



Metro

**OPERATIONS COMMITTEE
MARCH 18, 2004**

SUBJECT: BUS DIVISION STRATEGIC ASSESSMENT REPORT AND LONG RANGE FACILITY PLAN

ACTION: RECEIVE AND FILE

RECOMMENDATION

Receive and file this report summarizing the results of the Bus Division Strategic Assessment Report and Long Range Facilities Plan prepared by Facilities-Operations.

ISSUE

As an element of Metro's Strategic Performance Program FY2003 – FY2007, it is a goal of Metro Facilities-Operations to improve bus service within Los Angeles County by enhancing and expanding Metro bus operating facilities. Undertaken as a first step in that process, Facilities-Operations has prepared the above-referenced report which contains a full assessment of existing facilities and identifies improvements and expansions necessary to support the Metro Fleet Management Plan, recent orders from the Special Master under the Consent Decree and the objective of Metro Executive Management to provide world class, efficient, and state-of-the-art bus operating and maintenance facilities.

The results of the assessment clearly show that Metro's operating divisions are over capacity and in generally poor condition. Improvements and increases in system-wide capacity are required to operate the number of buses currently at the divisions, accommodate planned and mandated fleet increases, and provide for efficiency in operation and reductions in deadhead costs.

The assessment report contains a Long Range Facility Plan (LRFP), which identifies specific projects that are currently funded and other projects that are required but not currently funded. Capital Project funding currently available from FY04-FY09 is not adequate to provide the capacity expansion and renovation required. The LRFP shows that up to \$312 million of additional funding will be required through FY10 to provide the facility improvements and expansions included within the LRFP.

DISCUSSION

Need for Strategic Assessment

The Bus Division Strategic Assessment Report presents a full assessment of existing Metro bus operating facilities, and identifies facility improvements and expansions that are required to support the Metro Fleet Management Plan, recent orders of the Special Master, and Metro Executive Management's mandate to provide world class, efficient, and state-of-the-art bus operating and maintenance facilities.

All of Metro's bus facilities were constructed greater than 20 years ago, and are either beyond or are quickly approaching the 30-50 year average life expectancy of maintenance facilities. The divisions were not designed to maintain and operate the current size of Metro's bus fleet, and are inefficient due to overcrowding of assigned coaches. Staff research indicates that a strategic assessment of Metro's bus facility focusing on improvements required had never been conducted prior to this report.

Results of Assessment

There are two primary system-wide concerns related to Metro's bus operating and maintenance facilities: (1) Metro bus facilities are generally above capacity, affecting their ability to efficiently service and maintain the bus fleet, and (2) the general condition of Metro's bus facilities is generally poor as it relates to age of improvements, condition of equipment, security, administrative space, and layout of the facilities.

As of February 2004, Divisions 1, 5, 6, 7, 10 and 18 store and service numbers of buses which exceed the capacities of the divisions. These divisions are located within the Gateway, Westside/Central, and South Bay Sectors. The divisions with available capacity (3, 8, 9, and 15) are located in the San Gabriel Valley and San Fernando Valley Sectors.

Although capacity exists to service additional buses at divisions within the San Fernando Valley and San Gabriel Valley Sectors, the greatest ridership growth is occurring elsewhere, in the South Bay, Gateway, and Westside/Central Sectors. These sectors are also the most impacted by the Consent Decree, and are expected to absorb an additional fleet of up to 174 buses by December 2004. As some bus lines servicing these sectors have been assigned to more remote locations, non-revenue, or "deadhead" hours have increased as a percentage of total vehicle hours, translating into an annual cost of about \$3.5 million (Bus Fleet Management Plan 2003). This excess "deadhead" cost will continue to rise through deployment of the Consent Decree buses and beyond unless additional facility capacity is provided in the desired geographical areas.

Current Facility Planning Status

There is an urgent and immediate need for Metro to provide increased bus maintenance capacity system-wide, for relief of overcrowding at the divisions, improvement of efficiency, and to control excess "deadhead" cost. Future facility planning efforts are being directed at

expansion and/or reconstruction of Divisions 1, 2, 3, 5, 9, and 10, as well as construction of a new operating division in the Downtown Los Angeles Area.

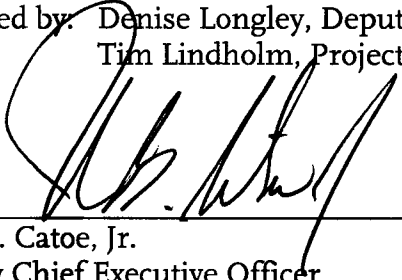
NEXT STEPS

If Metro is to continue providing efficient and cost-effective bus transit service, Metro must reevaluate its current funding priorities and immediately invest in improvement and expansion of Metro's bus operating and maintenance facility network. These improvements and increases in system-wide capacity are required to operate the number of buses currently at the divisions, accommodate planned and mandated fleet increases, and provide for efficiency in operation and reductions in deadhead costs.

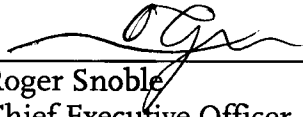
The following next steps are required:

- Priority 1 projects showing a requirement for FY05 funding are planned to be funded through the Wilshire BRT Project (Division 10 Expansion), Federal Bus Operating Subcommittee (BOS) Discretionary Funds, and proposed facility funding needs related to the Consent Decree.
- Facilities-Operations staff will create a funding plan, in coordination with Countywide Planning and OMB, for proposed LRFP facility projects requiring appropriation of funds from FY06 through FY10.
- Upon completion of the funding plan, Facilities-Operations will present the plan for Board approval. Facilities-Operations expects to complete the funding plan for Board approval within the next few months.

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Introduction and Summary of Assessment

As an element of Metro's Strategic Performance Program FY2003 – FY2007, it is a goal of Metro Facilities-Operations to improve bus service within Los Angeles County by enhancing and expanding Metro Bus Operating Facilities. Undertaken as a first step in that process, this Report presents a full assessment of existing Facilities, identifying improvements necessary to support the Metro Fleet Management Plan and the objective of Metro Executive Management to provide world class, efficient, and state-of-the-art bus operating and maintenance facilities.

Operating Divisions

Metro owns and operates eleven active bus-operating divisions, located throughout Los Angeles County, which maintain and dispatch a fleet of 2,423 CNG and diesel buses. Most divisions are staffed 24 hours a day, seven days a week. Division 6 in Venice does not operate at night, on weekends or on major holidays. Division 12, located in Long Beach, is presently inactive but has capacity to operate and maintain 135 diesel buses. Division 4 in Downey is currently equipped only to provide non-revenue vehicle maintenance for Metro automobiles, trucks and vans. None of the Metro bus operating divisions store, service or maintain buses operated under contracted services.

Five Metro Service Sectors have been established to improve bus service and enhance responsiveness to local service areas within L.A. County. Metro Gateway Cities (office located at Division 4), Metro San Fernando Valley (Location 35), Metro San Gabriel Valley (Location 33) and Metro South Bay (Location 36) are located within the Sectors they service. The Metro Westside/Central Service Sector office remains at the Gateway Building (Metro Headquarters) in downtown Los Angeles.

The typical operating division consists of a Transportation unit headed by a Transportation Manager and a Maintenance unit headed by a Maintenance Manager. The managers report to their respective Service Sector General Managers.

Transportation management at each division coordinates operator staff and schedules to ensure that bus run service assignments are met on a daily basis. Transportation management is also responsible for driver training and instruction, accident investigation, and personnel management. Maintenance management performs routine maintenance on coaches, including preventive procedures, running repairs and minor overhauls, to ensure that coaches meet service specifications and are otherwise roadworthy. The maintenance unit also responds to road calls for in-service breakdowns.

Currently, there are two primary system-wide concerns related to Metro's bus operating and maintenance facilities: (1) providing adequate capacity to efficiently service and maintain Metro's current bus fleet and forecasted increases to the bus fleet, and (2) the general condition of Metro's bus facilities as it relates to age of improvements, condition of

equipment, security, administrative space, and layout of the facilities. A discussion of each of these concerns follows below:

Division Capacity Limitations

As of February 2004, Divisions 1, 5, 6, 7, 10 and 18 store and service numbers of buses which exceed the design capacities of the Divisions. See Appendix A and B for Design Capacity data. Additionally, due to future service changes both planned and mandated (requirements of the Consent Decree, implementation of both articulated and 45-foot buses in-service, additional new services and service enhancement of existing bus lines), there is a compounded and immediate need to design increased bus parking capacity system-wide.

Based on the current service forecast, Metro must increase its facility capacity to support both articulated and 45-foot buses in the immediate future. Not only do these high-capacity vehicles require additional, larger parking spaces, but they also require more space for maneuvering within the division yards and maintenance buildings. The primary impact on facility capacity prior to the year 2010 will be the proposed introduction of 90 articulated coaches at Division 10. Although other capacity will be developed through the construction of new facilities and expansion of other divisions such as the new Division 6 and the expanded Division 1, design and construction for these projects is in early stages and won't be complete until FY06. Please refer to the Design Capacity Matrix included in the Appendix.

An equally important factor impacting future facility needs is the distribution of ridership growth. While the overall increase of the Metro fleet is a primary facility issue, proper geographic deployment of the increased fleet is also a critical focus. Although capacity exists to service an expanded fleet at divisions within the San Fernando Valley and San Gabriel Valley Sectors, the greatest ridership growth is occurring elsewhere, in the South Bay, Gateway, and Westside/Central Sectors. These sectors are also heavily impacted by the Consent Decree. As of February 2004, Metro's "deadhead", or non-revenue, costs are approximately \$60,000,000 per year. Over the last ten years, as some bus lines in core service areas have been assigned to more remote locations, the ratio of non-revenue to total vehicle hours has continued to increase at a rate of approximately 0.07% per year (Bus Fleet Management Plan 2003). This percentage increase directly translates to continued increases in total deadhead cost, and will continue to rise through deployment of the Consent Decree buses and beyond unless additional capacity is provided in the desired geographical areas.

The key to controlling this cost is to develop additional facility capacity in the central portion of the service area. Future facility planning efforts are being directed at providing additional capacity in the South Bay, Gateway and Westside/Central Sectors and increasing the number of divisions that can support high-capacity vehicles.

General Division Condition and Needs Assessment

As part of this assessment, Facilities-Operations conducted individual on-site evaluations

at each operating division, which also included interviews with transportation and maintenance management personnel. Specific information regarding the findings of each on-site assessment are discussed in the individual sections for each division; however, a brief summary of general needs at the operating divisions follows below:

- Pit extensions, installation of three-post hoists, modification to fuel and vacuum islands, and yard reconfiguration will be required to operate articulated buses.
- Administrative space additions and renovation of restrooms and locker rooms in Transportation and Maintenance buildings
- Roofs must be repaired, as many are over 20 years old.
- Underground Storage Tanks must be upgraded as required per State regulations.
- Angled or tandem parking would be preferred, as stacked bus parking is inefficient.
- Yard security is generally inadequate
- Divisions are between 20 and 100 years old, and many are in dire need of modernization and renovation.
- Repair and/or replacement of hoists, and modernization of maintenance pits
- Lighting upgrades in maintenance shops and yard are required to provide well lit and safe working environment
- Bus washing equipment, such as bus washers, steamers, and chassis jets, must either be renovated or replaced
- Yard reconfiguration is required to eliminate long queuing during the vaulting process at many divisions.
- Shortage of on-site and secure employee parking.
- HVAC equipment within transportation and maintenance buildings must be upgraded due to age and inefficiency.

The deficiencies listed above, although not present at all Divisions, are directly related to the general efficiency of the divisions, and therefore, are directly related to increases in operational costs. For this reason, there was a demonstrated need for Facilities-Operations to prepare a Long Range Plan to correct these deficiencies and improve Metro's operating divisions. Several of the general condition deficiencies listed above have been included in the FY04 to FY09 Capital Program; however, many deficiencies do not have dedicated funding at this time that would provide for correction, repair, or improvement.

Please see the Long Range Plan for details on Capital Projects that are currently funded and scheduled through FY09 (Constrained Plan), as well as projects where needs are foreseen but funding is currently not available (Unconstrained Plan).

Articulated Bus: Division Capabilities

Metro will be introducing 60-foot articulated buses to the fleet, and will begin to deploy articulated buses in FY 2005. By FY 2010 approximately 600 coaches, or 25 percent of the directly operated in-service fleet, will be comprised of higher-capacity articulated vehicles.



Divisions 5, 8, 10, 15 and 18 are being considered as host divisions for the initial deployment of the 60-foot coaches, as these are newer Metro divisions requiring only minor modifications to support articulated buses. Among key modifications required to support articulated buses at Divisions are: 1) Yard reconfiguration/restriping to accommodate bus parking and turning movements, 2) Maintenance building modifications including provision of drive-through bays, 3) Extension of inspection pits, 4) Modifications to fuel and vacuum facilities, 5) Installation of additional in-ground bus hoists, and 6) possible adjustments to maintenance programs. Major facility modifications would be required at Divisions 2 and 6 or 7 in order to accommodate articulated vehicles. Notably, Division 6 does not currently have CNG fueling capabilities and Division 7 has no pull-through maintenance bays and would also require relocation of the bus washer.

The modifications discussed above must be completed in order to effectively and efficiently maintain articulated buses at the desired divisions. At present, funding is available in FY05 and FY06 to complete the required modifications. *

CNG Fueling Capabilities

As of March 2003, Metro has CNG fueling capacity to service a total of 2400 buses at ten of its operating divisions. As of June 2003, Metro had a fleet of approximately 1,900 CNG buses. Fueling capacity at Divisions 1, 9 and 15 presently exceeds requirements of the current fleet. CNG related safety-mandated modifications have been completed at all CNG divisions. CNG fueling capability neither exists nor is planned at Divisions 6 and 12. The current CNG infrastructure is adequate for the current fleet of CNG buses. To account for future conversion of the Metro fleet to all CNG buses, funding is available for capacity upgrades to the CNG systems at Division 10 and 18, as well as a new CNG system to be constructed as part of the new Division 6.

Metro Connections Hub and Spoke Route System: Terminal Development

To attract new ridership and to also improve operating cost efficiencies, a study is underway to evaluate the development of transit centers, or hubs, throughout Los Angeles County. A primary aspect of the hub and spoke system is the transit hub. Studies to determine exact locations of transit hubs are currently in process. Expected to be complete by early 2004, the study will be used by Facilities-Operations to formulate a development plan for construction and/or renovation of transit hub facilities. Development of transit hubs could begin as soon as FY06. The cost and schedule for implementation of hub facilities are unknown at this time but will be developed upon completion of the current hub and spoke studies. A presentation to the Metro Board is tentatively scheduled for early 2004.

Facility Planning Options

As stated above, the two primary concerns facing Facilities-Operations are facility capacity and facility condition. Due to the forecasted growth in Metro's bus fleet, as well as the fact that many of Metro's bus operating facilities are over capacity, increasing facility capacity

is Facilities-Operations top priority.

Two options must be considered and pursued to allow increases to bus division parking and maintenance capacity: 1) Expansion of Existing Bus Operating Divisions and, 2) Development of New Bus Operating Divisions.

1) If property adjoining or near certain existing sites could be acquired, Divisions 1, 3, 5, 9, 10, and 18 could be expanded, within a 3-6 year period, to accommodate an additional 375 to 425 buses. Division 2 could also be expanded via reconstruction or acquisition of adjacent properties. The expansion concept for Division 2 would cost significantly more than other planned expansions, and given the expense and the current absence of funding, it is unlikely that this project could be completed prior to FY09.

2) The expansion of the Metro Rapid Bus system, the introduction of high-capacity vehicles, and the Consent Decree might be best supported by development of a new bus operating division. New divisions could be designed and constructed to store and service articulated buses. The nature of Metro bus service demand is such that a significant number of bus customers reside in, or must travel to and/or in, areas that are in proximity to downtown Los Angeles. Thus, the most cost effective approach would be to locate near the downtown Los Angeles area (Central Business District), minimizing operating and deadhead mileage costs.

Facility Planning Status

Expansion of Divisions

The Mid-City Westside Transit Corridor has \$55 million set aside for expansion of Division 10 to accommodate 90 articulated buses. Preliminary engineering for the division is nearing completion; however, future State TCRP funding to support construction of the expanded facility is uncertain, and Metro must locate funds to provide for construction of the facility to accommodate the articulated buses that have already been ordered for the Wilshire Rapidway project

Metro is now conducting environmental clearance for a land exchange for relocation of Division 6. The San Fernando Valley East/West Transit Corridor has funds set aside for existing Divisions 8 and 15 to accommodate the addition of 22 articulated buses for the Metro Rapidway.

Facilities-Operations has funding for expansion of Division 1 to increase capacity by 80 buses and for construction of a new Transportation Building at Division 9. The Transportation Building at Division 9 constitutes a first phase of an otherwise unfunded master-planned facility expansion and renovation at Division 9.

Funding is available to expand Division 18 in Carson and construct an employee parking deck; however, funding is not available until FY09 for completion of this project.

Implementation of the expansion projects at Division 1 and Division 10, and construction



of the new Division 6 facility in West Los Angeles, will yield a net increase of approximately 250 buses by at least FY07.

Based on the June 2003 Fleet Management Plan, the current fleet of 2,400 buses is just under the total available current parking capacity of 2,455 buses. Taking into account the expansions discussed above which would net 250 additional spaces, the excess capacity available by at least FY07 will be 305. Information from Service Planning indicates that this additional capacity will support fleet expansion and conversion into FY07, but additional facility expansions or rehabilitations will be required to support the impacts of the Consent Decree, forecasted fleet growth, and articulated conversion beyond FY07, and to provide efficient world-class facilities to operate and maintain the fleet.

Based on several factors, including geographic location, surrounding community, and service growth, Facilities-Operations has identified additional divisions in the desired geographical areas which have the ability to be expanded for accommodation of future fleet growth. These proposed projects are not funded in the Capital Program and would be further studied if funds were to become available.

Descriptions and a prioritized list of the proposed projects are provided in the Long Range Facility Plan.

New Bus Division

Metro Facilities-Operations staff and consultants are in the process of identifying land parcels in the downtown area and determining viability of those locations for new divisions. Potential constraints include obtaining a sufficient area of land at a reasonable cost in a location workable for both Metro and other affected parties.

Although forecasted fleet growth can be supported beyond FY09 by completing all of the expansion projects discussed above, the fleet would be best supported by construction of a new and modern bus operating facility in the central Los Angeles area. This would eliminate future operating cost increases from additional deadhead hours for travel to divisions outside of service growth areas.

Should Metro decide to construct a new operating facility, the project would likely require property condemnation and environmental clearance, which could take up to two years prior to the commencement of facility construction. No funding to acquire property and perform construction is currently available in the Capital Program.

Conclusion

The results of this bus facility assessment show that the majority of Metro's operating bus divisions are above capacity and inefficient due to space constraints, condition of the facilities, and overcrowding. The introduction of articulated buses, forecasted increases in ridership, and the impacts of the Consent Decree will require that Metro provide higher-capacity and improved facilities to continue to provide efficient, cost-effective, and world-class transit services to the public.



Several facility expansions and construction projects, such as expansion of Divisions 1 and 10 and the new Division 6, are in early phases of design but will only satisfy fleet growth and capacity issues into FY07. Additional facility capacity must be developed to efficiently accommodate and operate Metro's fleet of high capacity and standard buses beyond FY07. This required capacity can only be developed through expansion or reconstruction of Metro's existing facilities, or by construction of one or more new bus operating divisions in the Central Business District.

To address Metro's primary concerns of providing adequate facility capacity in the desired geographic locations, and improving operating conditions at the divisions, Facilities-Operations has prepared a Long Range Facility Plan detailing expansion and improvement projects which are currently funded and scheduled in the FY04 to FY09 Capital Program, and other proposed expansion and improvement projects which are required to support facility needs beyond FY07 but are otherwise unfunded.

The Long Range Facility Plan shows that Metro has approximately \$158 million in Capital Project funding currently reserved for improvement to Metro bus facilities. As discussed above, these dollars are clearly not adequate for Metro to provide the required capacity and condition improvements to our bus facilities beyond FY07. The Long Range Plan shows that up to \$312 million of additional funding would be required through FY10 in order to provide the facility capacity in the desired geographical area beyond FY07. A prioritized list of the proposed projects, cost estimates, and the years funding would be required are provided in the Long Range Facility Plan below.

If Metro is to continue providing efficient and cost-effective transit service, Metro must reevaluate funding priorities and invest in improvement of Metro's bus operating and maintenance facilities. These improvements and increases in system-wide capacity would provide for efficiency in operation and reductions in deadhead costs.

Executive Management, Facilities-Operations, Countywide Planning and the Office of Management and Budget must work together, with the support of the Board of Directors, to locate available funding sources to provide the \$312 million required for expansion and improvement as shown in the Long Range Facility Plan. Expansion and improvement of Metro's existing infrastructure must be re-prioritized and given a higher priority than other lower priority regional projects, so that Facilities-Operations may ensure that Metro continues to provide efficient and cost-effective transit services to our customers within the County of Los Angeles.

Notes:

* - Forecasted budgets for outlying Fiscal Years 05-09 are accurate as of February 3, 2004 based on the proposed Capital Program for Fiscal Year 05. Historically, these amounts have been reduced or depleted from year to year due to budget constraints, and funding availability at the time required in this Plan must be a priority for Executive Management and the Board.

