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TO: John Downs, Council of Fresno County Governments  
PTIS Technical Advisory Committee Members

FROM: James M. Daisa, P.E., PTIS Project Manager

DATE: July 8th, 2009

**SUBJECT: Fresno Public Transportation Infrastructure Study (PTIS)  
Memorandum #3 – Draft Purpose and Need, Goals and Objectives  
Memorandum #4 – Draft Evaluation Criteria and Measures**

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This memorandum describes the results of Task 1.2 – Define Goals, Objectives, and Evaluation Criteria of the Fresno Public Transportation Infrastructure Study (PTIS) Phase 2, which is being conducted by Kimley-Horn and Associates (KHA) for the Council of Fresno County Governments (FCOG). This document is a combination of Memorandum #3 (Draft Purpose and Need, Goals and Objectives) and Memorandum #4 (Draft Evaluation Criteria and Measures).

The intent of this memorandum is to define the purpose and need and identify goals and objectives for the PTIS. Performance measures are then identified for use in measuring the improvement strategies or a specific alternative's performance in meeting the goals and objectives.

A draft of the purpose and need and goals and objectives was previously submitted to the Technical Advisory Committee (TAC) for review and comment. The discussion presented below for the need, purpose, and goals and objectives, reflects revisions to respond to comments received from the TAC.

### **Need**

Fresno County's population, now approximately 900,000 people, is projected to grow to 1,928,000 people by 2050. The rapid pace of past development has increased traffic congestion on many segments of the roadway and highway system, and future growth will exacerbate this problem. The majority of the growth that occurred in the past is low-density and widely spread geographically. This pattern of growth has consumed prime agricultural land and has increased Vehicle Miles of Travel (VMT), a major contributor to greenhouse gas emissions. This urban sprawl, if left unchecked, will continue.

Fresno County is one of eight counties in the San Joaquin Valley Unified Air Pollution Control District (Valley Air 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 Valley Air 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. The Valley Air District similarly fails to meet California standards for these pollutants. As a result, the 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. It follows that whatever transportation projects are considered and ultimately implemented must not deteriorate existing problems and must support efforts to bring the County into air quality attainment. Given auto and truck travel is a major source of critical emissions, the County must consider implementing more-efficient (e.g. increased occupancy, reduced travel times, lower costs), high-capacity modes of transportation that provide competitive options to the auto. Such transportation modes must also address the need to provide suitable alternative travel options to parts of the population who have limited mobility, and parts of the County currently inadequately served by public transportation.

Fresno County needs to plan, design and implement public transportation services and supportive land use types and development patterns that will support alternatives to single-occupant vehicles, improve mobility for all users, and seek to reduce traffic congestion, urban sprawl, and air quality impacts.

### **Purpose**

The purpose of the Public Transportation Infrastructure Study (PTIS) is to define and evaluate mobility needs and opportunities and identify strategies for public transit and non-automobile transportation. These strategies, in combination with transit supportive land use planning and development patterns, will seek to achieve measurable reductions in traffic congestion (e.g. reduced vehicular volumes or hours of delay), automobile emissions (e.g. change in VOC, CO, NOx, and PM10), and urban sprawl (change in land use mix and compactness that support walking, bicycling, and transit), and will provide increased mobility (higher occupancy alternative modes of transportation) for County residents.

### **Goals, Objectives, and Potential Performance Measures**

Starting with the rationale for the Fresno PTIS framework and the Fresno Blueprint, a set of five goals were identified for this study. For each goal, multiple objectives were identified. Table 1 contains the list of goals and objectives.

The goals and objectives contributed to the development of potential performance measures or evaluation criteria, a term often used interchangeably with “performance measures.” For the purpose of this study, the term “performance measures” is used. The majority of the potential performance measures identified in Table 1 are quantitative and provide specific measurable results (e.g. change in hours of delay or number of households within a certain boundary). Qualitative performance measures are also identified and provide useful information for the decision makers. The qualitative performance measures have the various subjective ratings identified in parentheses following the performance measure.



**Next Steps**

The Refined Purpose and Need, Goals and Objectives, and draft Performance measures will be finalized after review and comment from the Fresno Council of Governments, Policy Advisory Committee (PAC), and Technical Advisory Committee (TAC).

<b>Table 1</b> <b>Fresno Regional Public Transportation Infrastructure Study</b> <b>Goals, Objectives, and Evaluation Criteria/Performance Measures</b>		
<b>Goals</b>	<b>Objectives</b>	<b>Potential Performance Measures</b>
1. Increase personal mobility by providing functional access to work, education, health care, recreation, and other essential services for all County residents.	a. Evaluate current and realistic future potential usage of public transportation based on current buildout of general plans in Fresno County communities. b. Define, evaluate and identify the most economical, convenient, effective, and efficient public transportation services to address the forecast demands. c. Promote transit-oriented development, transit-supportive corridor and neighborhood design, and multi-modal network and street design.	<i>Ridership</i> <ul style="list-style-type: none"> <li>• Future year average weekday transit linked trips in corridor</li> <li>• Future year average weekday transit boardings in corridor</li> <li>• Number of new riders</li> </ul> <i>Demographics</i> <ul style="list-style-type: none"> <li>• Number of residents within ½ mi of transit alignments</li> <li>• Employment within ½ mi of station</li> <li>• Number of transit dependent households within ½ mile of alignment</li> <li>• Number of low income households within ½ mile of stations</li> </ul> <i>Land Use</i> <ul style="list-style-type: none"> <li>• TOD potential within ½ mile of a station (N/A, low, medium, or high)</li> <li>• Compatability with existing and future land uses in corridor</li> <li>• Compatability with regional land use plans</li> <li>• Enhances built environment</li> </ul>
2. Implement viable public transportation projects that will increase and integrate other modes of transportation including bicycle/pedestrian and multiuse trails and increase access to transit and principal activity centers.	a. Encourage local jurisdictions to implement the goals, objectives and policies contained in the Regional Transportation Plan relating to bicycle and pedestrian facilities. b. Support County Health Department efforts to promote walking and cycling as healthy transportation and recreational alternatives. c. Integrate bicycle support into all public transit services and facilities such as the provision of bicycle racks on and in transit vehicles and at transit stations. d. Encourage public agencies to adopt	<ul style="list-style-type: none"> <li>• Consistency with local or regional bike and pedestrian plans and policies (low, moderate, or high)</li> <li>• Trails and greenways within one-quarter mile of corridor</li> <li>• Development of walkable communities around transit stations (low, medium, high)</li> <li>• Connectivity of bicycle system (ability to access principal activity centers)</li> </ul>



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	pedestrian-friendly development and transportation network guidelines and standards within public transportation corridors.	
3. Propose economical, efficient, and convenient alternatives to private automobiles.	a. Promote intermodal facilities including integration of park and ride, rideshare, bicycle, rail and transit centers. b. Promote the coordination of service, scheduling, pricing, universal fare collection and infrastructure. c. Support, and integrate new services with, High-Speed Rail and the downtown Fresno rail station. d. Expand public transportation to new growth areas and areas without such service where need exists and can be reasonably met. e. Provide transportation alternatives that provide convenient, fast, efficient, and reliable access to essential functions and services, emphasizing special needs communities. f. Expand and promote Transportation Demand Management (TDM) programs and strategies that provide incentives to developers to integrate multimodal access elements into projects. g. Encourage private sector participation in shuttles and connections to public transportation. h. Develop regional traveler information systems.	<i>User Benefits</i> <ul style="list-style-type: none"> <li>• Travel times savings for transit users as compared to SOV</li> <li>• User benefit (cost per hour of travel time saved)</li> <li>• Cost per mile of travel as compared to SOV</li> <li>• Travel times along transit way (entire length)</li> </ul> <i>System Performance</i> <ul style="list-style-type: none"> <li>• Person hours of delay</li> <li>• Change in travel speeds in corridor</li> <li>• Number of congested links in corridor</li> <li>• Person throughput</li> <li>• Change in mode split</li> </ul>
4. Enhance public transportation connectivity to existing or planned (transportation) services and facilities.	a. Identify and evaluate practical and cost-effective public transportation connections. b. Promote preservation of major transportation corridors for multiple technologies (rail, bus, HOV). c. Encourage rail consolidation.	<ul style="list-style-type: none"> <li>• Provision of direct connections to existing regional transit system (limited or good connections)</li> <li>• Number of transfer opportunities within Corridor</li> <li>• Number of activity centers connected via transit</li> <li>• Number of transfers occurring in the study area</li> <li>• Provision of complementary infrastructure</li> </ul>



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		and service to developing or redeveloping areas <ul style="list-style-type: none"> <li>• Connections to future local, regional, or state transit facilities including High Speed Rail</li> </ul>
5. Maintain and enhance public transportation over a 50-year planning horizon.	a. Identify and support public/private partnership opportunities that provide funding for operations, maintenance and capital expansion of public transportation and help sustain regional economic vitality. b. Align the Regional Transportation Plan to fund the PTIS recommendations as critical elements of the capital improvement plan for the region. c. Promote transit-oriented development, and encourage Fresno County jurisdictions to adopt transit-supportive land use designations, and pedestrian-friendly development and transportation network guidelines and standards within public transportation corridors. d. Maintain and grow the fare box revenue percentage through careful ongoing service planning to match fiscal realities. e. Enhance the vehicle fleet to minimize the greenhouse gas emissions and minimize net energy usage of the public transportation system. f. Help expedite the development of advanced transit systems such as personal rapid transit, and other fully automated transit networks. g. Determine phasing of public transportation for short term (10 yrs), mid-term (20 yrs), and long term (50 yrs) growth based on current general plan buildout. h. Estimate cost to implement plan and possible funding sources	<i>Ops &amp; Maintenance</i> <ul style="list-style-type: none"> <li>• Capital costs</li> <li>• Annualized total capital cost</li> <li>• Incremental systemwide operating and Maintenance Annual Costs</li> <li>• Total annual incremental cost</li> <li>• Total annual cost per rider</li> <li>• Total annual cost per new rider</li> <li>• Operating cost per transit passenger mile</li> <li>• Change in operating cost per passenger mile</li> </ul> <i>Emissions</i> <ul style="list-style-type: none"> <li>• Daily Tons of VOC, CO, NOx, PM10 for the region</li> <li>• Change in criteria pollutant and precursor emissions and greenhouse gas emissions (Million CO2)</li> <li>• Change in regional regional energy consumption in the forecast year (million BTU)</li> <li>• Change in future VMT</li> </ul> <i>Environmental Impacts</i> <ul style="list-style-type: none"> <li>• Wetlands Impacts (none, low, medium, high)</li> <li>• Visual impacts (none, low, medium, high)</li> <li>• Potential residential displacements (none, low, medium, high)</li> <li>• Potential noise and vibration impacts (change in noise levels?) (none, low, medium, high)</li> <li>• Impact to historical structures adjacent to corridor (none, low, medium, high)</li> <li>• Impact to cultural structures adjacent to corridor (none, low, medium, high)</li> <li>• Estimated number of annual accidents per 1,000,000 VMT</li> </ul>