000	$10,364,732	$802,559	$11,167,291	8.45%
2001	$11,059,197	$818,100	$11,877,297	6.35%
2002	$11,951,407	$830,000	$12,781,407	7.61%
2003	$12,578,340	$1,057,424	$13,635,764	6.68%
2004	$13,509,775	$852,069	$14,361,844	5.32%
2005	$14,573,134	$1,103,979	15,677,113	9.16%
2006	$16,288,683	$1,093,151	17,381,834	10.87%
2007	$15,993,000	1,800,000	17,793,000	2.37%
2008	$17,701,300	2,529,900	20,231,200	13.70%

Table 4.4
FAX Operating Budget - FY99 through FY08
($ thousands)

FY	Transit Division	% Costs	Handy Ride Division	% Costs	Total Operating Costs
1999	$18,509	91.4%	$1,749	8.6%	$20,258
2000	$21,778	92.3%	$1,829	7.7%	$23,607
2001	$22,967	92.4%	$1,891	7.6%	$24,858
2002	$23,987	92.5%	$1,957	7.5%	$25,944
2003	$25,172	89.8%	$2,844	10.2%	$28,016
2004	$26,965	88.6%	$3,480	11.4%	$30,445
2005	$27,596	88.7%	$3,505	11.3%	$31,101
2006	$31,184	90.1%	$3,418	9.9%	$34,602
2007	$32,506	89.7%	$3,716	10.3%	$36,222
2008	$36,944	87.7%	$5,192	12.3%	$42,136

Table 4.5
FAX Operating Budget by Major Cost Category
FY04 through FY08

($ thousands)

FY	2004	2005	2006	2007	2008
Employee Services	$16,663	$19,406	$22,101	$22,598	$24,406
Oper.,Maint. & Training	$4,506	$3,183	$6,346	$6,298	$7,945
Interdepartmental	$3,743	$2,694	$7,737	$3,288	$4,271
In Lieu Payments	$555	$322	$322	$322	$322
Paratransit	$3,480	$3,505	$3,418	$3,716	$5,192
Total Operating Costs	$25,944	$28,016	$30,445	$36,222	$42,136

Percentage of Total Annual Operating Budget

FY	2004	2005	2006	2007	2008
Employee Services	64.2%	69.3%	72.6%	62.4%	57.9%
Oper.,Maint.,& Training	17.4%	11.4%	20.8%	17.4%	18.9%
Interdepartmental	14.4%	9.6%	9.0%	9.1%	10.1%
In Lieu Payments	2.1%	1.2%	1.1%	0.9%	0.8%
Paratransit	13.4%	12.5%	11.2%	10.2%	12.3%
Total Operating Costs	100.0%	100.0%	100.0%	100.0%	100.0%

Handy Ride - In August 1980, the State Attorney General's Office ruled that Handy Ride and Transit's divisional budgets could be combined for purposes of using Transit Division's farebox recovery revenues in excess of 20% to offset Handy Ride's farebox recovery requirements. Thus, in September 1980, Handy Ride became part of the general use system and part of the Transit Division's 20% farebox recovery requirements. The operating budget for Handy Ride as part of the overall budget has averaged approximately 12% over the last five years.

Federal Government (FTA) - The **Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** is a bill that governs United States federal surface transportation spending. It was signed into law by President George W. Bush on August 10, 2005 and will expire September 30, 2009. Congress is expected to begin working on a replacement bill for the next six-year period during its 2009 session.

The $286.4 billion measure contains a host of provisions and earmarks intended to improve and maintain the surface transportation infrastructure in the United States, including the interstate highway system, transit systems around the country, bicycling and pedestrian facilities, and freight rail operations.

FTA Section 5307 (formerly Section 9) capital grants have been the primary funding source for capital expenditures, with City or State funds used to meet the local 20% share requirement. The federal government appears committed to funding capital assistance. The Plan, therefore, assumes that nearly 80% of all capital projects (including PM) for the next five years will be funded by FTA and CMAQ grants.

State of California - The State's Transportation Development Act (TDA) provides two sources of transit revenue, the Local Transportation Fund (LTF) and the State Transit Assistance Fund (STA). The LTF is generated by a quarter-cent statewide sales tax and then apportioned back to counties by population. The Fresno COG apportions these funds within Fresno County on the basis of population. In FY10, the City of Fresno is projected to receive approximately $15.3 million from these funding sources. All of these funds are allocated to FAX.

The LTF resources are legislated to continue indefinitely, and the Plan's projected LTF revenues are based upon projections provided by the Fresno COG, but the actual revenue will fluctuate based on the economy and inflation. To qualify for LTF, FAX must recover a minimum of 20% from farebox revenues.

Transit operators cannot rely on the availability of STA funds from year to year. Further, as a condition for receiving STA funds, Senate Bill 3 (Katz) also requires operators to meet an efficiency standard based on operating cost per hour beginning in FY92. The State of California significantly reduced the anticipated STA funding for FY09 and there are no funds programmed for FY10-FY14 due to the elimination of STA funding to transit providers.

City of Fresno

1. General Fund: FAX receives no revenue from the City of Fresno General Fund.

2. Local Option Sales Tax - Measure C: In FY07 a continuing source of local funding support remained available to FAX as a result of the reauthorization of Measure C in November 2006. The passage of a dedicated one-half cent local option sales tax represents unprecedented

voter approval to improve the State highway network and provide funding for local transportation projects within Fresno County. The local option sales dollars will lead to completion of portions of the urban and rural highway system, as well as support transit needs over the next twenty years.

Unlike the previous Measure C, the reauthorization dedicates nearly 20% to Regional Public Transit Agencies, without the discretion of the City Council as to how the funds are allocated. This ensures that FAX gets a larger share of the revenue that will be consistent over the next 20 years.

Consolidated Transportation Service Agency (CTSA) - In 1980, the state mandated through Assembly Bill 120 that an inventory of social service agencies be conducted to determine the degree of transportation services provided by these agencies and to identify additional transportation needs. The objective of the legislation was to improve the efficiency of providing transportation within the community through the formation of Consolidated Transportation Service Agencies and to promote increased coordination and consolidation of transportation services. The Fresno COG developed an action plan that designates the City of Fresno/FAX and the Fresno County Economic Opportunities Commission (FCEOC) as the CTSA co-designates for the Fresno Urbanized area. The City of Clovis is the CTSA designate for its area.

The sources of funding for the CTSA are, 45% from Transportation Development Act, (Article 4.5 funds allocated by Fresno COG), a 45% match from participating social service agencies and 10% from farebox recovery.

As the primary CTSA transportation provider in the Fresno metropolitan area, FCEOC provides transportation brokerage service to all eligible social service agencies assuring efficient, low-cost transportation service within the Fresno urbanized area.

4.4.0 Financial Summary and Reserve Projections

For FY10, FAX system revenues from FTA grants represent 16.8% of the total, while LTF revenue equals 31.3% of the total revenue. Other revenue sources, such as Measure C and exterior bus advertising, amount to an additional 16.6% of FAX's total budget revenues. The remaining revenue comes from passenger fares, other revenue and fund transfers.

Under a contract with the City of Fresno, the County pays for a portion of the public transit and paratransit services provided for County residents who live within the fixed-route service area as described by the Transportation Development Act (TDA). County residents within the service area receive the same level of transit and paratransit service as Fresno City residents who live within the service area.

Chapter 5

City of Clovis SRTP

5.1.0 Purpose of SRTP

The City of Clovis Short-Range Transit Plan (SRTP), FY 2009-2014, is the bi-annual update to the operating plan and the capital program. The purpose of this Plan is to promote a comprehensive, coordinated and continuous planning process for transit service in the Fresno-Clovis Metropolitan Area (FCMA) over a five-year planning horizon. This plan proposes specific recommendations for implementing the long-range objectives of Fresno County's Regional Transportation Plan, and will guide the provision of transit services in the FCMA over the next five years.

5.1.1 Summary of Existing Transit System

This document will address the City of Clovis Transportation systems which are described as follows;

$ The City of Clovis provides the general public fixed-route service through Clovis Stageline. This service consists of four fixed-routes with specialized school transportation within the City of Clovis. The City of Clovis also offers demand-responsive service to elderly and disabled persons through Clovis Roundup. The City of Clovis also offers service to residents of the Tarpey Village county island through a reimbursement agreement with the County of Fresno.

FAX operates some service within the City of Clovis and the unincorporated urban areas and receives funding from Clovis and Fresno County for this service. It is appropriate that both agencies have a role in the policy making process impacting FAX. The Plan includes a mechanism for such a role.

5.1.2 Public Transportation Policy Directions

The policies contained in the Regional Transportation Plan for Fresno County, (adopted by the Council of Fresno County Governments, May 2007), provides general guidance to transit operations within the metropolitan area. The following Goals, Objectives, and Policies provide the framework for developing a sound public transportation system throughout Fresno County. They are specifically targeted toward the public and social service transportation systems.

In 1985, the Clovis City Council adopted the following policies for Clovis Transit as part of the transit planning process. Annually, the Council reviews and amends these standards as needed. Chapter 1120 of the 1979 California Statutes and Assembly Bill 120 Action Plan, declare policies and goals which apply to CTSA services.

Policy Direction for Clovis

- Centralized administration for the elimination of duplicated administrative requirements.
- Identification and consolidation of all sources of funding for the provision of more effective and cost efficient services.
- Centralized dispatching for more efficient vehicle use.
- Centralized maintenance for adequate, regular and more cost effective vehicle maintenance.
- Adequate driver training programs for safer vehicle operation, and lower insurance costs.
- Combined purchasing for more effective cost savings.

5.1.3 Strategic Plan

At the core of the City of Clovis' strategic plan are four goals, each with specific performance measures. The performance measures encompass the full range of Clovis' responsibilities. The transit specific performance measures reflecting Clovis' current targets for achievement are discussed below.

Goals for Clovis

GOAL 1: SERVICE LEVELS

CLOVIS TRANSIT WILL PROVIDE PUBLIC TRANSPORTATION SERVICE TO A MAXIMUM NUMBER OF PEOPLE IN THE FRESNO-CLOVIS METROPOLITAN AREA.

Objective A: To provide a transit system that meets the public transportation needs of the service area.

Standard 1: Clovis Transit fixed-route service (Stageline) should operate weekdays (Monday-Friday) from 6:15 a.m. to 6:15 p.m. and weekends from 7:30 p.m. to 3:30 p.m.; demand response service (Roundup) will operate during the same hours as the Stageline service.

Standard 2: Clovis Transit shall implement real time dispatching for demand responsive service to improve overall operations and increase ridership.

Objective B: To provide a transit service that adequately serves the elderly and disabled population.

Standard 1: Clovis Transit should maintain base fare level for elderly and disabled riders, those qualifying for ADA/curb-to-curb. Door-to-door service costs an additional $1.00.

Standard 2: As per ADA, all new vehicles purchased must have ADA lifts.

Objective C: To secure a stable and sufficient local funding mechanism.

Standard 1: Clovis Transit should identify and coordinate funding mechanisms that will address all transportation funding needs in the Clovis Area.

Standard 2: Clovis Transit should identify short and long-range funding needs and maximize revenue resources, utilizing all funding mechanisms including federal grants, State enabling legislation and farebox revenue.

GOAL 2: SERVICE QUALITY

CLOVIS TRANSIT WILL PROVIDE A QUALITY, CONVENIENT AND RELIABLE SERVICE.

Objective A: To provide reliable and convenient public transit service.

Standard 1: Clovis Transit should operate its demand responsive service within five (5) minutes before the scheduled pick-up time and no more than fifteen (15) minutes after the scheduled pick-up time. Drivers shall not wait for patrons for more than five (5) minutes after arrival at the designated pick-up time. Passengers going to Fresno must be ready an hour before the pick-up time and may wait forty-five (45) minutes to one (1) hour for a ride back to Clovis.

Objective B: To provide clean, attractive and comfortable vehicles and facilities.

Standard 1: All vehicles returning to the yard after revenue service should be swept and dusted before being assigned for service the following day.

Standard 2: The exteriors of Clovis Transit buses should be cleaned at least once a week.

Standard 3: In the winter, the heaters on Clovis Transit buses should work 100% of the time.

Standard 4: In the summer, at least 95% of all vehicles on the street should have operable air-conditioners.

Objective C: To provide a safe system.

Standard 1: Clovis Transit buses should operate in excess of 150,000 miles between preventable accidents, and bus operators should be formally recognized for their safe driving.

Standard 2: Buses should be checked daily for proper operation and condition of lights, mirrors, radios and fluid; detailed mechanical inspections should be done every 3,000 miles/45 days. Operations, maintenance and other employees will be provided safety training at the beginning of their employment and such training will be updated on a regularly-scheduled basis.

Objective D: To record and respond to all public comments.

Standard 1: Clovis Transit will continue to track and evaluate all compliments, complaints and inquiries from the public.

GOAL 3: SERVICE PRODUCTIVITY

CLOVIS TRANSIT WILL OPERATE AN EFFICIENT AND EFFECTIVE BUS SYSTEM.

Objective A: To establish and maintain system-wide productivity indicators.

Standard 1: Clovis Transit should achieve a 10% farebox recovery ratio for demand responsive (Roundup service) and 20% for fixed route (Stageline Services).

Standard 2: Clovis Transit should record and report, at least monthly, the following performance indicators.

Total Monthly Ridership
Total Monthly Expenses
Total Revenue Miles
Total Operating Expense per Passenger
Total Revenue per Revenue Hour
Total Revenue per Revenue Mile
Passengers per Revenue Mile
Average Saturday Ridership
Percentage of Scheduled Trips Completed
Total Road Calls
Total Monthly Revenue
Total Revenue Hours
Farebox Ratio
Total Op Expense Revenue Hour
Total Op Expense Revenue Mile
Passengers per Revenue Hour
Average Weekday Ridership
Average Sunday Ridership
Percentage of Trips on Time

GOAL 4: SYSTEM IMAGE

CLOVIS TRANSIT WILL STRIVE TO PROMOTE ITS SERVICE AND IMAGE IN THE COMMUNITY.

Objective A: To develop and implement an RFP requirement in which Contractors will assist in the update of the Clovis Transit Marketing Program.

Standard 1: Clovis Transit will continue to review and update its marketing efforts.

Standard 2: Clovis Transit should stress the positive impact of Clovis Transit in the community through press releases, speeches, and involvement in community activities at least once a month.

Standard 3: Through effective marketing, Clovis Transit should increase overall system ridership by at least 5% during the fiscal year.

Objective B: To provide complete and accurate public transit information.

Standard 1: Current bus schedules and system information should be available to the public at all major public facilities and via the internet.

Standard 2: Telephone service information should be available to the public at all times.

Objective C: To provide for community involvement in transit system affairs.

Standard 1: Clovis Transit should become involved in and work with citizens groups, the Chamber of Commerce, the Old Town Association and other area merchant associations, to communicate the services and benefits of Clovis Transit.

Standard 2: Clovis Transit should develop a public relations program with area schools to educate children about the bus system.

5.1.4 Organization of City of Clovis

In 1988, The Clovis City Council designated its Roundup service solely as a Consolidated Transportation Service Agency (CTSA) function. Local Measure C dollars are used to provide the necessary match of TDA/LTF Article 4.5 funds. The most significant social service provider in Clovis is the Clovis Senior Service Center. Most social services in the area are provided by or through the Senior Center.

Clovis City Council - The City of Clovis consists of five at-large members one of which is selected to be mayor for a two-year term.

Committees - The City of Clovis has two standing committees which provide input into the decision making process. The National Organization for the Disabled (NOD) is a standing committee which consists of members of the public and makes recommendations to the City Council. The Social Services Transportation Advisory Committee (SSTAC) also consists of members from the public with varied interests, and makes recommendations on policy and technical issues to the City of Clovis and to the COG.

Clovis Staff - The Transportation Department is under the City of Clovis Community Services Division and is part of the General Services Department. The Transit Division is overseen by a Transit Supervisor who manages the day to day management of Clovis Transit and the General Services Manager who oversees projects and planning for transit. The division includes a staff of 54 full and part-time employees.

5.2.0 Introduction to Clovis Transit System

The City of Clovis operates two types of public transit service. Clovis Stageline provides general public, fixed-route service within the City limits and into Fresno around Fresno State University. Clovis Roundup operates specialized demand-responsive service for elderly and disabled residents with scheduled trips within Clovis and into Fresno. The City of Clovis has designated Roundup services as the Consolidated Transportation Service Agency (CTSA) for the Clovis transit service area.

5.2.1 Bus Service

Fixed Route - This service was originally offered in July 1980 as demand-responsive, replacing fixed-route service formerly provided by FAX. On August 13, 1990, Stageline's fixed route service was initiated. Originally operated by contractors, the City of Clovis personnel brought the Stageline system in-house to be operated by City employees in September 1999. Clovis Stageline operates 4 routes on 30 minute headways with special routes for early morning and late afternoon to accommodate school transportation. Stageline buses connect within minutes to and from four of FAX's routes. The service operates Monday through Friday from 6:15 a.m. to 6:15 p.m. and weekends from 7:30 a.m. to 3:30 p.m. Clovis Stageline generally operates within the Clovis city limits (See Exhibit 5.1). FAX and Clovis Stageline accept inter-system transfers, and Clovis Stageline vehicles are lift-equipped. Clovis presently reimburses FAX, through a formal contract, to partially offset operating costs for fixed-route service to Clovis. FAX Lines 28 and 45 currently provide service to Clovis residents.

Demand Response - The second service provided by Clovis Transit is Clovis Roundup, which is a demand-responsive system providing both curb to curb and door-to-door service. It is the backbone of elderly and disabled transportation in the Clovis area. Service is available to qualified riders requesting transportation within the service area and provides essential service to many ambulatory and non-ambulatory passengers. Service is provided by radio dispatched; lift equipped mini buses and passenger vans. The City of Clovis has designated Roundup services as the Consolidated Transportation Service Agency (CTSA) for the Clovis transit service area.

The City of Clovis' demand-responsive service, Clovis Roundup, (See Exhibit 5.2) transports elderly (65 years and older) and disabled residents within its sphere of influence, primarily along Shepard Avenue to the north, Dakota Avenue to the south, DeWolf Avenue to the east and Winery Avenue to the west. Zonal service is provided within the City of Fresno as far north as Shepherd Avenue, south to Kings Canyon, west to West Avenue and south to Kings Canyon Ave including downtown Fresno. The system operates on weekdays from 6:15 a.m. to 6:15 p.m., and on weekends 7:30 a.m. until 3:30 p.m. Fresno is served Monday to Friday from 7:00 a.m. until 4:00 p.m. Service is provided on both an advance reservation and a real time space available basis. Passengers may make reservations up to 14 days in advance or the required 24 hours in advance and could displace non ADA riders. Roundup policy requires passengers to be ready at least one hour before a scheduled Fresno ride and 45-

minutes for a Clovis ride with pick-up within five minutes of the designated pick-up time and no longer than 15 minutes after the designated pick-up time.

Service is available to those persons over the age of six who are certified that because of a disability, are unable to use the Clovis Transit's fixed route system. To become certified, the applicant must complete an ADA application which is evaluated by an outside agency for eligibility. Roundup does not restrict trips based on purpose. Dispatchers schedule as many trips as can be accommodated beyond pre-scheduled subscription trips. The service does not restrict the number of trips provided to an individual nor is a waiting list maintained. Roundup's operational practices do not allow for substantial numbers of untimely pick-ups, trip denials, missed trips or excessively long trips which would limit availability of service.

5.2.2 Bus Transit

The service area is consistent with the Planned Urbanized Area (PUA) of the City of Clovis General Plan and represents the area planned for urban growth during the 20-year planning period. Within the PUA are the Cities of Fresno (2000 census population of 427,652) and Clovis (2000 census population of 68,468). The 2000 census population of the Fresno-Clovis Metropolitan Area (FCMA), an area slightly larger than the PUA, is 570,169 (Fresno COG). The FCMA contains 299 square miles; and a population of 628,655 (2000 Census) and the overall average population density is 3 persons/acre. In the more populated areas of the FCMA, the average density ranges from four to fifteen persons per acre.

5.2.3 Bus Fleet

City of Clovis - The City of Clovis has a fleet of thirty transit buses, five vans and two trolleys which are serviced by the City of Clovis fleet department. Roundup operates with seventeen lift equipped passenger buses and three passenger vans, Stageline uses thirteen lift equipped buses and uses two vans for driver switch-out, and the two trolleys are used as rentals for special events.

In FY08-09, Clovis Transit received a Proposition 1B grant for the purchase of security camera systems for inside 14 of Clovis Transit's 14 buses. The cameras were installed in February 2009 in 11 new buses and 5 existing buses. The systems have five cameras per bus with different views, record both video and audio on an on-board digital video recorder, and allow for the ability to view the events on a bus live by using a lap-top located within 500 feet of the vehicle. The ability to see live footage is important in the event of a hijacking or other threatening situation. Once more Proposition 1B funds are available, Clovis Transit plans to install cameras in the remaining buses in the fleet.

5.2.4 Accessible Bus Service

City of Clovis - All City of Clovis Stageline buses used to provide fixed-route service are wheelchair accessible. Roundup service also meets the ADA compliance requirements**.** For additional reference to the ADA requirements, see Section 2.3.0.

5.2.5 Transit Maintenance Program

City of Clovis - The City of Clovis has a City-wide maintenance facility which is used to maintain and service Clovis Transit's 24 vehicles.

5.2.6 Fare Structure

The fare for the Clovis Stageline service is $1.00 with a convenience pass sold for $18.00 for 20-rides and the Clovis Roundup fare varies from $1.00 to $2.50 depending on the end location. A monthly Metro Pass is available for use on both Stageline and FAX and costs $40.00 per calendar month. See Table 5.1 for current Fare Structure.

Exhibit
5.1
Clovis Stageline Service Area

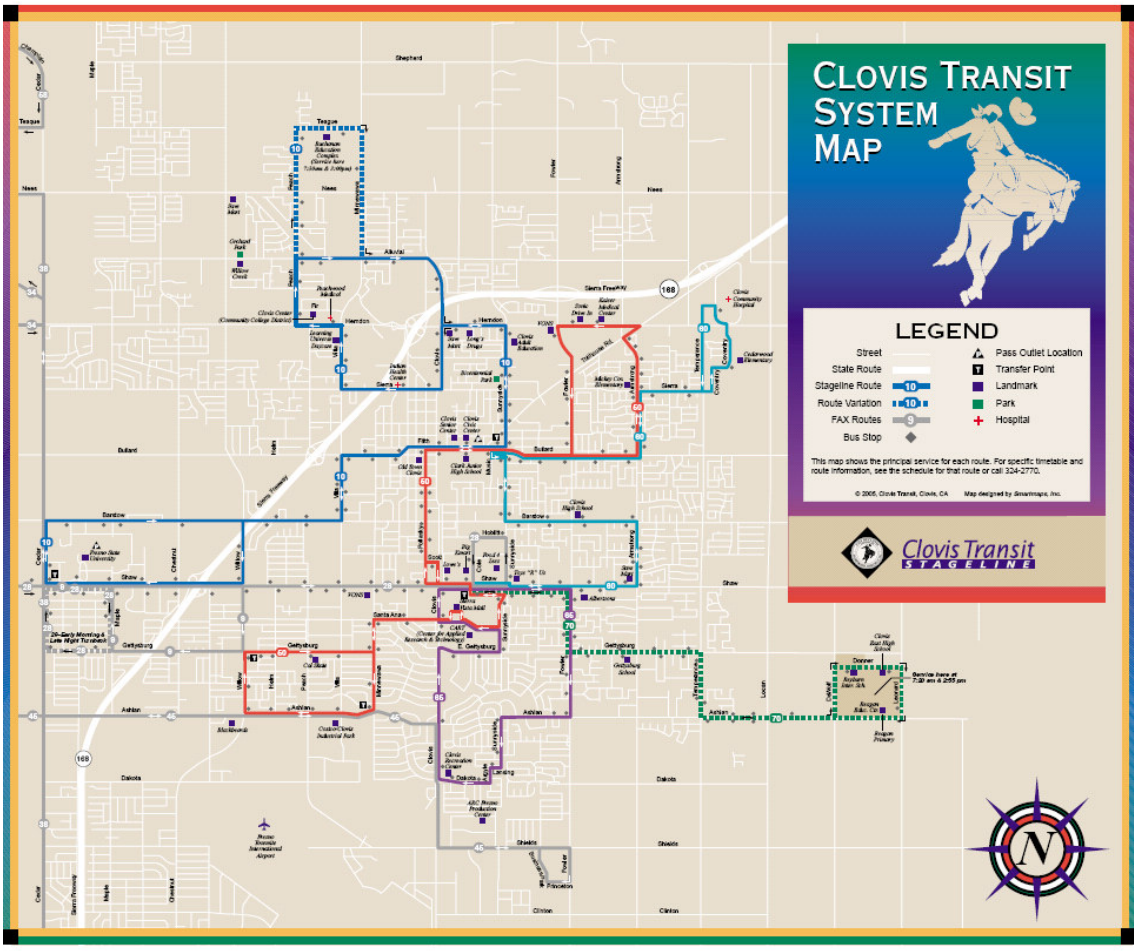


Exhibit 5.2
Clovis Round up Service Area

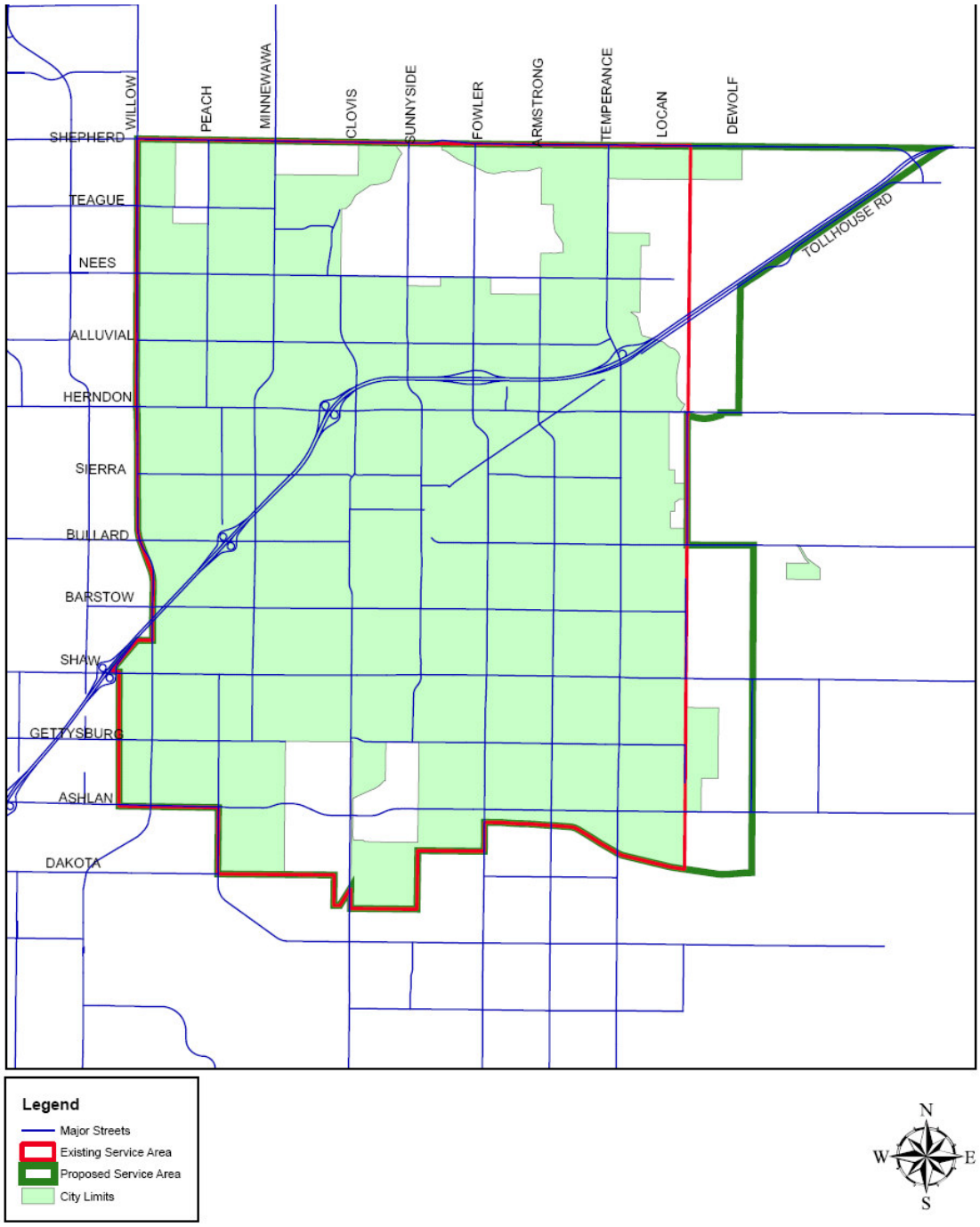


Table 5.1
Clovis Fare Structure

Fare Category	STAGELINE
Single Rider (Adult)	$1.00
Persons with a Disability	$.50
Monthly Pass	$18 for 20 rides
Children Under Age 6	Free with fare paying adult
Seniors Age 65+	Free
	ROUNDUP
Within Clovis	$1.00
To/From Fresno south to McKinley & west to Palm	$1.75
To/From Fresno south to Kings Canyon and west to West Ave.	$2.50
Door-to-Door service	$1.00 additional
Monthly passes	$13.50 for 20 $.75 rides or $18.00 for 20 $1.00 rides

5.2.7 Integration of Transportation and Land Use

The Clovis Air Quality Element establishes a policy foundation for implementation of local government control measures. The Element also provides the framework for coordination of air quality planning efforts with surrounding jurisdictions. The amount, location and type of land uses in the Clovis Project Area has long term air quality implications. A pattern of land uses that facilitates an efficient urban form is essential to improving and maintaining air quality. The integration of land uses can eliminate the length and number of vehicle trips. Automobile use is the single greatest contributor to air pollution in California. Most of the air quality problems stems from our dependence on the automobile. A very effective strategy for improving air quality involves making fewer automobile trips and when such trips are necessary, making them shorter. The provision and availability of alternative modes of transportation are essential to the success of this strategy. Alternative transportation demand strategies can increase the efficiency of the transportation system, reduce congestion and improve regional air quality.

In addition energy generation results in the emission of pollutants. Through energy conservation, the demand for energy generation is reduced which decreased emissions of pollutants. Recycling efforts also reduce the amount of energy required for production of goods and materials as well as emissions for landfills.

The City of Clovis has prepared a Circulation Element as part of their General Plan. This element presents goals and policies that will coordinate the transportation and circulation system with planned land uses. It will also promote the efficient movement of people, goods and services within the project area and will utilize the existing system to its fullest extent and plan for practices that will improve the quality of the environment of Clovis. The Element is also intended to guide the development of the City's circulation system in a manner that is compatible with the Land Use Element and other elements of the General Plan.

5.2.8 Development Review Program

The strategy which will be undertaken by the City of Clovis involves the appropriate management of the transportation system. With the ever increasing traffic volumes and limited resources to expand the capacity of some of the existing streets, transportation system management will play an important role in the future. The goal of the Clovis Transportation Management system is to expand the carrying capacity of streets and transit systems through the implementation of low cost strategies. The strategies are to be used to prolong or avoid costly expansion of the facility or service. Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used by Clovis throughout the development review process. Coupled with air quality and congestion management, these strategies will result in significant improvement of the operating characteristics of the existing facilities and services.

5.3.0 Key Transit System Performance Indicators

Clovis Transit - Clovis Transit ridership for fixed route has increased 32% from FY06 of 139,622 passenger rides to 184,264 passenger rides in FY08. In November 2007, Stageline added weekend service and an additional weekday bus on Route 50 by utilizing Fresno County Measure C funds. Clovis Transit has continued marketing programs such as newspaper, and targeted marketing radio advertisements.

Overall Roundup ridership has increased 22.2% from 45,531 passenger rides in FY06 to 55,645 passenger rides in FY08. Overall, total vehicle hours, total vehicle miles and operation for Roundup have increased since FY06 due to increased ridership and expansion of weekend service. A taxi voucher service is also in place for essential ADA certified trips after regular Roundup service hours.

With the passage of the local sales tax Measure C, the following service improvements were made during FY07-08:

- Addition of weekend Stageline service
- Expanded weekend service hours for Roundup
- Increase headway on existing Route 50

The following is a list of additional planned improvements between FY09 and FY14 (depending upon funding):

- Registering farebox system allowing for a single pass system between local agencies
- Expand service into new build areas, particularly in the north and east of Clovis.

In 2007, a consultant was hired to evaluate the efficiency of the Stageline fixed-route service and to make suggestions for improvement. Some of the recommendations included route changes ranging from minor corrections to existing route to complete redesign of the fixed-route service, removal of some bus stops due to their too close proximity. Some of the recommended changes also include expansion into the northwest quadrant of the City of Clovis. Service to the Herndon/Willow/Nees area is a top priority for Clovis Transit. Clovis Transit did receive 14 new transit buses for replacement and expansion which helps the Roundup service keep up with expansion. Future plans for bus purchases using PTMISEA Proposition 1B bond funds are in the works but due to the state's current budget situation, they are not being funded. When these funds are available and vehicles can be ordered, expansion to Stageline fleet vehicles may allow for the addition of new fixed-route service into areas not currently being served. However, with sales tax revenue lower than expected, Measure C revenues have been reduced thus impacting the expanded service implemented as part of the Measure C implementation plan.

It is important to note that due to the economic crisis and state budgetary concerns, service levels may be adjusted in accordance with budgetary limitations. While the Measure C implementation plan lists specific projects for the funding, the revenue from Measure C is significantly lower than projected. The City of Clovis will continue to monitor funding streams and provide service to the community within funding levels and productivity requirements.

Table 5.2
Clovis Stageline Operating and Productivity Trends FY04- FY08

			/ FY			/ % Change			
Indicator	**FY04**	**FY05**	**FY06**	**FY07**	**FY08**	**FY05**	**FY06**	**FY07**	**FY08**
Total Passengers	96,872	119,538	139,622	153,012	184,264	23.4%	16.8%	9.6%	20.4%
Vehicle Hours	16,075	16,678	16,825	16,801	20,015	3.8%	0.9%	-0.2%	19.1%
Vehicle Miles	258,871	268,136	277,718	276,022	334,461	3.6%	3.6%	-0.6%	21.2%
Operating Costs	$979,505	$1,055,607	$1,125,486	$1,309,979	$1,697,431	7.8%	6.6%	16.4%	29.5%
Fares	$195,901	$211,121	$225,097	$261,996	$339,486	7.8%	6.6%	16.4%	29.5%
Employees	10	10.25	10.25	10.25	13	2.5%	0.0%	0.0%	26.8%
Passenger/Hour	6.03	7.17	8.3	9.11	9.21	18.9%	15.8%	9.8%	1.0%
Passenger/Mile	.37	.45	.50	.55	.55	21.6%	11.1%	10.0%	0.0%
Cost/Vehicle Hour	$60.93	$63.29	$66.89	$77.97	$84.81	3.9%	5.7%	16.6%	8.8%
Cost/Vehicle Mile	$3.78	$3.94	$4.05	$4.75	$5.08	4.2%	2.8%	17.3%	6.9%
Veh Hours/Employee	1,608	1,627	1,683	1,639	1,539	1.2%	3.4%	-2.6%	-6.1%
Op Subsidy/Passenger	$9.53	$8.26	$7.24	$7.69	$8.42	-13.3%	-12.4%	6.2%	9.5%
Farebox Ratio	20%	20%	20%	20%	20%	0.0%	0.0%	0.0%	0.0%
Farebox ratio w/out Measure C	5.7%	6.4%	10.1%	10.2%	8.6%	12.3%	57.8%	1.0%	-15.7%

Table 5.3
Roundup Operating and Productivity Trends FY04-FY08

			/ FY			/ % Change			
Indicator	**FY04**	**FY05**	**FY06**	**FY07**	**FY08**	**FY05**	**FY06**	**FY07**	**FY08**
Total Passengers	**37,500**	**41,887**	**45,531**	**47,594**	**55,645**	**11.7%**	**8.7%**	**4.5%**	**16.9%**
Vehicle Hours	**16,762**	**18,401**	**19,784**	**22,055**	**24,024**	**9.8%**	**7.5%**	**11.5%**	**8.9%**
Vehicle Miles	**198,365**	**243,279**	**268,930**	**286,937**	**319,120**	**22.6%**	**10.5%**	**6.7%**	**11.2%**
Operating Costs	**$915,678**	**$1,004,600**	**$1,181,610**	**$1,375,107**	**$1,493,013**	**9.7%**	**17.6%**	**16.4%**	**8.6%**
Fares*	**$91,567**	**$100,460**	**$118,161**	**$137,510**	**$149,301**	**9.7%**	**17.6%**	**16.4%**	**8.6%**
Employees	**8.5**	**9**	**9.**	**9.5**	**14**	**5.9%**	**0.0%**	**5.5%**	**47.4%**
Passenger/Hour	**2.24**	**2.28**	**2.30**	**2.16**	**2.13**	**1.8%**	**0.9%**	**-6.1%**	**-1.4%**
Passenger/Mile	**.19**	**.17**	**.17**	**.17**	**.16**	**-10.5%**	**0.0%**	**0.0%**	**-5.9%**
Cost/Vehicle Hour	**$54.63**	**$54.10**	**$59.73**	**$62.35**	**$57.02**	**-1.0%**	**10.4%**	**4.4%**	**-8.6%**
Cost/Vehicle Mile	**$4.62**	**$4.09**	**$4.39**	**$4.79**	**$4.40**	**-11.5%**	**7.3%**	**9.1%**	**-8.2%**
Veh Hours/Employee	**1,972**	**2,044**	**2,198**	**2,321**	**1,716**	**3.7%**	**7.5%**	**5.6%**	**-26.1%**
Op Subsidy/Passenger	**$24.94**	**$24.09**	**$24.52**	**$27.37**	**$25.41**	**-3.4%**	**1.8%**	**11.6%**	**7.1%**
Farebox Ratio	**10%**	**10%**	**10%**	**10%**	**10%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Farebox ratio w/out Measure C	**6.1%**	**6.2%**	**5.5%**	**5.3%**	**5.3%**	**1.6%**	**-11.3%**	**-3.6%**	**0.0%**

5.4.0 Capital Financial Plan

Clovis - Clovis Transit's five year Capital Plan projects a balanced budget despite the increase in service demand. Clovis Transit took delivery of 14 new buses in January and February 2009. State Proposition 1B funds for PTMISEA grants and the Proposition 1B homeland security grants are on hold due to the inability of the state to sell the bonds. Sales tax revenue from Measure C is considerably lower than expected. While the CIP includes service improvements such as modification and expansion of the system, the current funding crisis may curtail any expansion over the next two years. The Plan also includes management programs such as updating documents, transit productivity evaluation and monitoring for ADA and STA conformance.

Table 5.4
Stageline Operating and Revenue Budget FY04-FY08

Operating Revenue	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
Grants/Other		$39,347	$39,265	$39,919	$404,039
Passenger Fares	$56,237	$67,783	$77,164	$90,186	$109,902
Measure C	$125,000	$162,000	$120,000	$130,000	$532,446
LTF	$778,188	$1,079,081	$977,233	$1,231,815	$618,132
STA		$119,437	$261,137	$767,779	$0
Total Operating Revenues	$959,425	$1,467,648	$1,474,799	$2,259,699	$1,664,519
Operating Costs	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
Employee Services	$489,173	$595,141	$634,818	$653,669	$917,843
Operations, Maint. & Training	$217,451	$306,223	$329,321	$288,896	$361,370
Direct Operating Expenses	$107,051	$111,614	$127,359	$134,449	$168,259
Transit Contracts	$176,867	$184,822	$193,340	$199,116	$217,047
Capital	$52,358	$46,853	$0**	$31,945**	$541,426
Total Operating Costs	$1,042,900	$1,244,653	$1,284,838	$1,308,075	$2,205,945

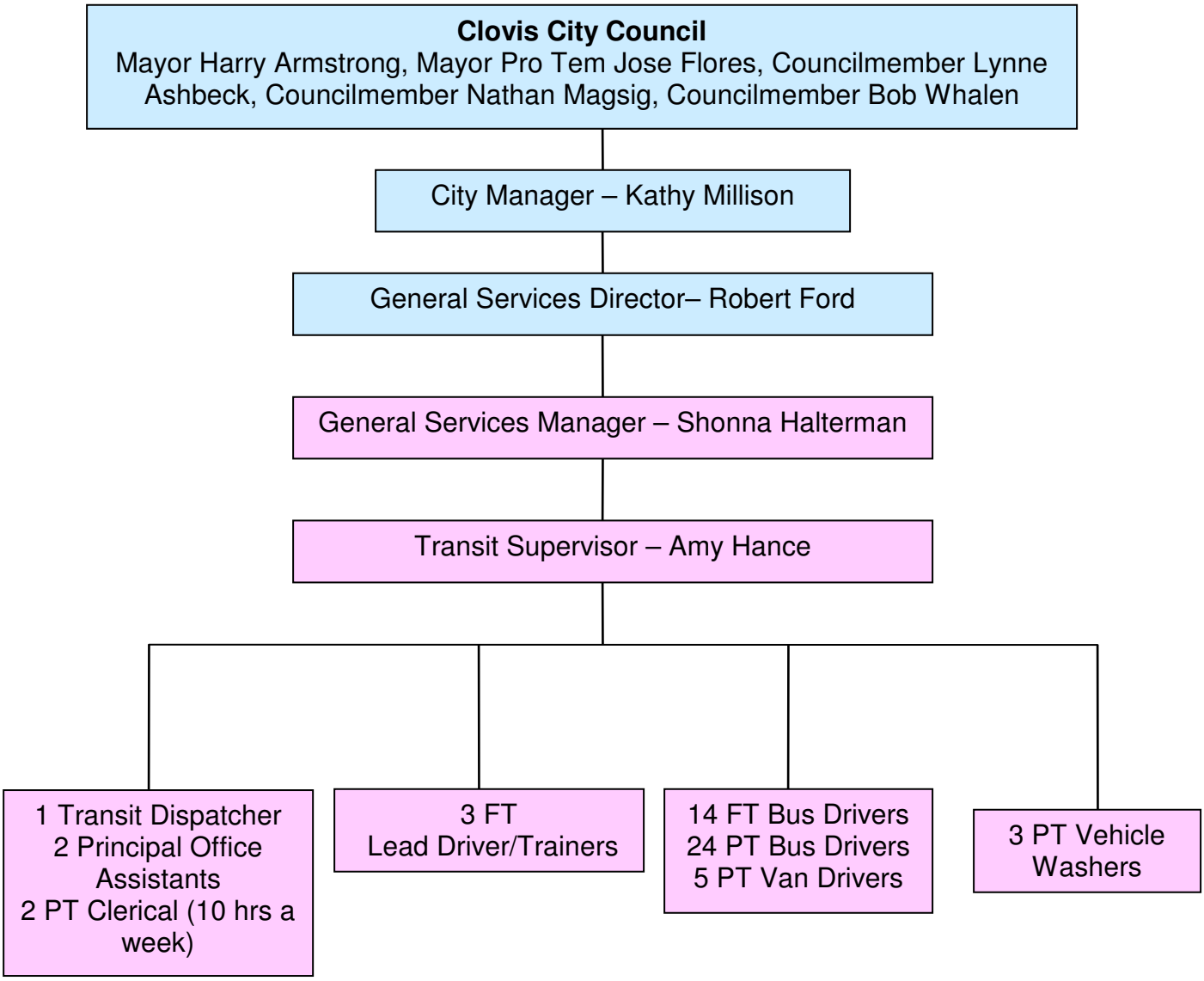
* Roll-over funds from prior year. **Funds for vehicle purchase rolled-over into following year.

Table 5.5
Roundup Operating and Revenue Budget FY04-FY08

Operating Revenue	2003/04	2004/05	2005/06	2006/07	2007/08
Passenger Fares	$55,893	$61,884	$65,553	$82,805	$78,801
Measure C	$150,000	$190,000	$200,000	$200,000	$528,000
LTF	$880,552	$681,416	$917,782	$1,082,460	$1,357,994
STA	$112,140	$0	$0	$0	$396,131
Total Operating Revenues	$1,298,585	$933,300	$1,183,445	$1,365,265	$1,833,454
Operating Costs	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
Employee Services	$658,028	$663,928	$748,263	$871,234	$958,761
Operations, Maint. & Training	$153,628	$194,722	$295,829	$298,976	$366,276
Direct Operating Expenses	$128,436	$136,269	$137,019	$176,464	$167,948
Capital	$257,393	$502	$0**	$28,431	$91,584
Total Operating Costs	$1,197,485	$995,421	$1,181,111	$1,375,105	$1,584,569

* Roll-over funds from prior year. **Funds for vehicle purchase rolled-over into following year.

Clovis Transit Organization Chart



Appendices

Appendix A

Caltrans Public Transportation, Ridesharing & Park-And-Ride and Bicycle Policies

Caltrans will support the provisions of public transportation services, as appropriate, within urban areas, within rural areas, and between regions. In both urban and rural areas, adequate public transportation services are required to meet the mobility needs of the poor, the elderly, and the disabled (in general, those person who are financially unable or physically incapable of owning and operating an automobile). In urban areas, public transportation is also needed to serve additional objectives (particularly as they relate to home-to-work or commuter trips); namely, relief of congestion, savings in energy consumption, and improvement in air quality. Interregional intercity or longer distance public transportation is needed, both to serve the transit-dependent population and to serve long-term environmental and social objectives such as reduction in energy consumption.

The Department's authorities and responsibilities in the transit area were clarified and broadened in 1979 with the passage of SB 620, which enables the Department to engage in the design and construction of transit facilities. The statute also indicates the Legislature's intent that there be a state commitment to investments in rail and guide way systems, transit stations, park-and-ride lots, and local transit services. It is departmental policy to aggressively make such investments as expeditiously as possible.

In a more general sense, Caltrans will concentrate its transit activities in the following five areas (not listed in order or priority):

1) Assure adequate transportation facilities and services for low-mobility people in all regions of the State.

2) Foster development of interregional public transportation. The Department will promote a continuing program of intercity and commuter rail service and intercity bus services.

3) Support measures to better integrate transit facilities and services with other parts of the transportation system in a given area. Specifically, along these lines, the Department will:

    a) Support measures to increase bus ridership on State highways in urban areas, thus making more efficient use of these highway facilities;

    b) Aid in the securing and protection of corridors for fixed guide way transit service, either on a shared basis with existing highway or rail routes or along abandoned rail lines or vacant highway rights of way;

c) Develop a program of Intermodal transfer facilities to provide connections between different modes and to connect interregional transit services with local transit systems;

d) Support measures to coordinate social service transportation and increase services provided by the private sector.

4) Sponsor and evaluate transit demonstration projects where the results of the project may have applicability in several jurisdictions.

5) Provide technical, financial, and other assistance and services to transit operators to ensure equitable, efficient, and effective use of available resources.

Ridesharing and Park-and-Ride Policies

A goal of the State is to reduce the automobile's contribution to air pollution, energy use, and traffic congestion. Two of the primary means of achieving this goal are to reduce the number of vehicles entering urbanized areas and increasing the number of passengers per vehicle entering these areas. These are emphasized through departmental programs which:

* Provide for the development of fringe area park-and-ride lots rather than the development of new single-occupant vehicle parking facilities in core areas.

* Give priority on freeways to high-occupancy vehicles (HOV's) by providing special lanes for these vehicles which results in reduced commute time.

* Provide centralized offices in several areas of the District that coordinate and encourage the use of carpools, van pools, and bus pools by all employers in the area.

* Set an example for the private sector by providing preferential parking facilities for HOV's.

* Encourage RTPA's to plan and coordinate local governments and private industry to implement urban parking strategies which are measures taken to alter the supply or cost of parking to either reduce automobile travel in a selected area or to make the operation of the urban street system more efficient.

Bicycle Policies

It is departmental policy to develop programs and projects which encourage the use of bicycles as an alternative to use of the automobile. Particular emphasis is toward bicycle facilities in urban areas to increase use of the bicycle for commute and other short utilitarian trips. In order to encourage bicycle use, it is Department policy to:

1) Provide for continuous and convenient bicycle routes to places of employment, shopping centers, universities, and other high activity areas with potential for increased bicycle use.

2) Encourage the development of safe bicycle storage facilities, and other support facilities, i.e., those which would encourage increased bicycle usage.

3) Provide coordination and assistance to Federal, State, regional, local, and private agencies in developing plans and facilities to encourage bicycle usage.

4) Give consideration to bicyclists' needs through TSM and Air Quality Maintenance Plan (AQMP) strategies.

5) Encourage the integration of bicycles with other modes of transportation such as promoting the carrying of bicycles on mass transit vehicles or the provision of safe bicycle storage at transit terminals.

6) Make improvements on or adjacent to State Highway corridors to increase safety and convenience of bicyclists.

7) Provide route information and education materials to bicyclists.

Appendix B

Elderly, Disabled and Minority Service Considerations

Fixed-Route Service

Fresno Area Express' (FAX) fixed-route service presently serves areas of significant concentrations of elderly population. In evaluating new service requests special consideration is given to areas of significant senior citizen and disabled population.

The entire FAX bus fleet is wheelchair lift-equipped making all FAX buses accessible to persons with disabilities. All FAX fixed-routes were accessible to persons in wheelchairs starting in October of 1991, and starting in 1993, all base period buses were wheelchair accessible.

The fare structure for the fixed-route service provides for a senior citizen (62-64) disabled base fare ($.35) or approximately 50% of the general fare ($1.00). In addition, seniors age 65 or older ride the fixed-route system free of charge any day, any time. This is a program funded through Measure C called the Senior 7. Monthly passes for disabled persons are $10.00, representing a $25.00 discount off the regular convenience pass cost of $35.00. FAX has not had a fare increase since 2002. FAX accepts red, white and blue Medicare Cards, DMV Disabled Parking Placards, ADA Paratransit Certification, and FAX Special Rider I.D. cards for reduced fares. FAX also accepts all appropriate identification showing ages 62 and older for reduced fares.

Demand-Responsive Service

Service for the elderly and disabled population also is provided by Handy Ride which covers the same service area as the fixed-route system. The system is demand-responsive, and trip requests are accepted 24 hours in advance for certified users. No priority is given to trip type, and there are no trip number limits. Senior and disabled persons pay a $.75 cash fare or $25.00 for a monthly convenience pass. An attendant may ride free with the passenger.

As discussed in Chapter 2, The Americans with Disabilities Act of 1990 has had a significant impact on FAX fixed-route and demand-responsive service. A more detailed analysis of the impact of transit services to the elderly and disabled population in the metropolitan area is contained in the FAX ADA "Paratransit Service Plan".

Minority Service Considerations

The FAX Title VI Report evaluates minority population concentrations within the FCMA including African-Americans, Hispanics and Southeast Asians. Hispanics and African-Americans are the most significant minority populations. The existing transit service serves all areas of minority concentrations with the exception of the southwest corner of the FCMA. This area is presently outside of the transit service area and is sparsely populated, making fixed- route service unfeasible at this time.

Handy Ride also provides specialized service to most areas of minority concentrations. Expansions of service into new areas are evaluated for minimum productivity standards and limited by budgetary constraints. Demands for service outside the current service area will be monitored and depending on future funding and productivity warrants, adjustments may be made.

Marketing of transit service to the Hispanic population includes media contacts with Spanish radio and television stations, news releases to Spanish newspapers, and the publication of route information in Spanish. In addition, bilingual staff is available at the FAX administration office and satellite facilities. FAX currently prints schedule guides in Spanish and English.

A more detailed analysis of the impact of transit services on the minority population in the metropolitan area can be found in FAX's "Title VI" report.

Appendix C

Fixed-route Vehicle Fleet Replacement Schedule

	FY10	FY11	FY12	FY13	FY14
Total Fleet	137	143	149	156	163
Active Fleet	130	136	143	150	157
Peak Service	108	113	119	125	131
Spare Fleet	22	23	24	25	26
Contingency Fleet	7	7	6	6	6
Bone Pile Fleet	24	0	15	15	0
Replacement Buses	10	12	0	15	10
Expansion Buses	10	5	5	6	10
Disposition	24	0	15	15	0
Spare Bus Ratio	20%	20%	20%	20%	20%

Appendix D

Handy Ride Vehicle Fleet Replacement Schedule

	FY10	FY11	FY12	FY13	FY14
TOTAL FLEET	46	48	48	48	48
ACTIVE FLEET	44	46	46	46	46
PEAK SERVICE	42	44	44	44	44
SPARE FLEET	2	2	2	2	2
INACTIVE FLEET	2	2	2	2	2
BONE PILE FLEET	0	0	0	0	0
REPLACEMENT BUSES	0	0	6	0	0
EXPANSION BUSES	2	0	0	0	0
SPARE BUS RATIO	7%	7%	8%	8%	9%

Appendix E

GLOSSARY

ADA *Americans with Disabilities Act* was signed into law on July 26, 1990. The law requires transit systems to make services fully accessible to persons with disabilities, as well as to underwrite a parallel network of paratransit service for those who are unable to use the regular transit system.

AVO *Average Vehicle Occupancy* is determined by the number of employees who arrive at a worksite divided by the number of vehicles those employees use to arrive at the worksite.

AVL *Automated Vehicle Location* is the use of electronic technologies to allow fleet managers to know where vehicles are located at a given time. In addition to its primary use by transit dispatchers and supervisors, AVL can be linked into other systems and used to provide real time arrival information for transit customers.

AQMP/AQAP *Air Quality Attainment Plan* is a plan prepared by an Air Pollution Control District/Air Quality Management District designated as a nonattainment area, for incorporation into the State Implementation Plan for purpose of meeting the requirements of the National and/or California Ambient Air Quality Standards.

CALTRANS *California State Department of Transportation* is responsible as the owner operator of the state highway system for its safe operation and maintenance. Caltrans is the implementing agency for most state highway projects, intercity rail, interregional roads, sound wall, toll bridge and aeronautics programs.

CAA *Clean Air Act* is a federal law established in 1970 that regulated air emissions. The CAA gives the U.S. Environmental Protection Agency (EPA) authority to establish National Ambient Air Quality Standards (NAAQS) for the protection of the public and the environment. The Act was amended in 1990 (FCAAA).

CARB *California Air Resources Board* is a state regulatory agency charged with regulating the air quality in California.

CEQA *California Environmental Quality Act* is a state law intended to protect the California environment. CEQA established mandatory ways by which governmental decision makers are informed about the potential significant environmental effects of proposed projects and identifies ways to avoid or significantly reduce damage to the environment.

CIP *Capital Improvement Plan* is a seven year program of projects developed to maintain or improve the traffic level-of-service and transit performance standards, and to mitigate regional transportation impacts identified in the CMP Land Use Analysis Program, which conforms to transportation related vehicle emissions air quality mitigation measures.

CONFORMITY *Conformity* means that under the Federal Clean Air Act transportation plans, programs and projects are required to conform to applicable state implementation plans. The conformity determinations must be based on the most recent estimated of emissions and those emissions estimates must be based upon the most recent population, employment, travel, and congestion estimates as determined by the MPO's.

CMA *Congestion Management Agency* is responsible for developing the Congestion Management Program and coordinating and monitoring its implementation.

CMP *Congestion Management Program* is a state mandated multi-jurisdictional program to reduce traffic congestion. Required of every county in California with an urbanized area as defined by the Census Bureau of at least 50,000 people.

CMAQ *Congestion Mitigation and Air Quality Improvement Program* is a new funding program established by ISTEA specifically for projects and programs that will contribute to the attainment of a national ambient air quality standard. The funds are available to non attainment areas for ozone and carbon monoxide based on population and pollution severity.

COG *Council of Governments* is a voluntary consortium of local government representatives, from contiguous communities, meeting on a regular basis, and formed to cooperate on common planning and solve common development problems of their area. COG's can function as the Regional Transportation Agencies and Metropolitan Planning Organizations in urbanized areas.

CO SIP *Carbon Monoxide State Implementation Plan* is a required by the Federal Clean Air Act to attain and maintain national ambient air quality standards for Carbon Monoxide (CO). CO is a colorless, odorless gas resulting form the incomplete combustion of fossil fuels. The plan is adopted by local air pollution control districts/air quality management district and the State Air Resources Board.

CTC *California Transportation Commission* is a body appointed by the Governor and confirmed by the legislature that reviews Regional Transportation Improvement Programs (RTIP) and the Proposed State Transportation Improvement Program (PSTIP) and adopts some transportation projects from these programs into the State Transportation Improvement Program (STIP).

CTSA *Consolidated Transportation Services Agency* is responsible for contract services to various social service agencies within the Fresno County area. The CTSA also receives funding from TDA and LTF Article 4.5 revenues.

DBE *Disadvantaged Business Enterprise Program* was designed to ensure maximum opportunity for disadvantaged business enterprises to compete for and perform FAX contracts. Consistent with Federal requirements, the definition of socially disadvantaged and economically disadvantaged individuals for the DBE program includes women as well as minority business enterprises.

DOT *Department of Transportation* is the department of the federal government that includes the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

EPA *Environmental Protection Agency* is the Federal Agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources.

FCMA *Fresno/Clovis Metropolitan Area* includes the geographical boundaries of both the Cities of Fresno and Clovis and the unincorporated areas within the City of Fresno.

FCRTA *Fresno County Rural Transit Agency* provides fixed route services throughout the rural unincorporated cities which link communities with each other and with the FCMA.

FHWA *Federal Highway Administration* is a component of the US Department of Highways (US DOT), established to ensure development of an effective national road and highway transportation system. It assists states in constructing highways and roads, and provides financial aid at the local level.

FTA *Federal Transit Administration* is the Federal Department of Transportation, which is under USDOT. The sister agency to FHWA.

FTIP *Federal Transportation Improvement Program* is a federally required document produced by the regional transportation planning agency that states the investment priorities for transit and transit-related improvements, mass transit guide ways, general aviation and highways.

ISTEA *Intermodal Surface Transportation Efficiency Act of 1991* is a piece of legislation passed by Congress in December of 1991 that provides for a major restructuring of the highway program. Key components of this Act include an increased flexibility in the programming of projects, a level playing field between highway and transit projects with consistent 80/20 matching ratio, ties to the Federal Clean Air Act and American with Disabilities Act.

LTF *Local Transportation Funds* are derived from the 1/4 cent of the statewide sales tax. LTF revenue is returned to local governments for transportation purposes with public transportation the primary focus. LTF is distributed to each city and unincorporated area based on population.

MEASURE C A Fresno County ballot measure that raised the local sales tax by one quarter cent for a twenty year period until 2006. The measure identified a specific program of priority transportation improvement project throughout the County.

MPO *Metropolitan Planning Organization* is the federal designation for Fresno COG. MPO works with technical advisory committees, interested citizens, and other government agencies. A coordinated effort has been made to develop a multi modal regional transportation plan for Fresno County.

PAC *Policy Advisory Board* is composed of the Chief Administrative Officer of each member agency. With the exception of urgency matters, all items must be considered by the PAC before submission to the Policy Board.

PM-10 *Particulate Matter* is a major air pollutant consisting of solid or liquid matter such as soot, dust aerosols, fumes and mists less than 10 microns in size.

RTIP *Regional Transportation Improvement Plan* is a State mandated document which includes a list of proposed transportation projects submitted by the CTC and by the regional transportation planning agency as a request for State funding. The RTIP has a seven year planning horizon, and is updated every two years.

RTP *Regional Transportation Plan* is a comprehensive twenty year plan for the region, updated every two years by the regional transportation planning agency. The RTP includes a policy, an action, and a financial element.

SIP *State Implementation Plan* is a document prepared by each State describing existing air quality conditions and measures which will be taken to attain and maintain National Ambient Air Quality Standards. It is adopted by local air pollution control districts/air quality management districts and the State Air Resources Board.

SJVAPCD *San Joaquin Valley Air Pollution Control District* is the designated air district for the eight county nonattainment areas which includes San Joaquin, Stanislaus, Merced, Madera, Kings, Kern, Fresno and Tulare Counties.

SSTAC *Social Services Transportation Advisory Council* is a council composed primarily of elderly, handicapped, and persons of limited means that was established in 1988 by Fresno COG. The council participates annually in identifying transit needs and working closely with Fresno COG to recommend appropriate action.

STA *State Transit Assistance* is a fund derived from a portion of the Motor Vehicle Fuel Tax. The STA supports public transportation services, and is apportioned through the Regional Transportation Planning Agencies to their member agencies on a population basis.

STP *Surface Transportation Program* is a new funding program established by ISTEA that allows for mass transit and highway projects. Ten percent of the projects funded under this program must be transportation enhancement activities and 10 percent for safety projects.

TCM *Transportation Control Measures* are intended to reduce pollutant emissions from motor vehicles. Examples of TCM's include programs to encourage ridesharing or public transit usage, city of county trip reduction ordinances, and the use of cleaner burning fuels in motor vehicles.

TDA *Transportation Development Act* is a California law which provides funding for transit through the Local Transportation Fund and the State Transit Assistance fund.

TIP *Transportation Improvement Program* is an expenditure program that is updated every two years. It lists the highway and transit capital improvement projects that have been prioritized in the County for state and federal gas tax funds.

TMA *Transportation Management Area* is defined by ISTEA, and is designated by the Secretary of Transportation for all urbanized areas over 200,000. TMA's must include a congestion management system in their planning process. In TMA areas, MPO's are responsible for project selection.

TSME *Transportation Systems Management* is designed to identify short term, low cost capital improvements that improve the operational efficiency of the existing transportation infrastructure.

TTC *Transportation Technical Committee* is a part of the Area wide Transportation Policy Committee, composed of technical staff from member agencies, other interested agencies, public members and Caltrans. TTC evaluates specific regionally-significant issues and projects.

VMT *Vehicles Miles Traveled* is the sum of the linear distance covered by all vehicles in a given time period.

APPENDIX F

Bus Service and Air Quality
A comparison of emissions per passenger mile and bus occupancy

The following charts compare emissions per passenger mile traveled from urban transit buses with various rider occupancy rates to emissions per passenger mile for an average calendar year 2001 light-duty vehicle with 1.2 passengers. The bus model years were selected to represent NOx emission rates of 4.0, 2.0, and 0.2 g/bhp-hr.

Emission rates
The following table shows the model years of the buses selected to represent NOx emission rates of 4.0, 2.0, and 0.2 g/bhp-hr.

Applicable Standards

Model Year of Bus	NOx (g/bhp-hr)	PM (g/bhp-hr)
2001	4.0	0.05
2003	2.5 (NOx+HC)	0.01
2008	0.2	0.01

The 2.5 g/bhp-hr emission standard for NOx plus HC is typically associated with 2.0 NOx and 0.5 HC. EMFAC 2000, version 2.02 was used to determine the grams per mile emission rates for each bus model year. Since the 2.5 g/bhp-hr standard first applies in the last quarter of 2002; model year 2003 was selected so that the EMFAC model run would accurately reflect full implementation of the 2002 standard. Similarly, the 0.2 NOx standards will apply in 2007; thus, model year 2008 was selected for the EMFAC model run.

The bus emission standards shown above are for the diesel path of the Transit Bus Regulation. In 2007 the diesel path and alternative-fuel path have the same emission limits.

Emission rates in grams per mile for transit buses and average light-duty vehicles are shown below.

Grams per mile

	NOx	ROG	PM10
Bus MY 2001	18.31	1.23	0.39
Bus MY 2003	6.81	0.65	0.06
Bus MY 2008	0.67	0.34	0.06
LDVs CY 2001	1.18	1.24	0.02

Source: EMFAC 2000, version 2.02

Methodology:
The bus emissions represent urban diesel bus emissions divided by VMT for the chosen model years. Emissions are based on EMFAC 2000, version 2.02. The light-duty vehicle emissions represent light-duty cars, trucks, and motorcycles for the typical calendar year 2001 fleet. Emissions are from starts, soaks, running evaporative, and running exhaust were divided by VMT. (Resting losses and diurnal emissions were excluded.)

The vehicle occupancy rate for light-duty vehicles was assumed to be 1.2 persons per vehicle based on the peak-period occupancy rate given in the 1991 Statewide Travel Survey.

Caveats
Three issues associated with transit travel are not accounted for in the charts. First, studies show that about 25% of transit riders are transit dependent*, meaning they could not make the trip without transit. This means it would take about 19 passengers to represent 15 light-duty vehicles replaced on the road.

Second, transit passengers often arrive at the transit station by way of light-duty vehicle. Therefore, there are emissions associated with traveling by way of transit that are not represented in the grams per mile emissions of the transit bus itself.

Last, the light-duty vehicle fleet is getting cleaner as time goes by due to the LEV II program. As a result, the number of bus riders needed to offset bus emissions in calendar year 2008 will be more than in 2001. This is because the typical light-duty vehicle in 2008 will be substantially cleaner than in 2001.

* While many metropolitan transit rider surveys indicate that over 50% of bus riders are "transit dependent" (they don't own a vehicle), over half of this population say they would have someone drive them to their destination if transit was not available. Thus, about 25% of bus riders would make the trip in a vehicle.

Table 1. ARB Calculation Methodology Emission Factors (g/mi) and Passenger Offsets

	NOx		ROG		Total Ozone		PM10	
	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers
Diesel Bus	20.4	*	1.17	13	21.57	*	0.58	*
CNG Bus	8.60	25	0.65	7	9.25	21	0.025	3
Light-Duty Vehicle	0.35	N/A	0.1	N/A	0.45	N/A	0.01	N/A

* Indicates that bus emissions exceed light-duty vehicle emissions (per passenger) at full capacity (i.e., 40 passengers on the bus).

Table 2. 2002 EMFAC Summer Ozone/Annual PM10 Emission Factors (g/mi) and Passenger Offsets

	NOx		ROG		Total Ozone		PM10	
	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers
Transit Buses	11.88	14	3.52	4	15.39	9	0.24	7
Light-Duty Vehicles	0.9	N/A	1	N/A	1.91	N/A	0.04	N/A