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Memorandum

TO: Partnership Technical Advisory Committee

DATE: June 18, 2007

FR: Ashley Nguyen

W. I.

RE: Transportation 2035: Transit Network Definitions and Analysis

Background

In 2000, MTC developed a regional express, rapid, and local bus system as part of its Bay Area Transportation Blueprint for the 21st Century. We intend to update this transit system as part of the Transportation 2035 Plan's scenario performance assessment for strategic expansion under Scenario #2 High-Occupancy Toll (HOT) Lanes/Bus. We will start with a look at the existing and planned express bus system and then draw from completed or ongoing regional express bus studies. This update development will be coordinated with other regional efforts such as the Regional High-Occupancy Toll (HOT) Lanes Study, Regional Rail Plan, MTC's Freeway Performance Initiative (FPI), and Focusing Our Vision (FOCUS). We believe these efforts have underscored the need to develop an integrated regional express bus system, which is supported by major arterial trunk line services, to fully maximize High-Occupancy Vehicle (HOV)/HOT lanes, connect to line-haul rail services, and support more focused housing development in priority development areas of the region.

Regional Express Bus/Local Transit Services Analysis

The Transportation 2035 express bus system scenario will include an integrated transit network comprised of regional express bus and major arterial trunk line transit. In addition, this defined bus system will support regional rail and ferry services that would be analyzed as part of a separate transit expansion scenario (Scenario #3 Rail & Ferry).

MTC has commissioned Cambridge Systematics to help us to develop and evaluate a regional express bus network (see attached work scope summary). Express bus routes are defined as routes that spend a significant portion of its operations on freeways or expressways, and primarily facilitate regional travel. The scope of this study involves developing regional express bus concepts, including potential new routes, service characteristics (service area, span of service, frequencies, and fares), park-and-ride lots, and timed transfer centers, and documenting capital and operating costs. We would run travel forecasts for year 2035 using the MTC travel demand model, and analyze the results of the forecasts using performance measures such as change in linked transit trips and transit boardings by operator. This regional express bus network is being coordinated with the Regional Rail Plan and Regional HOT Lanes Study (wherein the notion being that tolls could be used to fund all or a portion of the regional express bus system).

As a complement to the regional express bus study, MTC staff has been working closely with the transit operators' planning managers to examine existing local transit services and find ways to improve major arterial trunk line transit services to address more local and sub-regional travel. These trunk line routes would be routes that are high capacity, easily accessible, and rapid

transit-style service; and allow transit riders to easily transfer to other express bus routes, BART, Caltrain, ferries and other regional transit services. The objective is to strategically call out and improve the trunk line services so other more “local” transit services would be assumed to operate in a similar fashion as they do today. So unlike express bus routes, these trunk line routes would operate on major arterials in key corridors and facilitate local circulation within and between major activity areas such as those found in FOCUS priority development areas.

MTC staff, in partnership with the transit operators, will continue to work to develop the transit network definitions, and incorporate them into Scenario #2 HOT/Bus and Scenario #3 Rail & Ferry for further evaluation against the targets starting in August 2007.

Attachment A

Regional Express Bus Work Scope

Task 1: Define and conduct a detailed modeling/analysis of a proposed regional express bus transit network

In 2000, MTC completed a regional express, rapid, and local bus visioning exercise as part of its Bay Area Transportation Blueprint for the 21st Century. (Refer to MTC's *Bay Area Transportation Blueprint for the 21st Century Evaluation Report* (June 2000) for more details). As part of the upcoming 2009 Regional Transportation Plan (RTP) effort, we are looking to conduct a similar exercise, focusing on development and evaluation of a regional express bus network.

The consultant will define two Regional Express Bus Networks for inclusion in the 2009 RTP, which covers the planning horizon from 2005 through 2035. As part of the "visioning" effort for the 2009 RTP, the consultant will confer with Bay Area transit operators to identify and document the existing and planned regional express bus services, and to recommend improved services and/or changes in service areas, routes, headways, and/or fares. One network will assume that the 2004 Regional Transportation Plan (Plan) Project Alternative including major rail extensions are implemented (as embodied in MTC Resolution 3434), while the other alternative will not include such enhancements.

To create a robust regional express bus system in the region, the consultant will also identify other potential new services areas and routes, including in service void areas or where existing rail or express service do not current exist. In addition, the consultant will identify other modifications, which may include new park-and-ride lots and timed transfer centers.

The consultant will prepare the necessary detailed transit route descriptions needed for planning-level analysis. This will include capital and operating cost estimation, as well as a phased implementation plan for each route. Data on capital and operating cost estimations will come from a variety of existing sources, such as the Rapid Bus Proposal from the MTC Blueprint, the MTC HOV Master Plan, other recent and on-going studies (such as the Dumbarton Rail Corridor Study), and directly from transit operators. For planning purposes, it will be assumed that all routes will be in revenue service by only for the 2035 horizon year. Intermediate horizon years will not be analyzed. The consultant will prepare a technical memo detailing capital and operating costs

Additional data to be developed by the consultant include specification of service quality (e.g., span of service, headway, speed), revenue hours (i.e., operating cost), fleet size (i.e., capital cost), fare structures, and siting of park & ride lots and timed transfer centers.

The consultant will also provide transit and highway network and levels-of-service coding needed for travel demand forecasting of the regional express bus system. It is anticipated that MTC staff will create transit networks that include Year 2035 local and BRT routings for both alternatives (with and without major rail expansion) in order to create unified bus system alternatives.

The consultant will be responsible for coding the proposed express bus services into MTC's transit networks. The consultant will prepare a technical memo detailing the regional express bus transit networks definitions. The consultant will coordinate with MTC's modeling group to ensure the full networks include both the regional express bus system as well as the local and

BRT components. (The consultant is responsible for coding the express bus component, and MTC staff will be responsible for the local bus/BRT component).

The consultant will prepare travel forecasts and performance assessment of the two proposed regional express bus networks using the MTC model system. Performance measures such as ridership, passenger loads, service effectiveness, cost-effectiveness, and cost efficiency of the express bus system will be documented. Summary effectiveness measures will be prepared to show overall bus ridership. Ridership forecasts will be prepared for one horizon year - 2035. The consultant will prepare a technical memo detailing performance outcomes, and the phased implementation scenario.

Deliverables

1. Tech memo: Regional express bus system concepts including new routes, service characteristics (span of service, headways, speeds), park-and-ride and timed-transfer centers. Capital and operating cost estimates for defined services will also be documented, as will a draft phased implementation scenario. This memo will explicitly examine transit routes included in one alternative but not the other.
2. Tech memo: Summary of detailed transit networks and levels-of-service files for running the MTC model system.
3. Tech memo: Technical Memo Regarding Regional Express Transit Networks, Performance and Cost Analysis. Summary system performance and operator performance measures will be also be provided in terms of linked transit trips and transit operator boardings.