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TO: **BOARD OF DIRECTORS**

THROUGH: **ARTHUR T. LEAHY**
CHIEF EXECUTIVE OFFICER

FROM: **MARTHA WELBORNE, FAIA**
CHIEF PLANNING OFFICER

SUBJECT: **AIRPORT METRO CONNECTOR**

ISSUE

At the June 18, 2014 Planning and Programming Committee meeting, staff presented the results of the Airport Metro Connector Supplemental Analysis Report. This report was prepared in response to the January 23, 2014 Board directive to provide a written report to the Board that evaluates and presents findings regarding projected ridership, time savings and cost to airport and non-airport bound passengers, as well as feasibility and constructability issues and costs for Alternatives C3 and C4. After the June 2014 Committee meeting, Director Bonin submitted a list of 17 questions. This memo provides the requested responses.

DISCUSSION

Attachment A provides the responses to the 17 questions submitted by Director Bonin. The responses were developed in close consultation with Metro Operations and Engineering and Construction staff and representatives from LAWA.

NEXT STEPS

Recommendations for the Airport Metro Connector project are scheduled for Board consideration at the June 26, 2014 Board meeting. LAWA representatives will be attending the meeting.

ATTACHMENT

A. Responses to Director Bonin's Questions

ATTACHMENT A

Responses to Director Bonin's Questions

1. Have both alternatives B3 and A2 been value engineered to reduce the cost while preserving or enhancing the essential functionality of the project?

   Response: The purpose of the Supplemental Analysis, as directed by the Board, was to evaluate and present findings regarding projected ridership, time savings and cost to airport and non-airport bound passengers, as well as feasibility and constructability issues and costs. Typically, value engineering is performed at the end of the preliminary engineering phase, well after the Locally Preferred Alternative (LPA) has been selected. Currently, the Airport Metro Connector (AMC) Project is in the Advanced Conceptual Engineering Phase and has not yet initiated preliminary engineering for the LPA.

   Are there aspects of the current design that are not needed, such as the additional non-revenue service tracks included in the B alternatives, or other features?

   Response: Currently, there are no non-revenue tracks. The segment of the Crenshaw/LAX Line between Arbor Vitae Street and Century Boulevard as well as the Aviation/Century Station, are being built as part of the Crenshaw/LAX project, currently under construction.

   Please provide the cost and explain the need for the non-revenue service tracks in the B alternatives. For instance, there is inclusion of a non-revenue service track, which has been excluded from other projects.

   Response: For the most part, Alternatives evaluated in the Supplemental Analysis maintain revenue service on the Crenshaw/LAX Line between Arbor Vitae Street and Century Boulevard. Two alternate operating scenarios for Alternative B (B2 and B3) were explored to test potential ridership levels should all Metro Rail service be directed to the ITF. However, with the Crenshaw/LAX project currently under construction, the operating plan shown in Figure 2-11 of the Supplemental Analysis Report is the recommended operation for Alternative B. This operating plan is consistent with Figure 2-10 which does include a non-revenue segment on the Crenshaw/LAX corridor.

2. LAWA has committed to pay for the costs of station construction at the ITF. Has the cost of the construction of the ITF station been assigned to Metro Capital costs or LAX APM Capital Costs?

   Response: The cost of the Metro Light Rail Transit (LRT) station at the ITF has been assigned to Metro LRT capital costs. LAWA has informally committed to constructing the LRT station depending upon its location on LAWA property and contingent upon Federal Aviation Administration approval. However, Metro would still be required to pay for and construct the LRT infrastructure, operating systems and support facilities.

3. Why is the unallocated contingency for the B alternatives carried at 37% of the project cost?

   Response: The 37% unallocated contingency reflects FTA and Metro guidelines for contingency given that the study area is dynamic, physically constrained and complex (i.e. limited right-of-way, building foundations, utilities, etc.). Given the level of engineering completed at this phase of the analysis, 37% is an appropriate unallocated contingency.

   What is the standard contingency that Metro has carried on other LRT construction projects?

   Response: Metro Design Criteria state that contingency of 25% to 35% is to be used at the Preliminary Engineering Phase based on assessment of risk. All Metro projects follow this policy. Since engineering for all Alternatives are in the Conceptual Design Phase (prior to Preliminary Engineering) with broad assumptions as to actual alignment and conditions in the field, a contingency factor of 37% reflects the level of risk associated with conceptual engineering.

4. What are the passenger amenities and conveniences that are possible with each option given the considerations such as space, expected passenger traffic, and distance from the airport? Please coordinate the response with LAWA.

   Response: As currently planned, the ITF would encompass approximately 50 acres and is anticipated to accommodate high passenger volumes. As such, LAWA is planning to provide the following functions and services: passenger baggage check-in and drop-off (currently under study); commercial vehicle rotary with additional multi-modal transportation connections to hotel and off-airport parking shuttle, charter bus services, LAX Flyaway buses (arrival passengers only), and other commercial vehicles; LAX passenger pick-up and drop-off area; meet and greet plaza; airport passenger vehicle parking and concession area with additional restaurant and retail amenities.

   Based on consultation with LAWA, the 96th Street Station could include the following amenities: Municipal bus rotary and staging area including a driver rest area; private vehicle drop-off area for Metro passengers; pedestrian plaza with landscaping, street furniture and public art; Metro Bike hub; minor concessions; indoor lounge with WI-FI access and electronic device charging area; a LAX information kiosk with bi-lingual concierge with info on the CONRAC, ITF, APM, local hotels, attractions and destinations, LAX airline check-in with flight information boards and currency exchange.

5. How did you factor passenger amenities and conveniences, such as flight check-in, bag check, and concessions into the modeling and ridership results for each option? Please coordinate the response with LAWA.

Response: Please refer to Section 3.2.5: ITF Baggage Processing Sensitivity Analysis on page 45 of the Supplemental Analysis Report for the methodology to account for the planned baggage check-in service at the ITF.

Passenger convenience factors such as walk distances and level changes were included in the modeling for all Alternatives. With regard to baggage check-in, LAWA staff provided Metro with the appropriate methodology to include as part of the sensitivity analysis for Alternative B. This methodology relied in part on the time savings experienced at Phoenix Sky Harbor Airport. LAWA estimates that checking bags at the remote facility would result in a travel time savings of approximately 5.4 minutes. The time savings result from: time saved by not walking to the ticket counter at the terminal; time saved from increased walking speed without luggage; and time saved due to shorter lines and less congestion at the ITF compared to the terminals. Based on coordination with LAWA, flight check-in functions and concessions were not modeled in the sensitivity analysis conducted for Alternative B. However, both of these functions could be included in the overall ITF program.

Metro's Regional Travel Demand Model does not include a baggage check-in factor. Therefore, an "off-model" sensitivity analysis was completed and the results were provided to the Board in the Supplemental Analysis Report for Alternative B1. This Alternative is where Metro Rail passengers destined for LAX could take advantage of the baggage check-in benefit during their transfer to the APM. For all other alternatives where the ITF serves as an intermediary APM stop, LAWA and Metro agreed that passengers would disembark the APM to check their bags and then re-board to complete their trip to the terminal area.

6. Which modes of transportation would be co-located as part of options B3 and A2, and what benefits would the co-location of those services provide for Metro and LAWA as public agencies? Also, how would both Metro and Airport passengers benefit?

Response: Please refer to response to question 4 and to Table 2-1: CTA Vehicle Access located on page 5 of the Supplemental Analysis Report, which is included below.

Table 2-1: CTA Vehicle Access (applies to all alternatives)

Mode	Arriving Passengers			Departing Passengers		
	CTA	ITF	CONRAC	CTA	ITF	CONRAC
Hotel Shuttles		●			●	
Private Parking Shuttles		●			●	
Rental Car Shuttles			●			●
Public Transit Buses		●			●	
Shared Ride Vans	●				●	
FlyAway	●				●	
Taxis	●			●		
Limos	●			●		
Long-Distance Buses	●				●	
Charter Buses	●				●	
Private Vehicles	●			●		

Table 2-1 summarizes LAX transportation access points based on LAWA's most recent planned operating scenarios. Moving access points out of the CTA to the ITF or CONRAC will help to relieve congestion in the CTA and consolidate transportation services in shared facilities. It should be noted that Alternative A2 (96th Street Station) does not reduce the utility of the ITF. It is possible that some of the modes accessing the ITF could also serve the 96th Street Station.

For Alternative A2, most transportation services shown in Table 2-1 would continue serving the ITF. Most local transit services such as public transit buses and Metro Rail could be consolidated at the 96th Street Station. Both Metro and LAWA would benefit from the co-location of services at the 96th Street and or the ITF. For Metro Rail passengers, Alternative A2 as currently designed provides the most direct connection to the APM and the best overall travel time for airport and non-airport bound passengers.

7. Metro's staff report states that "Alternatives B and C1 were developed with the goal of providing improved rail access to LAX, however, the **analysis revealed that the majority of passengers riding the Crenshaw/LAX and Metro Green Lines are not destined for the airport** and that other modes, such as the LAX FlyAway, still provide a better level of service for accessing the LAX terminals. " On what basis does Metro assume that airport-bound travelers would not use the Green or Crenshaw line, or that airport-bound passengers would prefer to use a Fly-a-Away service? Please be as specific as possible.

   Response: The Metro Travel Demand Model is used for all transit corridor ridership studies and is frequently calibrated against actual ridership on existing services provided by Metro and other providers. Future forecasts of changes in ridership due to new lines and services are made using adopted SCAG demographic growth forecasts. In the case of the AMC study, data provided by LAWA of actual LAX transportation statistics were used which breaks down mode of arrival and departure for all transportation modes (automobile, shuttles, taxis, transit buses, rail, etc.). These figures were used to provide the forecasts

for this study. An element of the Travel Demand Model is a mode split module. Data provided by LAWA on FlyAway ridership, distribution of LAX employees and mode of access for air passengers was used in the air passenger and employee model used for the Supplemental Analysis Report. Please refer to Figure 3-3: Mode Share for Alternative B on page 44 of the Supplemental Analysis Report.

Ridership is very sensitive to transfers, wait time, and total travel time. LAWA FlyAway service is attractive because it is a competitive, direct service which caters to passengers with luggage. Metro Rail riders traveling from Union Station, Van Nuys or other major activity centers would have multiple transfers via rail.

8. Metro's staff report speculates that use of all forms of Metro service to the airport will be low, and that the current Fly-a-way service, not operated by Metro, would carry as many as 9 times as many passengers to the airport as Metro bus, Metro rail and Muni rail combined. That is a stunning statement. Is LAWA that much better at operating mass transit than Metro is?

   Response: The forecasts did not address the question of the operator of the service, but rather the travel time and the convenience of the service. FlyAway buses provide direct, non-stop service from major activity centers throughout the region directly to the CTA. Buses make use of the HOV and Express Lanes on the freeway and provide very competitive travel times to the airport. Metro Rail service, even as it is being expanded under Measure R, cannot yet provide direct service from major activity centers. Multiple transfers are required for most trips. Other cities with rail access to their airport generally provide direct service from a Downtown area.

9. More than 44,000 people work in and around Los Angeles airport. How many of them does Metro assume would take the Green or Crenshaw lines to the airport to work? On what basis does Metro make those assumptions?

   Response: The 44,000 people cited are those that work in and around LAX. In developing the ridership figures, LAWA provided their employee badge data and passenger surveys which helped identify the subset of employees working in the LAX area. Metro used this information to develop an air passenger and employee model. Additionally, Metro's Regional Travel Demand model takes into account employment in the LAX business district and forecasts the number of workers who would take transit to their employment site. These trips are calculated as non-airport bound passengers and have been included in the ridership forecasts. Please refer to Table 3-5 on page 43 of the Supplemental Analysis Report which uses both of these sources to estimate total ridership destined for the airport.

10. Metro's ridership forecasts for a Metro connection to LAX, regardless of the option, are remarkably low. Has Metro evaluated ridership at other airports to compare what percentage of airport-bound passengers in those cities use mass transit connections? Could you please provide that data and its source?

Response: Although rail access to LAX is forecasted to remain low in comparison to many other airports, overall transit access is comparable due to relatively better bus, FlyAway, and shuttle access. Table 2-2 below from the Alternatives Analysis Report which the Board received in April 2012, shows the public transit mode share for a sample of major U.S. airports (source: Airport Cooperative Research Program (ACRP) Report 2008). The overall transit mode share, which includes bus/rail, FlyAway, and privately operated shared ride on-call shuttles, is approximately 13%, which ranks 10 out of 10 for the sample of U.S. airports shown. This figure is slightly below Denver, Atlanta, and Newark (14%). The best performing airport is San Francisco (23%). (Note: the ACRP definition of public transportation to airports includes privately operated shared-ride shuttles as transit, which account for the predominant share of LAX's overall transit mode share).

Table 2-2: Public Transportation Mode Share to U.S. Airports

Rank	Airport	Total	Rail	Bus/Van
1	San Francisco	23%	7%	16%
2	New York (JFK)	19%	8%	11%
3	Boston	18%	6%	12%
4	Washington, DC (DCA)	17%	13%	4%
5	Oakland	15%	9%	6%
6	New Orleans	15%	0%	15%
7	Newark	14%	5%	9%
8	Atlanta	14%	10%	4%
9	Denver	14%	0%	14%
10	Los Angeles	13%	Less than .5%	13%

Source: ACRP Report, 2008
Note: Rail mode share for LAX includes shuttle bus connecting the Aviation/LAX Green Line station to LAX

In the Supplemental Analysis Report, the definition of public transit mode share includes only rail/bus and excludes Flyaway and privately operated, shared ride on-call shuttles, which are counted as separate modes in the LAX Air Passenger Survey. If these are excluded, the bus/rail share in Los Angeles is less than 1 percent.

Overall, the lower transit mode share at LAX can be attributed to several factors, including the high prevailing auto mode share in the region, the absence of direct rail access from the Central Business District (CBD) and the abundance of short- and long-term parking supply near LAX.

11. What impact would each of these options have on a future line running North, for both the Metro Sepulveda Pass Transit project and a potential future rail alignment on the Lincoln Blvd corridor?

Response: Based on the analysis to date, none of the Alternatives preclude a future connection to the Coastal Corridor or the Sepulveda Pass Project.

12. Have the economic benefits been considered, such as the economic development potential of Metro service to the area surrounding the ITF, including the hotel zone?

    Response: The work directed by the Board did not include an analysis of economic benefits and opportunities related to the ITF. LAWA has just begun to explore potential TOD opportunities made possible by their LAX Ground Transportation Improvement Program.

    Under both Alternatives A2 and B, LAWA is studying potential TOD opportunities along the Century corridor and within the vicinity of the LAWA Ground Transportation Improvement Program in close consultation with the Los Angeles Department of City Planning and the Gateway to LA Business Improvement District.

    As part of the concept planning for the area of the LAX Ground Transportation Improvement Program, potential economic development sites have been preliminarily identified. In addition, direct pedestrian connections to the surrounding hotels could be established. The consolidation of existing rental car agencies into the future CONRAC in Manchester Square also creates opportunities for additional TOD.

13. Do we expect that a metro station at 96th street, with the added bus traffic to the station as well as the nearby traffic associated with the Consolidated Rental Car Center, would cause traffic and other impacts on the near the airport?

    Response: This would be examined in the environmental document. It should be noted that LAWA as part of their Ground Transportation program is currently developing concepts for a comprehensive roadway access plan to improve traffic flow from the I-405 Freeway directly to the CONRAC and ITF. LAWA anticipates that the LAX Ground Transportation Program will relieve traffic congestion in the LAX Central Terminal Area.

14. What accommodations would need to be made to the Crenshaw/LAX Line project now to preserve and not preclude the future construction of Alternative B3 as well as A2, and to minimize the cost of potential project changes?

    Response: Accommodations for Alternative B would require tying into the Crenshaw/LAX line with a junction south of 104th Street (south of Aviation/Century) and a junction south of Arbor Vitae Street. Provisions for tunneling south of the Aviation/Century Station and aerial structures south of Arbor Vitae would be required. Since the Aviation/Century Station is elevated, further engineering analysis will be necessary to determine impacts to planned retaining walls, platform structures and necessary property acquisition to accomplish the turn-outs and proposed track alignment. Accommodations for Alternative B are significant and would be examined as part of the environmental clearance for this Alternative, if directed by the Board. Due to the significance of

these accommodations, they could not be completed as part of the construction underway for the Crenshaw/LAX project.

Accommodations for Alternative A2 may include, but are not limited to, additional grading to increase elevation for the new station platform, installing a turn-out for the north bound alignment, relocating cross overs, and realigning of the tracks. More detailed engineering is needed to determine if property acquisition is required for realignment of the north bound track. The staff recommendation requests Board approval of the accommodations necessary to not preclude the construction of the 96th Street Station. Staff is scheduled to return to the Board in July for approval of the modification to the Crenshaw/LAX contract for these not-to-preclude accommodations.

15. The 96th Street option is being understood by some as having many of the benefits of the ITF connection without the significant costs. The benefits of the ITF options included: potential for passenger baggage check-in and ticketing; co-location of train, bus, shuttle; construction of an indoor facility with passenger amenities paid for by LAWA. Which of those benefits is associated with the 96th Street alternative?

    Response: LAWA and Metro envision that the 96th Street Station would be a transit gateway to LAX. Metro and LAWA are discussing the specific amenities that could be located at this gateway station. It is anticipated that an indoor facility with selected passenger amenities could be part of the design for the 96th Street station.

16. Metro's Exhibit, Table 7, is a matrix that evaluates the different proposals based on the following criteria: LRT cost effectiveness; compatibility with Metro program; compatibility with LAX Plans and Operations; Metro Rail Operational Feasibility. That matrix leaves out "Passenger Convenience." I would like the matrix to specifically include a box that indicates whether the option has the potential for baggage check-in, and another box indicating whether the option has the capacity for ticketing.

    Response: Per LAWA, the ITF has the capacity to accommodate both remote baggage check-in as well as remote ticketing. This would apply at the ITF for all AMC alternatives evaluated in the Supplemental Analysis Report. For Metro riders, Alternative B is the only alternative that requires a transfer at the ITF and would therefore provide an opportunity for Metro passengers to utilize the remote baggage check-in and or ticketing while walking through the ITF to the APM station. For all other alternatives, the baggage check-in function is assumed to happen at the terminals. For Alternative A2, remote ticketing is also under review with LAWA for the 96th Street station.

17. Additionally, I would like to see the matrix include boxes for the following: whether the station would have the capacity to integrate into an eventual north-south line through the Sepulveda Pass and into the San Fernando Valley;

Response: The connection point between the AMC project and the Sepulveda Pass were not evaluated as part of this analysis. Since both the AMC and the Sepulveda Pass Projects are in the conceptual design phase, a coordinated connection point will be identified as these projects advance. The Sepulveda Pass project is in the very early stages of project definition. A Systems Planning Study was completed in December 2012 that a identified a range of feasible alternatives. All alternatives identified a future LAX transfer station located between Sepulveda Boulevard and the I-405 Freeway. The project is currently undergoing further definition to determine its potential for a Public Private Partnership and would need to coordinate a southern terminus based on Board decision on the AMC project.

Would the 96th Street station be indoors or outdoors; and whether the option connects directly to LAX property.

Response: LAWA and Metro envision that the 96th Street station could be an integrated facility with LAWA's planned ConRAC and could connect directly to LAX property. The station would serve as a transit gateway to LAX. A rendering illustrating an indoor station and its features is being developed and will be provided.