

Downtown Fresno Streetcar Feasibility Study

Study cost not to exceed \$250,000

Although set out as a separate task, the Downtown Fresno Streetcar Feasibility Study must be integrated and coordinated with Public Transportation and Infrastructure Study.

The tasks outlined here do not need to be completed sequentially. There is much interaction and feedback among the various tasks and disciplines involved in the feasibility analysis, and there may be repeated iterations. The Consultant shall provide recommendations as to appropriate sequencing and scheduling of these activities. The items in the work program that are essential to determining feasibility shall be identified early to allow the preliminary engineering and environmental review phase to proceed. These essential items are expected to be alignments, cost estimates, environmental screening, structural research, and operations and management scenarios.

A. Purpose and Need Statement

The Consultant shall prepare a Purpose and Need statement for the project. The overall intent of the project being studied is to improve transit service to support existing and proposed development in the core areas of the City of Fresno. This includes capturing the economic benefit from improving transit service in project area.

B. Public Outreach and Survey

The Consultant shall manage and implement a public outreach and involvement program, which include at least two open house meetings and individual meetings with stakeholders in the area. Stakeholders include property and business owners, local developers, business associations, non-profits, residents, transit riders, public agencies, and private organizations.

The Consultant shall conduct an opinion survey, focus group, scoping meeting, or other method to gain insight to what the public desires in a transit system to serve the project area, and preferences for vehicle type, destinations served, service frequency, and other characteristics. This task should also assess whether the public would choose a streetcar over other available travel modes, and perception and general attitude toward streetcar service.

C. Travel Demand Analysis/Forecasting

Provide an assessment of the demand for transit services within the study area. This assessment shall include, but not be limited to, an assessment of the current demand for transit services as well as the growth in demand associated with proposed residential and office/commercial development.

The consultant should review existing plans for the study area including the FCMA Short Range Transit Plan, the FAX Long-Range and BRT service plans, the general plan for the City of Fresno, the Downtown Transportation and Infrastructure Study, current and proposed development plans within the service area, population projections and demographic profiles within the study area.

In addition to existing plans and planning efforts, the analysis should consider previous services offered by FAX using 'Trolley Style' buses to provide service in Downtown Fresno.

The analysis should also include the inter-relationship between any new service and the services currently provided by FAX. The time frame for analysis shall include at least the current or base year, five, ten and twenty year projections of demand. This assessment should consider the most recent regional travel demand models, and the demand impacts of growth associated with implementation of the Fresno COG "Blueprint" vision for the area.

The goal of this task is to provide a firm and clear understanding of the transportation needs and travel patterns of the study area so that transit service and routing alternatives can be developed that will provide the optimal service to meet the needs of the residents, employees and businesses in the study area.

A feasibility-level traffic analysis shall be performed identifying the major intersections, roadway segments and the potential impacts/delays to local existing and cumulative 2025 traffic. The consultant shall utilize the Fresno COG's Traffic model to assess the impact of the streetcar operation on local traffic.

D. Refine Objectives and Evaluation Criteria.

A statement of project objectives will be developed. Using these objectives, the Consultant shall devise criteria for reviewing and evaluating alignments and alternatives. The criteria shall be quantifiable, measurable, and objective to the greatest extent possible. Likely parameters for evaluating project alternatives include ridership goals, cost-effectiveness, whether key destinations are served, funding feasibility, cost distribution, and timing for project delivery.

E. Route Studies

The streetcar line is envisioned as an economic development engine that connects important destinations including redevelopment opportunities to work, housing and entertainment destinations. The Consultant shall identify key destinations within the project area, any constraints on routing imposed by physical conditions, traffic, or other considerations. Various routing alternatives will be prepared and evaluated. Potential station locations shall also be indicated.

F. Service Criteria

The desired schedule for streetcar operations will be considered in this task, including hours and days of operation, headways or frequency of service, and ridership capacity of the system. Route architecture (i.e., single track versus double track, loop versus line operation) should be evaluated. Headways of ten minutes or less are desired.

G. Equipment Analysis

A variety of equipment options are available for streetcars, including restored historic vehicles, replica cars, refurbished used vehicles, and modern streetcars. These options will be considered and evaluated. Operating systems, including signaling, coordination with traffic controls, power supply, and maintenance facility requirements will also be evaluated in this task. Accessibility requirements associated with the vehicles and stations will be described.

The consultant should prepare a matrix analysis of the benefits and tradeoffs, and the design and operating implications, of each of the vehicle options. Each potential type of vehicle (i.e. replica streetcar, historic streetcar or modern streetcar) will be assessed and compared on key characteristics (e.g., vehicle height, accessibility, station design requirements, passenger amenities like HVAC and automatic announcement systems) and implications for operations (staff requirements, vehicle performance, maintenance needs, multiple unit operation, interoperability with existing FAX systems, etc.). The matrix should also consider the impact of vehicle selection on a maintenance facility. For example, replica or historic streetcars that have a lot of exterior woodwork should be stored in a protected area to prolong the life of the woodwork.

H. Opportunities and Constraints Analysis

Physical and institutional constraints which affect the routing, cost of the project shall be identified and analyzed. Consultant shall formulate recommendations for working within any identified constraints, and shall identify opportunities and provide recommendations for maximizing opportunities.

I. Environmental Screening

The intent of this task is to identify potentially significant environmental impacts and state or federal permitting requirements. Noise, vibration, and stray current issues should also be considered. More detailed environmental impact analysis will be addressed in Phase 2 of the project. For example, the screening should include a preliminary traffic analysis to identify major issues between transit rail service, autos, BRT, pedestrians and bicycles and to indicate which intersections should be evaluated in Phase 2.

J. Conceptual Engineering

Engineering will be developed to a conceptual level to support the other tasks and decision-making. The work product would include conceptual level drawings of track and alignment.

K. Cost Estimates

To evaluate project alternatives and to assess feasibility, a range of cost estimates will be developed from the conceptual plans. Estimates will include final design and permitting necessary to construct the project. A range of operating cost estimates will also be prepared.

L. Station Design Criteria

This task will address potential station or stop locations, the level and type of improvements (e.g. separate platform versus curbside stop), accessibility issues for boarding areas, and general design criteria for stations. Stations should be pedestrian scale and blend well into the existing neighborhoods.

M. Operations and Management Scenarios

Operational information will be provided including how the system will be operated; who will manage operations; hours of operation; how many staff will be required; emergency preparedness; any regulatory considerations, etc. This information will be considered in outlining a plan for operations and management of a streetcar line. Labor requirements, including a 13(c) assessment shall be addressed. Private operators shall be considered in addition to FAX.

N. Financing Plan

This task includes the preparation of a financing plan for the implementation and start-up capital requirements and operating costs. The plan should also assess the costs associated with the project at start-up, and at five and ten year time horizons.

The analysis shall include a complete review of capital and operating funding resources, including but not limited to federal, state, and local funding resources, development fees, and operating assessments. The evaluation should review the financial capacity of FAX and the City of Fresno to implement and operate each of the service alternatives. The plan should recognize the intent of the parties that the initial start-up system should be funded through local/non-federal funding sources, and that this is not an exercise in re-allocating existing resources.

Private participation in financing a streetcar system is one of the basic principles adopted for this project. Gaining support of developers, property owners, non-profit organizations and others who will participate in financing is central to project success. The Consultant shall identify areas of benefit and outline a process for assigning costs, using information from interviews with stakeholders, route information, ridership characteristics, and other relevant inputs.

O. Final Report

The Consultant shall prepare final reports with recommendations for presentation to the Fresno COG's Policy Board and the Fresno City Council.

The Design report will document all of the Study work, summarizing the feasibility, conceptual engineering, environmental screening and design conclusions of the Study work discussed above, including the following:

- Alignment overview and station concepts
- Opportunities and constraints analysis
- Major engineering design assumptions and criteria, including track design, minimum curve radii and maximum gradient, drainage assumptions, vehicle characteristics, power supply, signaling
- Written description of alignment routes, including crossover and tie-in locations
- Power and signaling concepts, including train signal system assumptions, OCS pole location criteria, substation spacing and placement
- Operating and maintenance assumptions and requirements
- Vehicle storage and maintenance locations
- Location and description of any required structures
- Station locations and descriptions of improvements and access
- Right of way requirements for track, stations, power, and maintenance facilities
- Analysis of options and associated costs for operating the streetcar line, Construction cost estimate
- Total Project Cost Estimate, including "soft costs" (e.g. engineering, environmental, right-of-way, construction support)

- Financing section summarizing potential funding sources for capital and operating costs, and recommend a plan for building and running the system.