FRESNO AREA EXPRESS

Blackstone/Kings Canyon Bus Rapid Transit



FY 2012 Very Small Starts Submittal Request to Enter Project Development September 2010 Update to the 2009 Submittal Prepared by:





Table of Contents

Letter from Fresno Area Express

1.0	Project 1.1. 1.2. 1.3. 1.4.	Blackstone Avenue/Kings Canyon Road BRT Project Description The Case for the Blackstone Avenue/Kings Canyon Road BRT Project Purpose of the Project Project Merits	2 7 12 13
	-Project -List of	er 1 Attachments: ct Description Template Stations s of Support for BRT Project	
2.0	Riders 2.1. 2.2. 2.3.	Introduction Methodology Results	25 25 25 26
	-Existin	er 2 Attachments: ng ridership on Routes 28 & 30 within BRT Corridor from FAX Director Certifying Ridership Collection Procedures	
3.0	Capito 3.1. 3.2. 3.3.	Methodology Standard Cost Categories Worksheet Detail for Engineer's Estimate of Probable Costs	36 36 41 33
	-SCC \	er 3 Attachments: Worksheets stone/Kings Canyon BRT Engineers Probable Cost Estimate	
4.0	Opero 4.1. 4.2.	Methodology Annual O&M Costs	53 53 56
		er 4 Attachments: Costs for BRT Project, Routes 28 & 30 Replaced Segments, and Net O&M BRT Co	st
5.0	Evide 5.1. 5.2. 5.3. 5.4. 5.5.	Alternatives Analysis Selection of Locally Preferred Alternative, Adoption into Constrained Long Range Plan, and Refinement of Locally Preferred Alternative Initial Information for Before and After Study Environmental Assessment of Project Impacts Evidence of Sponsor Technical Capacity	69 69 79 96 105 107
	Chapte	er 5 Attachments:	

-Presentation from April 2009 Public Meetings



- -August 2009 Memo on Very Small Starts Candidate Corridors
- -City of Fresno Council Resolution Selection of Locally Preferred Alternative
- -Council of Fresno County Governments Regional Transportation Plan, Amendment #2
- -Council of Fresno County Governments 2007 Regional Transportation Plan, Administrative

Modification #3

-Project Management Plan

6.0	Othe	r Factors	154
7.0	Local Financial Commitment		162
	<i>7</i> .1.	Financial Plan	162
	7.2.	Operating Plan	170
	7.3.	Finance Template	170
Chap	oter 7 At	tachments:	
	-FAX	Fiscal Year 2009,2010, and 2011 Financial Statements	

- -FAX Financial Management Oversight Report
- -California Proposition 1B Funding Source Documentation
- -Finance Template Worksheets





2223 "G" Street • 559-621-1393 Fresno, California 93706-1600 www.fresno.gov

Ken Hamm
Director of Transportation

August 30, 2010

Mr. Dwayne Weeks
Office of Planning and Environment (TPE)
Federal Transit Administration
1200 New Jersey Avenue SE, East Building
Washington, DC 20590

Dear Mr. Weeks:

SUBJECT: FY 2012 VERY SMALL STARTS SUBMITTAL (REVISION TO THE FY 2011

SUBMITTAL) AND REQUEST TO ENTER PROJECT DEVELOPMENT BY FRESNO AREA EXPRESS (FAX) FOR THE BLACKSTONE/KINGS CANYON BUS RAPID

TRANSIT

Fresno Area Express (FAX) is pleased to submit for your review and approval a request to enter Project Development for the proposed Blackstone/Kings Canyon BRT Project.

The proposed project is a 13.8-mile bus rapid transit service extending from north Fresno through downtown to near the city's Southeast Growth Area at its eastern end. The project will be a Very Small Start, with a project cost estimated at \$48.2 million in year-of-expenditure dollars. The proposed BRT alignment will follow Blackstone Avenue in the northern portion of the corridor, M Street and P Street through downtown Fresno, and Ventura Avenue – Kings Canyon Road in the eastern portion, providing frequent transit service to 26 stations (including termini). The stations will include features such as shelters, boarding platforms, benches, security features, and fare machines. Buses will run in dedicated lanes within the existing roadway for roughly 20 percent of the corridor. Other features of the project include: transit signal priority and signal coordination; queue jump lanes; real-time bus arrival information at stations; barrier-free self-service, proof-of-payment fare collection; and low-floor, low emission 60-foot articulated buses. The project is expected to open for revenue service in 2013.

The Blackstone/Kings Canyon BRT Project will improve speed and reliability of service to current riders in a corridor with existing high transit demand (over 7,000 daily boardings). The project will provide a nearby connection between the Southeast Growth Area (anticipated to add up to 55,000 new residents by 2025), downtown Fresno, and north Fresno, which has substantial trip generators including education campuses, medical centers, and commercial centers. The BRT project will connect to two existing high volume transit centers, one located in downtown and the other located in the northern portion at the Manchester Center. The BRT Project will also encourage redevelopment of underdeveloped parcels and attract infill and transit-supportive development along the corridor.

The project was selected following a Bus Rapid Transit Master Plan Study (completed in June 2008) and an alternatives analysis process culminating in the selection of the Blackstone/Kings Canyon BRT Project as the investment that best solves the transportation problems in the

Mr. Dwayne Weeks August 30, 2010 Page 2

Blackstone Avenue and Kings Canyon Road corridor. The project is included in the Short Range Transit Plan (SRTP) for the Fresno-Clovis Urbanized Area and the Ventura/Kings Canyon segment is included in the unconstrained portion Regional Transportation Plan (RTP). The complete LPA selected by the Fresno City Council on August 27, 2009, which included the Blackstone segment, was amended to the RTP in November, 2009.

FAX anticipates a contribution of 20 percent of the project cost from local funding with the balance from Very Small Starts funding.

This submittal includes the following documentation:

- Project description and Case for the Project
- Corridor riders
- Capital costs and operating and maintenance costs
- Evidence of Basic Project Readiness including alternatives analysis, before & after study plan, and project management plan (PMP)
- Local financial commitment and financial documentation

FAX has worked closely with FTA staff in San Francisco over the past year. The staff at FAX would like to thank you, Paul Page, and Ray Sukys (both from Region IX), for guiding us through this process. This submittal culminates our request for inclusion in the Fiscal Year 2012 Report to Congress on New Starts/Small Starts and to enter Project Development. Technical methods and assumptions used to prepare this submittal for the Very Small Starts application for the Blackstone/Kings Canyon BRT Project are fully in compliance with FTA's guidance and Small Starts reporting instructions.

FAX will await your guidance as we prepare to enter the project development phase. If you have any questions regarding this submittal, or about the Blackstone/Kings Canyon BRT Project, please contact Mr. John Downs at (559) 621-1502.

Sincerely,

FRESNO ARES EXPRESS

Kenneth P. Hamm

Director of Transportation

c: Paul Page, FTA Region IX Ray Sukys, FTA Region IX John Downs, FAX



1.0 Project Description



1.0 Project Description

This section provides a general description of Fresno Area Express (FAX) Blackstone Avenue/Kings Canyon Road BRT project and sets forth the "Making the Case" narrative. The narrative includes a summary of the purpose and need for the Blackstone Avenue/Kings Canyon Road BRT project and a discussion of the benefits of this capital investment priority in Fresno County.

Section 1.0 is organized as follows:

- Section 1.1 Blackstone Avenue/Kings Canyon Road BRT Project Description;
- Section 1.2 The Case for the Blackstone Avenue/Kings Canyon Road BRT.

1.1. Blackstone Avenue/Kings Canyon Road BRT Project Description

The proposed project is located in the City of Fresno (see Project Location map in Figure 1). The Blackstone Avenue/Kings Canyon Road BRT Project would provide high-quality, fast, and frequent express bus service along a 13.8-mile-long, urbanized corridor. The project extends from Audubon Drive at the northern end, through Downtown Fresno, to Clovis Avenue to the east. The project cost is estimated at \$48.19 million (year-of-expenditure (YOE) dollars) which includes costs to purchase eight vehicles. Excluding vehicle costs, the project cost is approximately \$39.90 million (YOE dollars) or \$2.89 million per mile.

The proposed alignment follows N. Blackstone Avenue in the northern portion of the corridor, M and P Streets through Downtown Fresno and Ventura Avenue-Kings Canyon Road in the eastern portion of the corridor (see Figure 1). The alignment begins just north of the RiverPark Shopping Center on Friant Road at Audubon Drive and continues south on Blackstone Avenue to Hedges Avenue. Then the alignment follows the one-way couplet through Downtown Fresno (southbound on Blackstone Avenue to M Street, northbound on P Street and Abby Street). This distance is approximately 9.4 miles.

The alignment heads east on Ventura Avenue which turns into Kings Canyon Road east of Cedar Avenue and terminates at Clovis Avenue, a distance of approximately 4.4 miles. The Kings Canyon Road-Ventura Avenue corridor connects a major growth area of southeast Fresno (up to 55,000 new residents provided for in the 2025 General Plan) to downtown Fresno. It serves (east to west) large scale commercial and newly developing land uses such as the Fancher Creek 7 planned community; Internal Revenue Service complex; Sunnyside High School; medium density residential interspersed with tracts of undeveloped land; apartment and shopping complexes; medium-density housing; large retail centers near Chester Avenue; county social services offices; county fairgrounds; University Medical Center; and upon entering downtown, office, civic, and extensive governmental land uses. With major trip generators sometimes separated by underdeveloped parcels, the Kings Canyon/Ventura corridor is attractive for infill and transit-supportive development.

Figure 2 presents a map of the 26 proposed stations, the spacing between each station (in miles), and the existing ridership (total daily boardings) of two of FAX's top three routes (Routes 28 and 30) that operate within the proposed BRT corridor.



Figure 1 Project Location Map

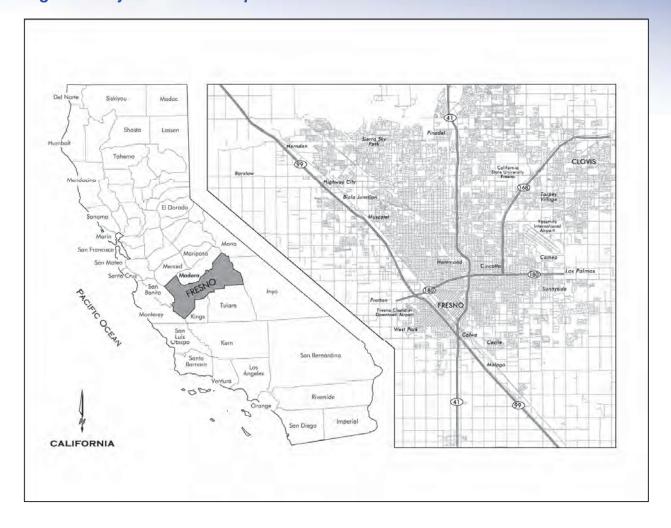




Figure 2 Blackstone Avenue/Kings Canyon Road Bus Rapid Transit Alignment and Proposed BRT Stations





The N. Blackstone Avenue corridor currently has the most intensive development outside of downtown and is therefore a strong transit corridor. It runs south-north out of downtown, with major activity centers including the Community Regional Medical Center (on Divisadero); University of California, San Francisco, medical library; Fresno City College; Manchester Shopping Center, which includes a major Fresno Area Express (FAX) transit center; and the River Park Shopping Center. Other office, commercial, and retail uses line this major arterial.

The proposed BRT service would increase ridership on the already strong bus network; buses along the proposed BRT project alignment are currently serving over 7,000 boardings per day. The project includes the following features:

- **Dedicated Bus Lanes** The BRT transitway consists of traffic lanes converted to bus-only use for approximately 20 percent of the 13.8-mile corridor. The dedicated lanes will be provided on Ventura Avenue and a portion of Kings Canyon Road and will provide improved travel times and better schedule reliability. Transit lanes will be established by converting a combination of mixed-flow lanes and a wide curbside parking lane to transit-only lanes.
- Intelligent Transportation Systems Elements (ITS) Three main elements of ITS would be implemented as part of the Blackstone Avenue/Kings Canyon Road BRT Project:

 1) transit signal priority treatments and signal coordination throughout the BRT project alignment; 2) queue jump lanes at key intersections, and 3) real-time bus arrival information displayed (and announced) at stations as well as available on the internet.

All signalized intersections in the Blackstone Avenue and Ventura Avenue-Kings Canyon Road BRT corridors will be upgraded to contain traffic signal coordination and transit signal priority. These upgrades will be included in the construction packages when the BRT system is out for bidding to contractors.

- Bus Frequencies of 10-Minute Headways during Peak and 15-Minute Midday Periods –
 Bus service along the project alignment would be operated along the BRT transitway as
 express service.
- Twenty -Six BRT Stations The BRT system would include 26 stations, spaced on average approximately 1/2 mile apart. Stations would include: comfortable shelters, level boarding platforms, benches, security technologies, and fare machines, among other features. Each station has two stops, one in each direction except at the terminus, for a total of 50 stops.
- Fare Collection The proposed BRT fare system would be barrier-free self service, proof-of-payment fare collection. Ticket vending machines will be installed at bus stops that are classified as Major stops (see Figure 2 for location of stops that are classified as Major). FAX is in the process of implementing an electronic fare payment system where card readers are installed at the entrance and exits of buses and riders can swipe a card that contains a pre-paid fare. As part of this electronic fare payment system, fare inspectors will conduct random checks to ensure collection of fares. At Minor or Basic stations, riders will pay their fare upon entering the bus via cash or electronic fare payment.
- BRT Vehicles Fresno Area Express would deploy low-floor, low emission, 60-foot articulated CNG (or CNG-hybrid) buses on Blackstone Avenue/Kings Canyon Road BRT service.

• **BRT Branding** – FAX is proposing to distinguish BRT service from their existing service via different branding of the vehicles and stations.

Vehicles

The BRT vehicles will have a color scheme and lettering that is noticeably different from the existing buses. As shown below, a rendering of the proposed BRT vehicle is shown compared to the existing FAX buses. The exact color scheme and look will be refined further as part of the project development phase.



Proposed FAX BRT Vehicle



Existing FAX Vehicle (Source: Fresno Area Express)

Stations

The BRT stations will be classified into three categories: Major, Minor, and Basic. The Major stations will include a custom bus shelter, ticket vending machines, benches, security technologies, electronic real-time arrival sign, information kiosk, and bike racks. The Minor station will include similar amenities as the Major bus station but contain fewer amenities. The Basic station will include electronic real-time arrival sign, benches, trash receptacles, and a less expensive bus shelter. Level-boarding platforms are proposed at Major stations and at most of the Minor stations. The level-boarding platforms will be constructed to American with Disabilities Act (ADA) standards and will be designed to work with existing or future BRT vehicles. An illustration of a level-boarding platform along with representative photos of each station type is illustrated below.



Typical Level Boarding Platform proposed at Major and at several Minor Stations (Source: Mexico City MetroBús)







Major Station

Minor Station

Basic Station

1.2. The Case for the Blackstone Avenue/Kings Canyon Road BRT Project

Project Identification

The Blackstone Avenue/Kings Canyon Road BRT Project would provide improved transit service between Fresno North, Downtown, and the Southeast Growth Area (see Figure 2). The project would operate in an exclusive lane for roughly 20 percent of its 13.8-mile length, and includes 26 stations and proof-of-payment fare collection. Other features of the project to enhance operations and ensure fast, reliable service include: level boarding, transit signal priority, signal coordination, queue jump lanes, and real-time bus arrival information. The BRT project will operate between 5:30 AM and 10:30 PM on weekdays with high-frequency peak (ten-minute headways) and midday periods (15-minute headways) and on weekends between 6:00 AM and 7:00 PM on 20-minute headways. The project cost has been estimated at \$48.19 million in year of expenditure (YOE) dollars which includes costs to purchase eight additional vehicles.

Setting

Location

The east-west portion of the corridor runs parallel to and south of SR 180 and provides a connection between the Southeast Growth Areas (up to 55,000 new residents provided for in the 2025 General Plan) to Downtown Fresno. A portion of the east-west corridor on Kings Canyon Road (east of Clovis Avenue) is designated SR 180. The north-south portion of the corridor connects Downtown Fresno to North Fresno and runs parallel to and west of SR 41. The proposed 13.8-mile BRT project will operate on N. Blackstone Avenue in the northern portion of the corridor, M and P Streets through Downtown Fresno, and Ventura Avenue-Kings Canyon Road in the eastern portion of the corridor. The entire BRT project is at-grade.

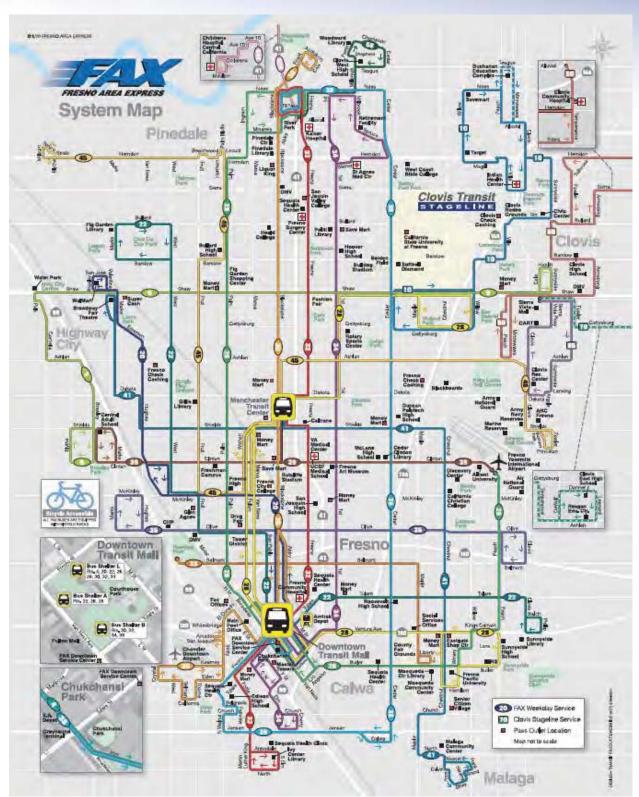


Current Transit Services

Fresno Area Express (FAX) is the public transit service provider in Fresno and also has routes extending into Clovis. The FAX system map is shown in Figure 3. FAX carries about 18.05 million passengers (unlinked trips) annually, all on fixed-route services. The proposed BRT corridor contains two of FAX's top three routes (Routes 28 and 30) in terms of ridership and their productivity ranking (based on a composite of passengers per hour and per mile, cost per passenger, cost per hour, and fares as a percent of operating costs).

Route 28 serves Kings Canyon Road/Ventura Avenue and north of downtown is parallel to Blackstone Avenue until Shields Avenue. It also serves Shaw Avenue between 1st Avenue and Sunnyside Road. Route 30 is both the third highest ridership and third most productive route; it operates along Blackstone Avenue. A major transit center, Manchester Transit Center, is located on Blackstone Avenue in the proposed BRT alignment. This transit center provides a connection to six FAX routes. The proposed BRT alignment, through Downtown Fresno, would travel within a one to two block radius of the Downtown Transit Center located at Fresno Street between Van Ness Avenue and M Street. The Downtown Transit Center serves eight FAX routes.

Figure 3: FAX Bus Network



Source: Fresno Area Express

Current Conditions

Population and Employment

The Fresno area is one of the fastest growing communities in the Central Valley. Fresno County's current population is around 942,300 (California Department of Finance, Demographic Unit, January 1, 2009 estimate). Besides being the state's tenth most populous, the county is the sixth largest in area, straddling the Central Valley and containing rich farmlands that have made it the nation's top producing agricultural county in terms of the value of farm products. Fresno city population is currently estimated at 495,900 (53 percent of the county total).

Land Uses

Land uses along the eastern portion of the corridor (Kings Canyon Road) are large scale commercial and newly developing land uses including medium density residential, apartment and shopping centers, government offices, medical center, and downtown office, civic, and governmental land uses. The northern portion of the corridor (Blackstone Avenue) includes major generators (regional medical center, medical libraries, Fresno City College, large shopping centers, and a major FAX transit center). Other uses include office, commercial, and retail uses.

Future Conditions

Population, Households, and Jobs

Fresno County's current population of 900,000 is projected to increase to 1,290,000 (in 2025) and to 1,928,000 (in 2050), a more than doubling in just over 40 years. The Council of Fresno County Governments projects City of Fresno 2025 population to be approximately 794,000, a 47 percent increase from 2005 levels. Employment growth will be even faster, increasing by 52 percent in the city of Fresno (384,000 jobs in 2025).

Development Patterns

Fresno County recognizes the importance of agriculture to the area's economy and the city of Fresno views itself as the leading agricultural business city in California. However, the rapid growth in the Fresno-Clovis metropolitan area has been predominantly low density, with sprawl consuming valuable cropland. Unless patterns are altered, the American Farmland Trust foresees 100,000 acres (156 square miles) of land threatened by conversion to urban uses.

Travel Demand and Deteriorating Roadway Operations

Travel Demand and Congestion

Rapid development has created fast-growing demand on the region's transportation system and, not surprisingly, transportation and other related problems. Fresno County



has attempted to address its surface transportation problems by locally funding improvements. Fresno County is a self-help county, passing a ½ cent sales tax in 1986 that was renewed in 2006 with 78 percent voter approval.

The "new" Measure C extends to 2027 and generates approximately \$85.7 million annually for transportation improvements. A number of major roadway projects have been completed and others are programmed. However, the roadway network is becoming increasingly congested. For example, the only inter-regional (and intrastate) north-south facility, State Route 99, which connects all of the major Central Valley communities from Bakersfield to Sacramento, is inadequate and will require extensive upgrade and expansion. Local roads and expressways do not suffer as significant congestion at this time but, increasingly, roadway expansion is seen to offer only a limited solution to looming problems.

Air Quality Concerns

Fresno County is one of eight counties in the San Joaquin Valley Unified Air Pollution Control District which currently does not meet several of the air quality standards set forth in the Federal Clean Air Act or the California Clean Air Act. The district is a designated non-attainment area for ozone ("serious") and particulates (both PM10 "serious" and PM2.5) and is a maintenance area for carbon monoxide. It similarly fails to meet California standards for these pollutants. As a result, Fresno County must satisfy federal requirements calling for consideration of transportation control measures to reduce emissions and demonstrate conformity with the State Implementation Plan for Air Quality. Transportation projects in the federal Transportation Improvement Program for the Fresno area, which proposes projects for funding and implementation in the near future, should not result in a deterioration of existing air quality problems and must support efforts to bring the area into acceptable attainment status.

Auto/truck travel is a major cause of poor air quality. The Fresno area cannot expect to substantially improve conditions if it continues to build roadways for low-occupancy vehicle travel. The area must address problem emissions by also providing more efficient high-capacity modes of transportation that are competitive with autos and it must limit sprawl. Adding to concerns over National Ambient Air Quality pollutant emissions, are greenhouse gas emissions, related to undesirable climate change. Auto and truck travel is a major contributor of carbon dioxide.

Mobility Needs of Low Income Groups and Environmental Justice.

Much of the area's population growth over the last 25 years has been due to an influx of ethnic minorities and the higher than average birth rates of new immigrants. Fresno County is approximately 34 percent white, 49 percent Hispanic, just under 10 percent Asian, and about 7 percent Other. The California Department of Finance projects by 2050 the county will be less than 20 percent white, over 60 percent Hispanic, just over 10 percent Asian, and still 7 percent Other. Unfortunately, sizeable segments of the area's ethnic populations are lower income.

The poverty rate among Fresno County households (i.e., percentage of households with incomes below the federal poverty rate in 2000 according to the U.S. Census) is among

the highest in the state, at 23 percent, with adjacent Tulare County the highest at 24 percent. The high poverty rate is largely related to the status of agricultural workers and the seasonal nature of their work. Fresno County's poverty rate also reflects the fact, on average; recent immigrants tend to be less educated than the rest of the population and cannot command as high a wage or salary and benefits. Unemployment fluctuates considerably, but at 15 percent as of July 1, 2009 (State of California Employment Development Department) it has consistently been above state and national averages. Auto availability tends to be lower than average for California counties, with 28,311 zero-auto households, or 11 percent of all Fresno County households, according to the 2000 U.S. Census. These factors limit the mobility of these populations and require that steps be taken to provide residents more and reasonably priced travel options.

Transit

The *BRT Master Plan* estimated ridership in the project corridor for 2006 and in 2030. (Ridership is up substantially on most routes since 2006.) Kings Canyon/Ventura and Blackstone performance was combined. The weekday passenger boardings estimates are as follows:

Corridor Segment	Current	2030 NB*	2030 Ranged**
Kings Canyon Rd/Ventura Ave/Blackstone Ave	12,700	14,500	23,400 29,600

^{*}NB= No-Build condition and includes both Routes 28 and 30.

The ridership totals indicate the potential for substantial ridership growth with both service enhancements and provision of BRT preferential treatments and passenger amenities. The proposed BRT alignment along Blackstone Avenue, M and P Streets in downtown Fresno, and Kings Canyon Road/Ventura Avenue has over 7,000 boardings today, excluding boardings on proximate, parallel routes from which BRT service will likely attract passengers.

1.3. Purpose of the Project

The Blackstone Avenue/Kings Canyon Road BRT Project will:

- Improve Transit Service and Better Accommodate Existing Bus Ridership The project would improve speed and reliability of service to current riders, including large numbers of minority, low-income, and transit-dependent residents, by offering higher frequency service, reduced travel time, and greater schedule reliability. The proposed project would provide a connection between the Southeast Growth Area (anticipated to add up to 55,000 new residents by 2025), Downtown Fresno, and north Fresno.
- Increase Transit Ridership by Providing a Viable and Competitive Transit Alternative to the Private Automobile. The project would attract new riders and reduce single occupant automobile use by providing a rail-like experience by improving transit service and facilities along the corridor. The project would improve the two factors most important in attracting motorists to transit service: competitive transit travel times and a high degree of reliability.
- Provide another catalyst to changing the patterns of development in Fresno County. Growth
 in the Fresno-Clovis metropolitan area has been predominantly low density, with sprawl
 consuming valuable cropland. The BRT project will encourage redevelopment of
 underdeveloped along the corridor.

^{**} Assumes BRT improvements in place through the corridor.

1.4. Project Merits

Project benefits are both quantitative and qualitative. Improvements will include transit signal priority (TSP) at several of the most congested or otherwise problematic intersections, bus stop enhancements, and improved passenger information and amenities.

The proposed Blackstone/Kings Canyon BRT project will improve transit travel time and reliability, and increase the capacity of the roadway to handle more buses and of the system to handle more riders. The benefits are:

- Significant ridership increases and the resulting additional capacity and travel time savings. Peak hour weekday headways will be reduced from the current 15 minutes to 10 minutes.
- Attraction of new riders and expansion of benefits to existing riders.
- Reduction in growth of vehicle miles traveled (VMT). Improved transit service will help to provide a viable and competitive alternative to the automobile and reduce auto emissions.
- Increased mobility for low income and transit dependent populations that currently live within one-half mile of the BRT corridor.
- Construction of infrastructure, including distinctive stations that provide nodes for new activity, supporting transit-oriented residential and commercial development.

Uncertainties

Capital Cost and Schedule

Every effort has been made to anticipate and plan for variations in cost. Sources of risk include cost-inflation assumptions, field conditions compared to basis for costing, and the implementation and construction schedule.

The cost estimate was developed in 2010 dollars; an average escalation factor of 4 percent was applied to convert the project cost to year-of-expenditure dollars (YOE). The escalation factor may change over the next couple of years until the project goes into construction (year 2012).

Another source of risk related to project cost is related to actual field conditions for several cost items, including:

- The costs associated with guide way construction were based upon rehabilitation of the existing roadway pavement structural section. Should pavement conditions be worse than assumed, more expensive construction techniques might be needed along some parts of the transit way.
- As detail design progresses, additional utility work could be needed, thus increasing project costs for utility work and relocations.

Finally, the cost estimates were developed assuming a realistic schedule for project development and implementation. However, project delays will result in increased escalation of construction and professional service costs.

While there are several sources of cost uncertainty, this project has few design elements that are associated with a high degree of risk:

- The project is 100 percent at-grade, with no tunnels, bridges, or other aerial structures;
- Construction is mostly within existing roadways through conversion of existing mixed-flow traffic lanes to dedicated busways;
- There is little below grade excavation; and
- There are minor right-of-way requirements and little right-of-way risk, again because the project is primarily constructed within existing roadways.

In conclusion, while the cost estimates for this project contains a number of elements of risk, the risk is accounted for by conservative contingencies assumptions built into the preliminary cost estimates.

Ridership and Benefits

Future ridership and travel time benefits associated with the Blackstone Avenue/Kings Canyon Road BRT Project are dependent upon continuing population and employment growth. Should either falter substantially, growth in travel demand and transit ridership would also be less than anticipated.

Letters of Support

As indicated above, the proposed Blackstone Avenue/Kings Canyon Road BRT project will provide numerous benefits to the residents of Fresno. Attached at the end of this chapter are letters of support for the proposed project from key policy makers and business leaders, including:

- Fresno County of Council Governments, Executive Director, Tony Boren
- City of Fresno, Mayor, Ashley Swearengin
- Economic Development Corporation, Chief Operating Officer, Lee Ann Eager
- Fresno County Workforce Board, Executive Director, Blake Konczal
- Greater Fresno Area Chamber of Commerce, President and CEO, Al Smith
- San Joaquin Valley Air Pollution Control District, Executive Director, Seyed Sadredin

It should be noted that an additional letter of support for the proposed project has been provided by US Senator Diane Feinstein (California). This letter has been sent to FTA under separate cover.

Summary

The Blackstone Avenue/Kings Canyon Road BRT project will provide improved transit service in an urbanized corridor that will connect a major growth area (southeast Fresno) to downtown Fresno and contains major trip generators. The proposed BRT project will improve end-to-end transit travel times, attract daily new riders, and generate travel-time savings for existing riders. The project will reduce vehicle miles travel thus improving air quality, support transit oriented



development and attract and encourage redevelopment along the corridor. Uncertainties associated with cost, ridership, and community support for the project are not significant.



Project Description Template

And

List of Stations

PROJECT DESCRIPTION TEMPLATE					
PROJECT NAME:	PROJECT NAME: Fresno Area Express Blackstone/Kings Canyon Bus Rapid Transit				
		pating Agencies			
Lead Agency	Name	City of Fresno - Fresno Area Express (FAX)			
	Contact Person	John Downs			
	Address	2035 Tulare Street, Suite 201, Fresno, California 93721			
	Telephone Number	(559) 621-1502			
	Fax Number	(559) 488-1065			
	Email	John.Downs@fresno.gov			
Metropolitan Planning	Name	Council of Fresno County Governments (Fresno COG)			
Organization	Contact Person	Tony Boren			
3	Address	2035 Tulare Street, Suite 201, Fresno, California 93721			
	Telephone Number	(559) 233-4148			
	Fax Number	(559) 233-9645			
	Email	tboren@fresnocog.org			
Transit Agency	Name	City of Fresno - Fresno Area Express (FAX)			
	Contact Person	Kenneth Hamm			
	Address	2223 'G' Street, Fresno CA 93706			
	Telephone Number	(559) 621-1440			
	Fax Number	(559) 488-1065			
	Email	kenneth.hamm@fresno.gov			
		California Department of Transportation (Caltrans)			
Transportation	Contact Person	Steve Curti			
•	Address	1352 W. Olive, Fresno CA 93728			
	Telephone Number	(559) 488-4162			
	Fax Number	(559) 488-4088			
	Email	steve_curti@dot.ca.gov			
Other Relevant	Name				
Agencies	Contact Person				
	Address				
	Telephone Number				
	Fax Number				
	Email				
Other Relevant	Name				
Agencies	Contact Person				
9	Address				
	Telephone Number				
	Fax Number				
	Email				
Other Relevant	Name				
Agencies	Contact Person				
	Address				
	Telephone Number				
	Fax Number				
	Email				

	PROJECT DESCRIPTION	TEMPLATE (Page 2)
Project Definition	Length (miles)	13.79 miles
,	Mode/Technology	BRT
	Number of Stations	26
		(2 bi-direction stops per station, except at terminus, or 50
		total stops)
	List each station separately, including	See attachment for list of individual stations;
	the number of park and ride spaces at	oce attachment for hist of marviadar stations,
	each and whether structured or	
	surface parking	
	List each station with major transfer	See attachment for list of individual stations and transfers;
	facilities to other modes	Fresno BRT provides connections to other FAX
	Number of vehicles/rolling stock	17 peak vehicles, an increase of 3 over existing Routes 28
	- cannot of tollionogramming crossic	& 30 replaced segments
Type of Alignment by	Above grade	0
Segment (Number of	Below grade	0
Miles)	At grade	13.8
iiiioo)	Exclusive	2.51
	Mixed Traffic	11.29
Status of Existing Right	Ownership – who owns the right of	City of Fresno
of Way	way?	ony or ricono
o. way	Current Use: active freight or	No
	passenger service?	1.10
	Passender service:	

	PROJECT DESCRIPTION 1	TEMPLATE (Page 3)	
Project Planning Dates	Base Year	Base Year/O	pening Year
3			/2013
Capital Cost Estimate	2009 constant dollars	\$	44,118
	Year of Expenditure	\$	48,188
Levels of Service	Headways	•	,
	Weekday Peak	6:30 AM - 9:00 AM & 3:30	PM - 5:30 PM 10 minutes
	Weekday Off-peak	9:00 AM to 3:30 PM, 15 minutes	
	Weekday Evening	5:30 PM to 10:30 PM, 30 minutes	
	Weekend		
	Hours of Service	0.007111 7.00	i Wi, 20 miliatoo
	Weekday	5:30 AM -	10:30 PM
	Weekend		
Opening Year Travel For		2009 Base Ridership	7.00 1 10
Fare Policy Assumptions		Same as 2009 Existing fare st	tructure
Project Planning and		Project Schedule	ractare
Development Schedule	r		ed or actual dates/durations
Development Schedule		Planning Studies Initiated	
		Planning Studies Completed	Jun-08
		lanning Studies Completed LPA selected	May-09 Aug-09
	LDA included in the financially		Nov-09
	LPA included in the financially o		2010
		Financially Constrained TIP	
		gorical Exclusion (Type "D")	Jan-11 Jul-11
	Completion of Categ	orical Exclusion (Type "D")	Jui- i
	Public Reference (where applicable)		n/a
	Public Referenda (where applicable) Preliminary Engineering (duration – dates of beginning and ending) Jan-11 to Jun-		
			Jul-11 to Dec-11
	FFGA- submit request to award (duration) Jun-11 Jun-12		
	Construction (duration) Construction (duration) Construction (duration)		
	Testing (duration) Jan-13 to Jul		
		Revenue Operations	Aug-13
	Project Manage		,g
Project Manager		John I	Downs
i roject manager	Address	2035 Tulare Street, Suite 20	
	Phone		21-1502
	Fax		38-1065
	Email	John.Downs@fresno.gov	
Agency CEO			
/ igo.io, 0_0	Address	2223 'G' Street, Fresno, CA 93706	
	Phone	(559)621-1440	
	Fax	(559) 488-1065	
	Email		esnocog.org
Key Agency Staff:	Name		
Overall New Starts	Address	2035 Tulare Street, Suite 20	
Criteria		(559) 621-1502	
Officia	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Key Agency Staff:	Name		
Ridership Forecasts			
	Phone	(559) 621-1502	
	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Key Agency Staff:	Name		
Cost Estimates	Address	John Downs 2035 Tulare Street, Suite 201, Fresno, California 93721	
JUST Estimates	Phone	(559) 621-1502	
	Fax		
	Email		
	Lillali	J CONTINUE TO STOCK SOV	

^[1] Please summarize fare policy assumptions used for all regional transit services modeled in the forecast year. Attach this summary to the Project Description Template.

	PROJECT DESCRIPTION T	TEMPLATE (Page 4)	
	Project Management		
Key Agency Staff:	Name	John Downs	
Environmental	Address	2035 Tulare Street, Suite 201, Fresno, California 93721	
Documentation	Phone	(559) 621-1502	
	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Key Agency Staff:	Name	John Downs	
Land Use Assessment	Address	2035 Tulare Street, Suite 201, Fresno, California 93721	
	Phone	(559) 621-1502	
	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Key Agency Staff:	Name	John Downs	
Financial Assessment	Address	2035 Tulare Street, Suite 201, Fresno, California 93721	
	Phone	(559) 621-1502	
	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Key Agency Staff:	Name	John Downs	
Project Maps	Address	2035 Tulare Street, Suite 201, Fresno, California 93721	
	Phone	(559) 621-1502	
	Fax	(559) 488-1065	
	Email	John.Downs@fresno.gov	
Contractors			
Current Prime	Name	Kimley-Horn and Associates, Inc.	
Contractor	Address	555 12th Street, Suite 1230, Oakland, CA 94607	
	Phone	(510) 625-0712	
	Fax	(510) 625-0714	
	Email	Jeff.Allen@kimley-horn.com	
Prime Contractor:	Name	Jeff Allen	
Project Manager	Address	555 12th Street, Suite 1230, Oakland, CA 94607	
, , , , , ,	Phone	(510) 625-0712	
	Fax	(510) 625-0714	
	Email	Jeff.Allen@kimley-horn.com	
Contractor Responsible	Name	Jeff Allen	
for Travel Forecasts	Address	555 12th Street, Suite 1230, Oakland, CA 94607	
	Phone	(510) 625-0712	
	Fax	(510) 625-0714	
	Email	Jeff.Allen@kimley-horn.com	
Contractor Responsible	Name	Jeff Allen, Kimley-Horn and Associates, Inc.	
for Capital Cost Address			
Estimates	Phone	(510) 625-0712	
Lotinidios	Fax	(510) 625-0714	
	Email	Jeff.Allen@kimley-horn.com	

FRESNO AREA EXPRESS BRT List of Stations

		Station Location	Bus Classification (Major, Minor, Basic)	Distance from Previous Station (miles)
1	Friant Road	at Audubon Dr (End of Line)	Minor	-
2		at N. of El Paso (NB & SB)	Minor	1.16
3		at Herndon Ave (NB & SB)	Minor	0.61
4		at Sierra Ave (NB & SB)	Minor	0.50
5		at Bullard Ave (NB & SB)	Basic	0.50
6		at Barstow Ave (NB & SB)	Minor	0.50
7		at Shaw Avenue (NB & SB)	Major	0.49
8	Blackstone	at Gettysburg Ave (NB & SB)	Basic	0.51
9	Avenue	at Ashlan Ave (NB & SB)	Minor	0.49
10	Avenue	at Griffith Way (NB & SB)	Minor	0.25
11		at Manchester Center	Major	0.48
12		at Clinton Avenue (NB & SB)	Minor	0.51
13		at McKinley Avenue (NB & SB)	Minor	0.25
14		at Olive Avenue (NB & SB)	Minor	0.53
		at Belmont Avenue (SB)		
15		at Abby Street (NB)	Minor	0.51
16	Stanislaus St	at P Street (NB & SB)	Minor	0.52
	M St	at Mariposa St (SB)	Basic	
17	P St	at Fresno St (NB)	Major	0.43
18		at P St (EB & WB)	Minor	0.62
19	Ventura St	at 1st Street (EB & WB)	Minor	0.43
20		at 5th/6th St (EB & WB)	Basic	0.41
21		at Cedar Avenue (EB & WB)	Major	0.59
22		at Maple Avenue (EB & WB)	Minor	0.50
23	Kings Canyon	at Chestnut Avenue (EB & WB)	Major	0.51
24	Road	at Helm/Transit Village/Wal-Mart (EB & WB)	Major	0.54
25		at Peach Avenue (EB & WB)	Minor	0.19
26		at Clovis Avenue (EB & WB)	Minor	1.02
Total Distance to Clovis Ave (mi)				13.79
Average Spacing (mi)				0.55