



Board Report

File #: 2019-0509, **File Type:** Informational Report

Agenda Number: 10.

PLANNING AND PROGRAMMING COMMITTEE JULY 17, 2019

SUBJECT: LOS ANGELES - GLENDALE - BURBANK FEASIBILITY STUDY

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE report on Item #9 at the October 2016 Board Meeting regarding the Los Angeles - Glendale - Burbank Feasibility Study.

ISSUE

At the October 2016 Board meeting, the Metro Board of Directors directed the CEO to conduct a study (see Attachment A) to evaluate:

1. Up to two new rail stations in the City of Glendale and up to two new rail stations in the City of Los Angeles;
2. Increased passenger rail service from Union Station to the City of Burbank; and
3. Opportunities for increased access to the regional transit network in the City of Glendale.

The Los Angeles - Glendale - Burbank Feasibility (LGBF) Study has been completed and the results are presented in this report.

DISCUSSION

In June 2018, Metro staff engaged a consultant, Mott MacDonald, to conduct the LGBF Study. The four primary objectives of the LGBF Study were to:

1. Assess potential locations for additional rail stations;
2. Evaluate rail service in the corridor provided by the following technologies:
 - a. Locomotive Hauled Coach, i.e., Metrolink (LHC);
 - b. Rail Multiple Unit (RMU); or
 - c. Light Rail Transit (LRT); and
3. Evaluate increases to passenger rail service;

The LGBF Study also analyzes parking demand along the corridor, identifies infrastructure improvements, capital costs, and operations and maintenance costs to support the study scenarios, and analyzes funding opportunities.

Background

Starting in 1988 through 1992, the Los Angeles County Transportation Commission, predecessor to Los Angeles County Metropolitan Transportation Authority (Metro), undertook studies and ultimately certified the Environmental Impact Report (EIR) for a 13-mile Light Rail Transit (LRT) project that was planned to operate between Los Angeles Union Station (LAUS) and the Hollywood Burbank Airport. In 1991, the Southern California Regional Rail Authority (SCRRA) was created to operate a regional commuter rail service. Limited service began on both the Metrolink Antelope Valley Line (AVL) and Ventura County Line (VCL) in October 1992.

Today, the Los Angeles-Glendale-Burbank corridor (see Attachment B) owned by Metro is double tracked and heavily utilized by passenger and freight rail services between Los Angeles Union Station (LAUS) and Burbank Airport North Station along the Metro-owned Valley Subdivision. Currently, the passenger rail services operating along the corridor include the Metrolink AVL (15 round trips), the Metrolink VCL (17 weekday round trips), the Amtrak Pacific Surfliner (5 daily round trips to Santa Barbara and San Luis Obispo) and the Coast Starlight (1 daily round trip to Seattle). Additionally, the Union Pacific Railroad (UPRR) operates freight service in the corridor. The Metro Gold Line Light Rail Transit (LRT) operates near the corridor between LAUS and the Gold Line Lincoln/Cypress Station.

Approximately 85 Metrolink, Amtrak and UPRR trains traverse the corridor per weekday. Ridership is approximately 7,000 per weekday on the Metrolink AVL, 4,000 per weekday on the Metrolink VCL, and approximately 2,000 per weekday on Amtrak.

Other Related Study

In July 2017, Metro staff was also directed to conduct the Metrolink Antelope Valley Line Study, which assesses capital improvements and operational feasibility on the AVL from the City of Burbank to its terminus in the City of Lancaster. Both studies were developed in concurrence with one another to maintain consistency in operating scenarios, capital improvements, and costs and consistent with California State Rail 2040 Plan.

1. Assess Potential Location for Additional Rail Stations

The station location evaluation examined the entire corridor from LAUS to Burbank Airport North Station in order to identify suitable station sites in both the City of Los Angeles and City of Glendale. A new station was discussed with the City of Burbank, but as they have three existing Metrolink Stations (Burbank Downtown, Burbank Airport North and Burbank Airport South), no additional stations were requested. Factors considered to select the additional sites included existing bus ridership, housing, employment, access to site, operations integration, potential for parking, travel times, service headways, and stakeholder and public input.

Identified potential station locations were discussed with the Corridor Cities Working Group (CCWG) and through a public outreach survey which received over 2,500 respondents. The CCWG comprises key stakeholders including the Cities of Los Angeles, Glendale, and Burbank, as well as staff from elected officials, Metrolink and Metro. CCWG meetings confirmed with the key stakeholders that the frontrunners, River Park for Los Angeles, and Grandview/Sonora for Glendale, would be examined with further analysis for this and future studies.

2. Evaluate Rail Service in the Corridor Provided by LHC, RMU and LRT Technologies

An evaluation of the three transit modes and potential alignments was conducted in order to determine which modes are the most feasible in the Corridor. The three transit modes are:

- A. Locomotive Hauled Coach - Currently operated on the Metrolink system
- B. Rail Multiple Unit (diesel or electric) - Vehicles of size and dimensions similar to LRT with planned operations in San Bernardino County (Arrow service); Currently operated in San Diego County (Sprinter service) and Sonoma-Marin Counties (SMART service)
- C. Light Rail Transit - Currently operated on the Metro system

A discussion of each mode follows:

- A. **Locomotive Hauled Coach** - Currently Metrolink operates 64 LHCs each weekday through the corridor along the trunk line of the Ventura County and Antelope Valley Lines. They can operate in shared freight corridors. A Tier 4 locomotive is the latest model currently operated on the Metrolink system and is the cleanest diesel locomotive in the nation. Tier 4 locomotives are compliant with the latest Environmental Protection Agency (EPA) emissions standards and reduce emissions by up to 85 percent when compared with Tier 0 locomotives. Metrolink will eventually replace 40 of its existing 52 owned locomotives with new Tier 4 locomotives. Metrolink locomotives are also equipped with Positive Train Control, which is required by the Federal Railroad Administration in order to operate in shared freight corridors.
- B. **Rail Multiple Unit** - RMU trains can either be propelled by electricity (EMU), diesel (DMU) or by new propulsion systems involving fuel cells and hydrogen. RMUs are lighter vehicles which act as a hybrid between LHC and LRT vehicles and can operate in shared freight corridors. Battery technology is currently advancing and other low or zero emissions technologies are being explored with these types of transit vehicles. The following are some key considerations for RMUs:
 - RMUs have the ability to accelerate and decelerate more quickly due to their light weight, resulting in fast travel times. Although RMUs are lighter than the existing locomotives and coaches, they would still need to meet Federal Railroad Administration (FRA) structural standards to operate in shared corridors. This makes them heavier than a standard Light Rail Vehicle.
 - RMUs have similar light maintenance requirements as LHC (e.g. Metrolink or Amtrak), but have differing heavy maintenance requirements. Unlike an LHC, an RMU cannot be easily decoupled for heavy maintenance so synchronized lifting is required. The construction of a new maintenance and service facility may be necessary, or an existing facility would need to be modified if a new fleet of RMUs is procured, as the existing Metrolink facilities are at or near capacity.
 - The passenger-platform interface and maintaining freight traffic at existing Metrolink station along the corridor will be a key consideration to utilizing RMUs. Metrolink and RMU vehicles have different platform levels (8" platforms for Metrolink and 24" platforms for RMUs). Therefore, design modification to the vehicles or the station platforms would be required, in

order to achieve level boarding requirements at the station.

- Lightweight rail vehicles, like RMUs occasionally fail to shunt track circuits, resulting in loss of train detection. Loss-of-shunt is associated with light axle loading, infrequent traffic, wheel tread building-up, and other conditions which raise wheel-rail contact resistance. These shunting issues can be mitigated by implementing modifications to existing train control system and would need to be explored further prior to implementation.
- There are currently no agencies that operate RMUs in the Metrolink system, which spans six counties. San Bernardino County is currently planning a future Diesel Multiple Unit and Zero Emission Multiple Unit service in the near future which will share ROW with Metrolink along the San Bernardino Line. If RMUs are pursued along the AVL corridor, Metro may consider being the operator of the service, however there may be labor relations, fare policy and other issues requiring further evaluation. If the Southern California Regional Rail Authority (SCRRA) desires to be the operator of the service, RMU would operationally align more closely with Metrolink longer distance commuter rail than Metro LRT.

C. Light Rail Transit - LRT systems utilize overhead electrically powered vehicles which can travel between suburbs or within urban centers. These vehicles cannot operate on freight railroad tracks unless approved by regulatory bodies. Although shared use arrangements involving LRT on mainline railway tracks are common throughout Europe, they would likely not be agreed to in the United States, primarily due to regulatory differences but also because freight railroads are much more conservative about allowing other operations on shared right-of-way. For these reasons, the LRT alternative has been approached in this analysis as operating on a dedicated rail corridor which is separate from the existing corridor.

During the course of the LGBF Study, comment was received from the City of Glendale regarding desire to evaluate an alternate LRT alignment which would leave the existing right-of-way, to serve the downtown Glendale area, downtown Burbank area, and then rejoin the existing right-of-way and proceed to the Burbank Airport. This alignment was added to the LGBF Study and is referred to as the LRT 2 Option.

3. Evaluate Mode Option Study Scenarios to Increase Passenger Rail Service

Different operating alternatives were developed for each mode. Each alternative was evaluated for comparison. Ridership forecasts, cost estimates, and operating schedules were developed for each alternative.

The Metrolink/Locomotive Hauled Coach scenarios include:

- a) M 1 Option: Add one evening train on the AVL
- b) M 2 Option: Addition two new stations in the corridor
- c) M 60 Option: 60-minute bi-directional service on the AVL
- d) M 30 Option: 30-minute bi-directional service on the AVL
- e) M 15 Option: 15-minute bi-directional service on the AVL

The Rail Multiple Unit scenario includes:

- RMU Option: Blended Metrolink + RMU service to Via Princessa









The Light Rail Transit scenarios include:

- f) LRT 1 Option: LRT Service - Metrolink Corridor

g) LRT 2 Option: LRT Service - Downtown, Glendale and Burbank

Study Findings

The evaluation of the option against the key criteria together with the qualitative review of pros and cons for each has determined that M 30 Option (30-minute bi-directional AVL service) is the most optimal mode option on the Study Area Corridor when implemented in a phased incremental approach. The following table compares how each mode option study scenario performs overall.

Category	M 1	M 2	M 60	M 30	M 15	RMU	L 1	L2
 Transit Accessibility	1	2	2	3	3	3	3	3
 Ridership Capacity	1	1	1	2	3	2	3	3
 Community Stakeholder Preferences	1	2	2	2	3	2	2	3
 ROW Requirements	3	2	3	3	2	2	2	1
 Environmental Constraints	3	2	3	3	2	2	1	1
 Parking Considerations	3	1	3	3	2	2	1	1
 Travel Time & Headways	1	1	1	2	3	3	3	3
 Integration of Operations	3	3	3	3	2	2	1	1
 Capital and O&M Costs	3	3	3	3	2	2	1	1
Total	19	17	21	24	22	20	17	17

Further detail and information on the mode option study scenarios is provided in Attachment C. With limited capital and operational funding currently available, a phased approach should be explored that would build on M 1 and 2 Options and the M 60 Option, resulting in the implementation of the M 30 Option, 30-minute bi-directional service on the AVL. Factoring in existing service on the VCL, the M 30 Option would result in combined approximate 20-minute bi-directional service between LAUS and Burbank.

New Metrolink Stations - It is also feasible that new Metrolink stations along the corridor be further studied and refined to identify and address maintenance and funding needs and gather community feedback. If one or two stations were to be constructed on the line, adding more express service for

the peak-direction should be explored to enhance service to long distance commuters from north of Santa Clarita.

RMU Pilot Program - While implementing a large-scale RMU system in the short term in the study area may not be feasible due to high capital costs, RMUs could be explored to operate as limited and off-peak service to supplement existing AVL service. An RMU Pilot Program to test operations on the AVL, identify an operator and labor agreements, maintenance needs, system infrastructure upgrades, federal needs and requirements, and funding sources for such a program could be implemented.

FINANCIAL IMPACT

This is a receive and file item only. Adoption of the LGBF Study has no financial impact to the agency. Should the Board provide further direction, there would be financial impacts to conduct further analysis on the service scenarios, RMU Pilot Program, and/or advance capital projects in the rail corridor.

Impact to Budget

Should the Board provide further direction with budget impact, funds would need to be added to the FY2019-20 budget in Cost Center 2415 in order to award a contract for further study, engineering, construction and/or to operate additional service.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Recommendation supports strategic plan goals of the Metro Vision 2028 Strategic Plan:

Goal 1: Provide high-quality mobility options that enable people to spend less time traveling. The incremental service options improve LA County's overall transit network and assets.

Goal 4: Transform LA County through regional collaboration and national leadership. Goal was achieved by partnering with Metrolink, the CCWG and local stakeholder groups to identify needed improvements to improve mobility.

NEXT STEPS

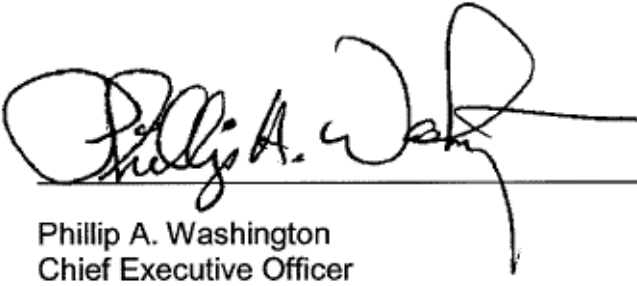
Receive and File the LGBF Study, subject to further direction from the Metro Board

ATTACHMENTS

- Attachment A - Board Item #9 from October 2016
- Attachment B - LGBF Corridor Map
- Attachment C - LGBF Options Results Summary

Prepared by: Jay Fuhrman, Manager, Transportation Planning, (213) 418-3179
Jeanet Owens, Senior Executive Officer, Regional Rail, (213) 418-3189

Reviewed by: Richard Clarke, Chief Program Management Officer, (213) 922-7557



Phillip A. Washington
Chief Executive Officer



Metro

Board Report

File #:2016-0284, **File Type:**Motion / Motion
Response

Agenda Number:9.

REVISED
PLANNING AND PROGRAMMING COMMITTEE
OCTOBER 19, 2016

SUBJECT: BURBANK-GLENDALE-LOS ANGELES CORRIDOR

ACTION: AUTHORIZE STUDIES

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to:

- A. CONDUCT a study for providing up to **two additional Metrolink stations in the City of Glendale and up to two additional stations in the City of Los Angeles** as well as providing increased Metrolink train service throughout the day from Union Station to the City of Burbank with opportunities to include expanded service to the Antelope Valley as a first step in examining increased rail connectivity in the Los Angeles, Glendale and Burbank Corridor. Additional stations would need to be spaced appropriately and limited so as not to severely affect travel time for those travelling beyond Burbank to the outer terminus of the lines in Ventura and the Antelope Valley;
- B. PROGRAM AND AMEND the FY 17 budget to add \$900,000 in Measure R Commuter Rail service funds to conduct this study; and
- C. INVENTORY the options for increasing the City of Glendale's access to the Regional Transit System given the existing baseline Metrolink and future High Speed Rail service. This inventory will examine the existing infrastructure, planned and funded projects and potential future initiatives to improve connectivity to the greater Metro system.

ISSUE

At the March 24, 2016 Board meeting, the Board directed the CEO to look at creating a new Metrolink station at Rio Hondo College on the Riverside Line and relocating the Northridge Station on the Ventura County Line. This motion was amended to direct the CEO to look at the environmentally cleared Burbank-Glendale-Los Angeles Light Rail Transit Line as it relates to the Doran Street Grade Separation and the County, City and Army Corps of Engineers Los Angeles River Master Plans and projects. Attachment A contains the adopted Board motion and amendments. This report responds to the Board directive.

This is in response to the March 24, 2016 Board directive to report back on the Burbank-Glendale-Los Angeles Rail Transit Project which was environmentally cleared in 1994, as it relates to today's plans for the corridor.

DISCUSSION

Background

Between 1988 and 1994 the Los Angeles County Transportation Commission (predecessor agency to Metro) undertook studies and ultimately certified the Environmental Impact Report (EIR) for a 13-mile Light Rail Transit Project that was planned to operate between Union Station and the Hollywood-Burbank Airport. The project would have included 10 stations and would have operated along a segment of what is now the Metro Gold Line near Chinatown before branching off to generally follow the railroad right-of-way along San Fernando Road and the Los Angeles River through Glassell Park, Atwater Village, Glendale and Burbank to a terminus at the Hollywood-Burbank Airport. Attachment B contains a map of the certified alignment.

Prior to the preparation of the above EIR, this railroad right-of-way served freight rail and Amtrak service only. However, in October 1992, Metrolink service was initiated and previously planned light rail stations in Glendale, Burbank and the Burbank Airport were developed as Metrolink Stations instead of light rail stations.

Existing Conditions

Metro owns an approximate 100-foot wide right-of-way along the Burbank-Glendale-Los Angeles Corridor which currently accommodates two tracks serving Metrolink, Amtrak and freight rail service. There is potential room for two additional tracks with certain widening that would be needed at Metrolink rail transit stations to accommodate boarding platforms and other station features. The California High Speed Rail Authority proposes to use the remaining right-of-way in this corridor for up to two main line tracks to provide High Speed Rail service in Southern California. In addition, as Metrolink service expands in the future, there will be a need for additional mainline tracks and/or platforms in the right-of-way. For the above reasons, no additional planning has been considered prudent or feasible for implementation of the light rail service that was considered in the early 1990s. There is, however, opportunity to examine additional stations along the Metro right-of-way such as in Glendale, Glassell Park, Taylor Yard and other locations as appropriate, as well as increased Metrolink service to provide greater access to the regional transit system. Additional stations would need to be carefully considered and limited so as not to severely affect travel time for those travelling beyond Burbank to the outer terminus of the lines in Ventura and the Antelope Valley.

The Doran Street Grade crossing is one of the hazardous grade crossings in the City of Glendale. Metro proposes to separate vehicles, bicycles and pedestrian crossings with an aerial bridge over the existing railroad tracks as part of the Doran Street and Broadway/Brazil Grade Separation Project to enhance safety and traffic flow as well as increase transit regional mobility to Glendale. The project will be designed with accommodations for the High Speed Rail system and/or expansion of the Metrolink tracks.

The California High Speed Rail Authority is currently working on its environmental document for the

segment of the proposed line from Palmdale to Los Angeles which is expected to be completed by December 2017. The draft environmental document is anticipated to be released in Spring 2017 for public review at which time more will be known about the alignment, profile and track needs through Burbank, Glendale and Los Angeles to Union Station.

Other Studies

In July and October 2014, the Board directed staff to undertake a technical study for implementing Bus Rapid Transit (BRT) between North Hollywood (NoHo) and Pasadena (BRT Connector Orange/Red Line to Gold Line). This study was initiated in July 2015. It is using the Line 501 NoHo to Pasadena Express Bus Pilot as a basis for analysis and should be completed in early winter 2017. The Study is examining both arterial and freeway alignments through the Cities of Los Angeles, Burbank, Glendale and Pasadena and will inform future work in this corridor.

Los Angeles River Restoration Coordination

Staff met with representatives of the LA River to gain a better understanding of future plans. These discussions focused on the possibility of adding stations in Glassell Park and potentially adjacent to Taylor Yard. This will be examined as part of the proposed Metrolink Study.

Meeting with Cities of Los Angeles, Glendale and Burbank

Staff met with representatives of the Cities of Los Angeles, Glendale, and Burbank to discuss the above findings concerning the Burbank-Glendale-Los Angeles line and to better understand local connectivity needs to the emerging Regional and Urban Transit System. The City of Glendale discussed their existing and future plans and needs for transit connectivity. Based on this discussion, there seemed to be general agreement that additional Metrolink stations and increased train service throughout the day should be explored including the potential for additional service to the Antelope Valley. Additionally, Metro staff will prepare an inventory to determine the existing and proposed transit infrastructure, what is planned and funded to improve connectivity and potential future initiatives. Upon Board authorization, this inventory would be completed later in the fiscal year when more is known about the status of Measure M. The study of additional stations and expansion of Metrolink service would take approximately six to eight months to complete once Notice to Proceed is authorized.

DETERMINATION OF SAFETY IMPACT

These studies will have no impact on the safety of our passengers and employees.

FINANCIAL IMPACT

With Board approval, \$900,000 in Measure R 3% funds will be added to the FY 2016-17 budget in cost center 2415, Regional Rail, for the additional Metrolink stations and service expansion study.

Impact to Budget

Measure R 3% funds are designated for Metrolink commuter rail capital improvements in Los Angeles County. These funds are not eligible to be used for Metro bus/rail operating or capital budget expenses.

ALTERNATIVES CONSIDERED

The Board could elect not to authorize the study of additional Metrolink stations and expansion of Metrolink services from Union Station to Burbank and potentially the Antelope Valley or to prepare an inventory of current, planned and funded transit programs for the corridor. This alternative is not recommended as the corridor could benefit from additional Metrolink stations and service and the inventory would assist in identifying connectivity gaps to the regional transit system.

NEXT STEPS

With Board authorization, both planning efforts will be initiated. Upon completion of the work, staff will meet with the Cities of Glendale, Burbank and Los Angeles and then return to the Board with the results of the findings.

ATTACHMENTS

Attachment A - March 2016 Board Motion

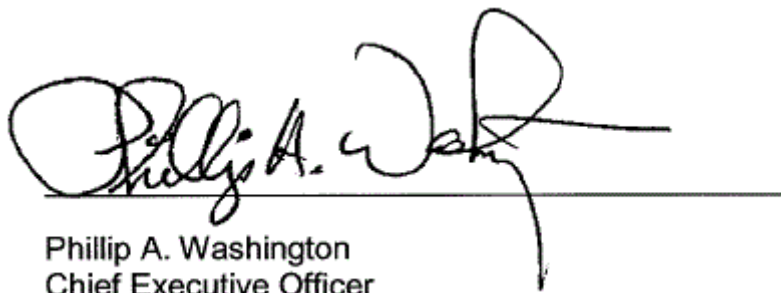
Attachment B - Burbank-Glendale-Los Angeles Light Rail Corridor Alignment Map

Prepared by: David Mieger, Executive Officer, Transit Corridors (213) 922-3040

Renee Berlin, Senior Executive Officer, Transit Corridors (213) 922-3035

Jeanet Owens, Senior Executive Officer, Regional Rail (213) 922-6877

Reviewed by: Therese W. McMillan, Chief Planning Officer, (213) 922-7077



Phillip A. Washington
Chief Executive Officer

Metro



Board Report

File #:2016-228, File Type:Motion / Motion
Response

Agenda Number:39

**PLANNING AND PROGRAMMING COMMITTEE
MARCH 16, 2016**

Motion by:

Solis, Najarian, Krekorian, Antonovich and DuBois

March 16, 2016

New Station on the Metrolink Riverside Line and Multimodal Transit Hub

The Greater Whittier Narrows area encompasses the many communities that surround the Whittier Narrows Recreation Area including the cities of South El Monte, Pico Rivera, Whittier, Industry, Montebello and unincorporated communities of Avocado Heights, Pellissier Village, and Puente Hills. These communities are home to major regional destinations like Rio Hondo College, Rio Hondo Police & Fire Academy, Puente Hills Landfill Park and Rose Hills Cemetery. The area is also a large employment center with a high level of industrial and commercial facilities, such as the Sanitation Districts of Los Angeles County's Materials Recovery Center, FedEx distribution centers, the Shops at Montebello and Fry's Electronics among many others.

Based on the regional appeal and significant levels of activity, the Greater Whittier Narrows area is experiencing transportation capacity and operational deficiencies on local streets, arterials, and highways. The *I-605 Needs Assessment and Initial Corridor Study* identified the I-605/SR-60 interchange as a high priority "Hot Spot" due to increasing passenger vehicle and freight truck traffic. Although freeway improvements are justifiable and necessary, the region stands to benefit most from a comprehensive, multimodal approach aimed at shifting vehicle trips to transit alternatives and active transportation.

Currently, there are separate but related transportation projects and services that aim to achieve the common goals of reducing traffic congestion, improving safety for all road users, and improving air quality. These projects include:

- Sanitation Districts of Los Angeles County Waste-by-Rail project (near complete);
- Rio Hondo College Multimodal Transit Hub project (early planning);
- LA County Department of Public Works Rosemead Blvd. Complete Streets project (early planning);
- Metro & Caltrans I-605/SR-60 Interchange Capacity Improvement project (early design);
- San Gabriel Valley Active Transportation Greenway Network project (i.e. Rio Hondo, San Gabriel River, San Jose Creek bike paths);

- Metro Gold Line Eastside Extension Phase 2 (SR-60 and Washington alignment);
- Gateway Cities Council of Governments Lakewood Ave./Rosemead Blvd. Complete Streets Corridor Master Plan;
- Regional and local transit providers (i.e. LA County shuttles, Foothill Transit, Metro, Montebello, Norwalk, etc.)

Combined with the Metrolink Riverside Line that transects the Greater Whittier Narrows area, there is a unique opportunity to explore a robust multimodal transit hub - including a new Metrolink station - at the base of Rio Hondo College.

APPROVE Motion by Directors Solis, Najarian, Krekorian, Antonovich and DuBois that the Board directs the CEO, the Countywide Planning and Development Department and the Regional Rail Unit to return in 60 days with a review of the following:

- A. The feasibility, general cost estimate, funding sources (including Measure R 3%) and potential cost-sharing structure for creating a new station on the Metrolink Riverside Line at the base of Rio Hondo College;
- B. The potential for consolidating and streamlining multiple transit related projects and services in the Greater Whittier Narrows area by establishing a multimodal transit hub; and
- C. An evaluation of opportunities, benefits and/or impacts related to increasing transit ridership and reducing vehicular traffic on local streets, arterials, and highways;

FURTHER MOVE that the MTA Board direct the CEO to establish a working group of stakeholders in the Greater Whittier Narrows Area to help advance this concept. The working group shall consist of, but not be limited to the cities of South El Monte, Pico Rivera, Whittier, Industry, Montebello and the unincorporated communities of Avocado Heights, Pellissier Village, and Puente Hills. The group shall also include other relevant stakeholders such as Rio Hondo College, transit service providers, government agencies, local businesses and community groups.

AMENDMENT by Directors Garcetti, Krekorian, Dupont-Walker, Kuehl and Antonovich that the Board direct the CEO to report back on the following:

- A. an analysis of the feasibility of relocating the existing Northridge Metrolink Station at Wilbur Avenue to Reseda Boulevard. The analysis shall include the following:
 1. identifying, and recommendation on maximizing, Metro and local bus connectivity usage
 2. coordination with California State University Northridge (CSUN) officials to improve

connectivity to the university.

3. identify Transit Oriented Development and other land-use opportunities to maximize the use of a station at Reseda Boulevard;
- B. identify and recommend funding sources (including Measure R 3%) to support the relocation of the station;
 - C. create a working group which includes, but is not limited to, CSUN officials, local transit service providers, Metrolink, local businesses, community groups, San Fernando Valley Service Council for coordination purposes; and
 - D. report back on all the above during the May 2016 Board cycle.

AMENDMENT BY DIRECTORS NAJARIAN, GARCETTI AND ANTONOVICH

March 24, 2016

Item # 39

In 1992, an Environmental Impact Report was completed for a Burbank-Glendale-Los Angeles Rail Transit Project. Subsequent to its completion, the project was ranked #10 on the Long Range Transportation Plan and remained in the top ten until the passage of Measure R. The project is referenced in the current draft Expenditure Plan on Attachment I, Systemwide Connectivity. With the advent of High Speed Rail and its intention to reconfigure along this alignment near Doran Street at upwards of \$100 million, it would be prudent to review this document to better coordinate with High Speed Rail, MTA staff and the cities of Los Angeles and Glendale.

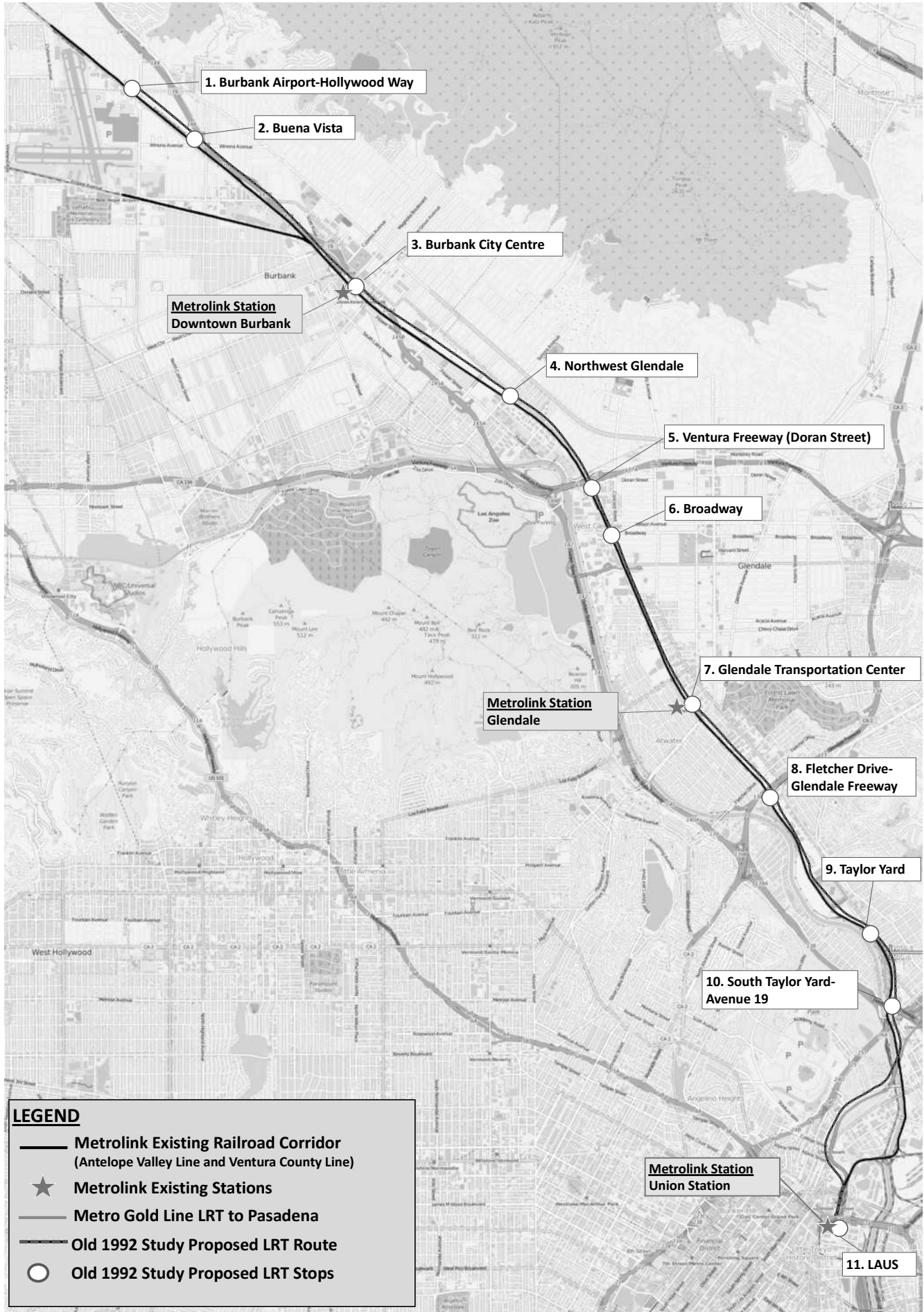
WE THEREFORE MOVE:

- The Board direct the CEO to assign staff to review the above named document as it relates to today's plans for this corridor, including Doran Street and County, City, and Army Corps of Engineers LA River master plans and projects; and
- Identify any cost-saving measures, including but not limited to High Speed Rail reconfiguration; and
- Identify potential rail connectivity with Metrolink, High Speed Rail and Burbank-Glendale-Los Angeles Rail project and local bus services; and
- Explore possible TOD and TOC opportunities and opportunities to support revitalization and/or restoration of the LA River; and
- Identify possible funding sources to support recommendations; and
- Form a working group, including but not limited to the Cities of Glendale, Los Angeles, MTA planning staff and community relations; and
- Report back on all the above during the ~~May~~ 2016 Board cycle.






July

**Burbank-Glendale-Los Angeles
Rail Transit Corridor
1992 – 1994 Certified EIR Alignment**

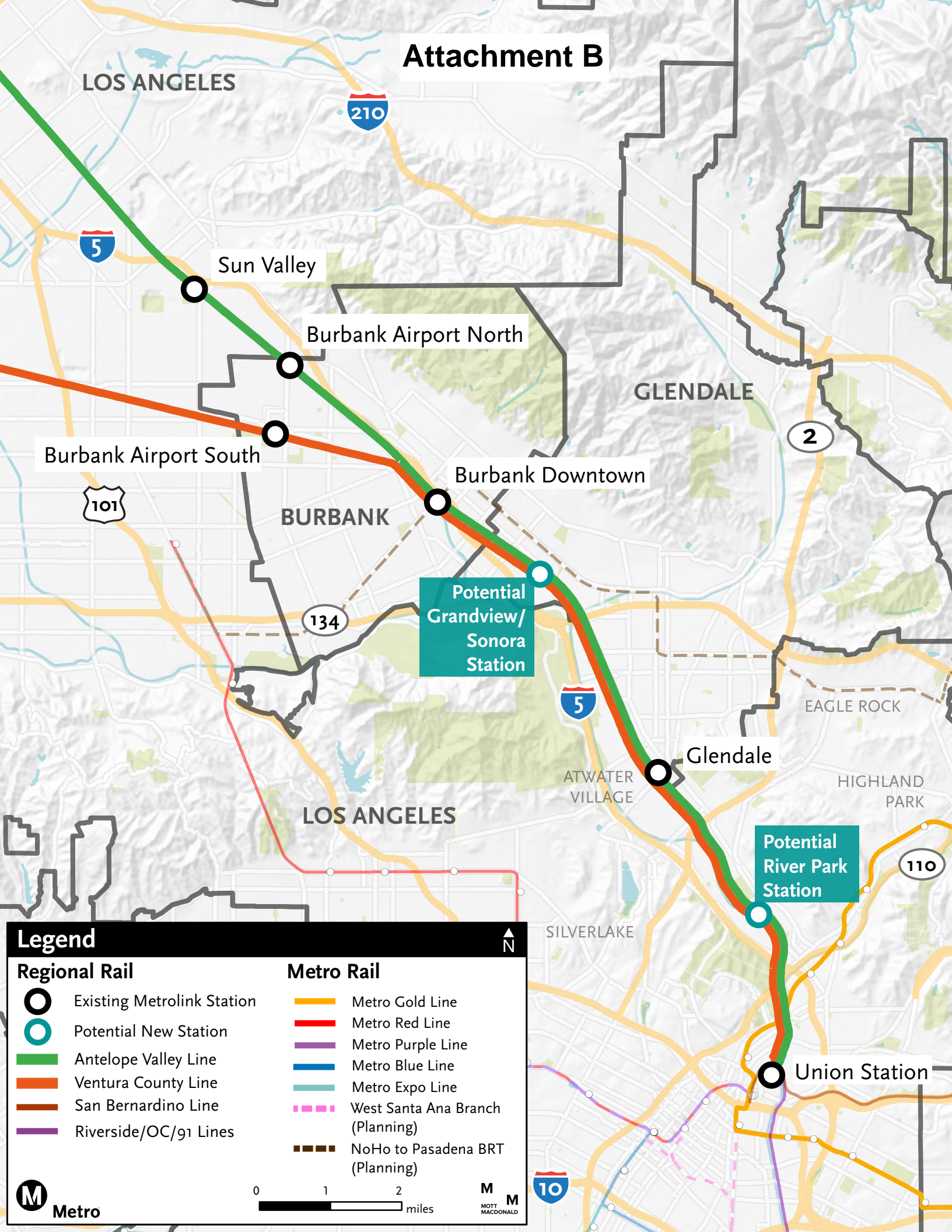
ATTACHMENT B



LEGEND



-  Metrolink Existing Railroad Corridor (Antelope Valley Line and Ventura County Line)
-  Metrolink Existing Stations
-  Metro Gold Line LRT to Pasadena
-  Old 1992 Study Proposed LRT Route
-  Old 1992 Study Proposed LRT Stops

Attachment B










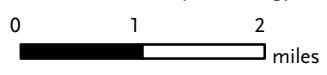
Legend

Regional Rail

-  Existing Metrolink Station
-  Potential New Station
-  Antelope Valley Line
-  Ventura County Line
-  San Bernardino Line
-  Riverside/OC/91 Lines

Metro Rail

-  Metro Gold Line
-  Metro Red Line
-  Metro Purple Line
-  Metro Blue Line
-  Metro Expo Line
-  West Santa Ana Branch (Planning)
-  NoHo to Pasadena BRT (Planning)



ATTACHMENT C

LOS ANGELES – GLENDALE – BURBANK FEASIBILITY STUDY: OPTIONS RESULTS SUMMARY

	Existing	M 60-min	M 30-min	M 15-min	RMU	L Option 1	L Option 2
Weekday Round Trips	15 AVL 16 VCL 6 Amtrak	18 AVL 16 VCL 9 Amtrak	36 AVL 16 VCL 9 Amtrak	74 AVL 16 VCL 9 Amtrak	37 AVL to Lancaster 35 RMU to Via Princessa 16 VCL 9 Amtrak	15 AVL 130 LRT 16 VCL 9 Amtrak	15 AVL 16 VCL 9 Amtrak
Transit Accessibility	N/A	2 new stations but less frequency	2 new stations and more frequent service	2 new stations and more frequent service	4 new stations served by half of round trips	11 new LRT stations between Burbank and LA in existing corridor	13 new LRT stations between Burbank and LA
Ridership Forecasts 2042	36,000	39,000	50,000	61,000	55,000	83,000	86,000
Stakeholder Preferences	N/A	60% prefer more express and peak-direction service	Improved service but not as frequent as other options	Meets preference for frequent long distance service	20% of respondents prefer express services	Majority of respondents are long-distance commuters	75% of survey respondents say they are in favor
ROW Requirements	N/A	For potential River Park Station parking	For potential River Park Station parking	For River Park Station ROW and potential 3 rd track	Due to stations and MSF	Due to stations and MSF	Due to alignment through urban areas and MSF
Environmental Constraints	N/A	Minimal impacts limited to new station(s)	Minimal impacts limited to new station(s)	Impacts due to increased locomotive operations	Impacts due to ROW	High potential impacts due to ROW takings	Highest potential impacts due to ROW takings and visual impacts
Parking Considerations	N/A	Demand can be accommodated by existing parking facilities	Demand can be accommodated by existing parking facilities	New stations require demand strategies	Projected to exceed capacity by 40+ spaces	ML demand can be met, but LRT demand will require strategies	ML demand can be met, but LRT demand will require strategies
Travel Time & Headways	Varied headways between 25m – 90m	Minimal service improvement	Better than 30-min in trunk	Better than 15-minute in trunk	Better than 15-minute in trunk	6-min peak, 12-min off-peak	6-min peak, 12-min off-peak
Integration of Operations	N/A	No impacts to freight and future expansions	No impacts to freight and future expansions	May potentially conflict with UPRR operations	Third track would be required to accommodate freight	Would preclude HSR	Overlaps with existing and planned services; precludes HSR
Total Capital & Operating Costs	O&M: \$20M	Capital: up to \$118M O&M: up to \$26M	Capital: up to \$334M O&M: up to \$46M	Capital: up to \$1.1B O&M: up to \$80M	Capital: up to \$1.1B O&M: up to \$42M	Capital: up to \$4.3B O&M: up to \$37M	Capital: up to \$6B O&M: up to \$50M

Los Angeles – Glendale – Burbank Feasibility Study

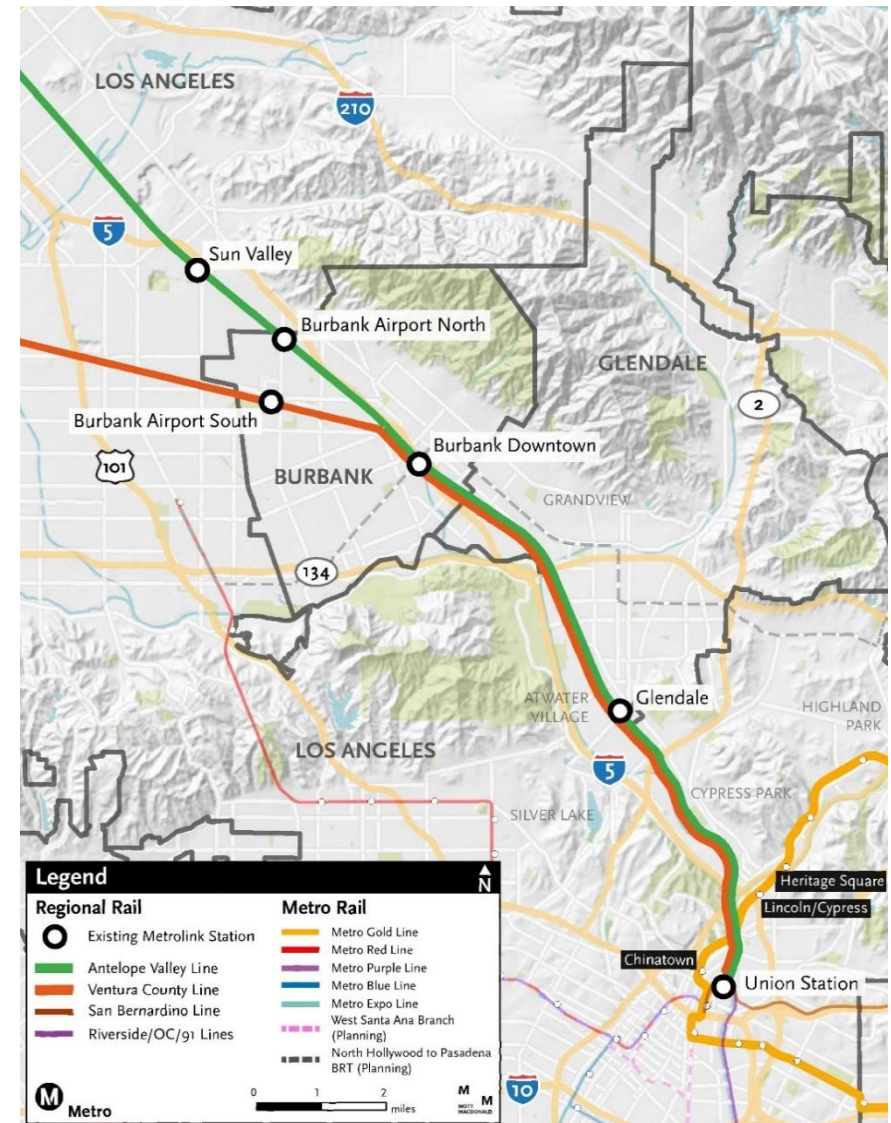


Metro Planning and Programming Committee
July 17, 2019

Metro Board Motion

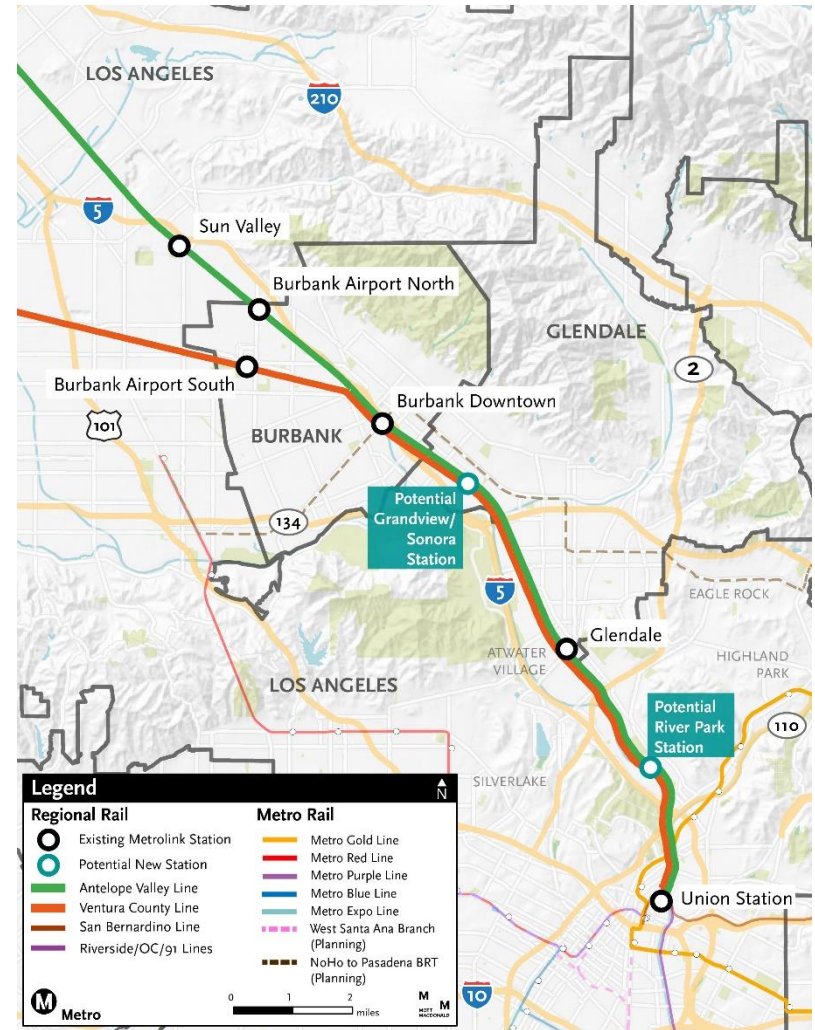
At the March 2016 Board Meeting, Directors Najarian, Garcetti, and Antonovich directed the CEO to conduct a study to:

1. Reassess the previously environmentally cleared light rail transit project in the Los Angeles-Glendale-Burbank corridor (1992);
2. Identify rail connectivity through different rail technologies for the corridor; and
3. Form a working group consisting of key stakeholder cities.



Assess Potential Station Locations

1. Per the motion, up to two station sites in the City of Los Angeles and up to two station sites in the City of Glendale were evaluated
2. Five station sites were initially identified and evaluated based on criteria such as stakeholder feedback and surrounding transit usage
3. Stakeholders and analysis confirmed selection of the **River Park** and **Grandview/Sonora station** locations to be studied further, if desired.



Potential Metrolink Station Renderings

River Park



Pros: New multi-family housing, new/existing recreational developments (G2 Park and Taylor Yard Ped/Bike Bridge) and existing schools located within walking distance. Likely to have sufficient right-of-way width and space for some parking provision.

Cons: Site located on curve (not ideal for rail operations) and in close proximity to Central Maintenance Facility.

Cost: \$52 Million (2018\$)

Grandview/Sonora



Pros: Large employer campuses (Disney & DreamWorks) are located within walking distance; high bus ridership in this area.

Cons: Location between two at-grade crossings may impact gate times at those intersections. Existing Quiet Zone designation requires additional safety infrastructure at crossings. Limited space for parking provision.

Cost: \$24 Million (2018\$)

Evaluate Rail Service by Mode



Locomotive Haul Coaches (LHC) e.g. Metrolink



Rail Multiple Unit (RMU) Trains e.g. Redlands Passenger Rail Project (SBCTA)



Light Rail Transit (LRT) e.g. Metro Gold Line

Corridor Operations	Shared track with freight and DMU (FRA compliant)	Shared track with freight and LHC (FRA compliant)	Two dedicated tracks (non-FRA compliant)
Speed (avg speed with stops and max corridor speed)	36 / 79 mph	40 / 79 mph	24 / 65 mph
Average Station Spacing	5 miles	1 – 4 miles	1 mile
Level of Investment	Low (New locomotive at \$7M; new passenger car at \$2M corridor upgrades TBD)	Medium (New vehicles at \$10-\$15M/vehicle; new MS at \$30-\$50M; corridor upgrades TBD)	High (New corridor and vehicles needed at \$250M+ per mile)
Similar Project Costs		\$290M – Redlands Passenger Rail Project	\$2.3B – Gold Line Extension Phase 2b to Pomona
Max. Passenger Capacity	840 sitting (six-car sets)	450 sitting and standing (three-car sets)	405 sitting and standing (three-car sets)

Light Rail Transit (LRT) Scenarios








SCENARIO	L Option 1 LRT Service - Metrolink Corridor	L Option 2 LRT Service - Downtown Glendale and Burbank
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	6 6-min Peak 12-min Off Peak	6 6-min Peak 12-min Off Peak
WEEKDAY ROUND TRIPS	<ul style="list-style-type: none"> 15 Antelope Valley Line 16 Ventura County Line 9 Amtrak 130 LRT 	<ul style="list-style-type: none"> 15 Antelope Valley Line 16 Ventura County Line 9 Amtrak 130 LRT
ADDITIONAL IMPROVEMENTS	<ol style="list-style-type: none"> 1. New LRT alignment 2. New LRT stations 3. Additional trains 4. New LRT bridge over LA River 5. New LRT maintenance facility 	<ol style="list-style-type: none"> 1. New LRT alignment 2. New LRT stations 3. Additional trains 4. New LRT bridges over LA River and Interstate 5 5. New LRT maintenance facility
CAPITAL COSTS ¹	\$3.3B - \$4.2B	\$4.6B - \$6.0B
ANNUAL O&M COSTS ¹	\$25M - \$37M	\$29M - \$50M
AVERAGE WEEKDAY BOARDINGS ² 2028 / 2042	<ul style="list-style-type: none"> Metrolink: 15,800 / 34,300 LRT: 42,600 / 50,500 	<ul style="list-style-type: none"> Metrolink: 15,900 / 34,400 LRT: 44,600 / 53,300

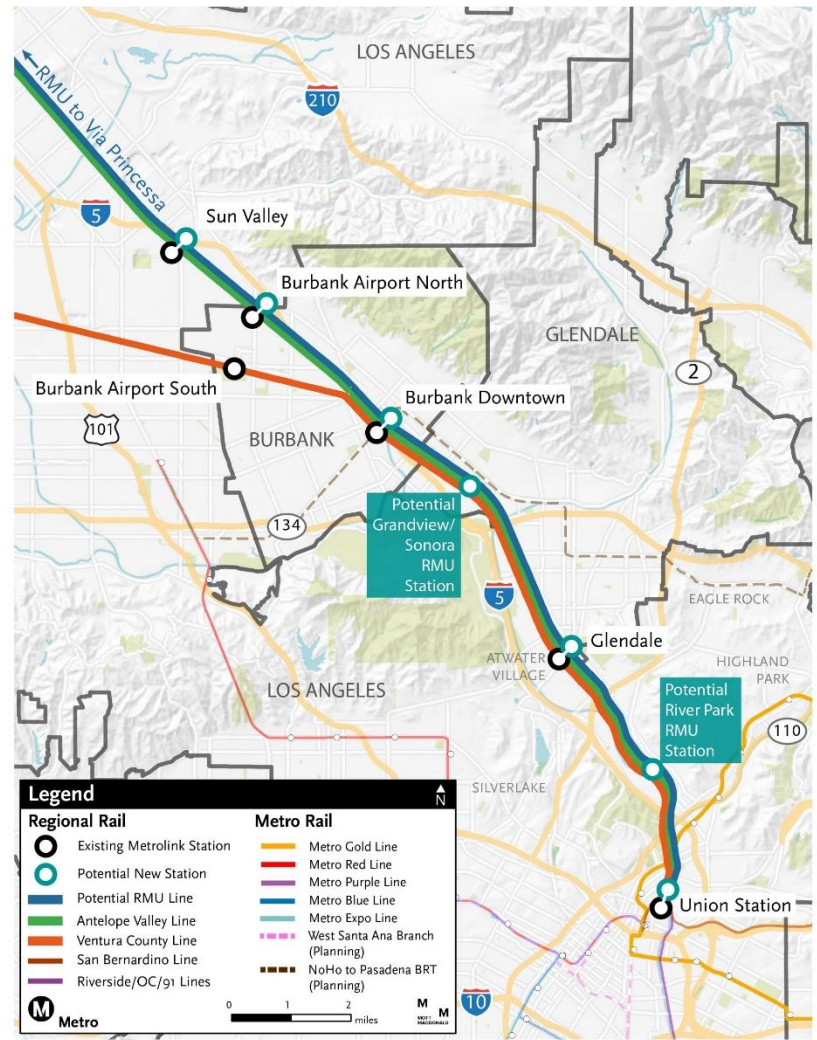


1 Costs reported in 2018 \$
2 Ridership reflects AVL passengers only

Rail Multiple Unit (RMU) Scenario


























*Metrolink's Locomotive Haul Coach trains is better suited for AM/PM peak services, with 840 passengers per train using a blended approach with RMU trains (at 450 passengers) for the mid-day services.

SCENARIO	RMU Option * Blended Metrolink + RMU service to Via Princessa
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	 15-minute bi-directional AVL
WEEKDAY ROUND TRIPS	 37 Antelope Valley Line  16 Ventura County Line  9 Amtrak  35 RMU
ADDITIONAL IMPROVEMENTS	<ol style="list-style-type: none"> 1. Station mods at existing stations for RMUs 2. New RMU stations 3. Additional trains 4. North AVL Improvements 5. New RMU maintenance facility 6. Optional third track and station modifications to Glendale and Burbank-Downtown
CAPITAL COSTS ¹	\$849M
ANNUAL O&M COSTS ¹	\$30M
AVERAGE WEEKDAY BOARDINGS ² 2028 / 2042	 Metrolink and  RMU 34,900 / 52,400



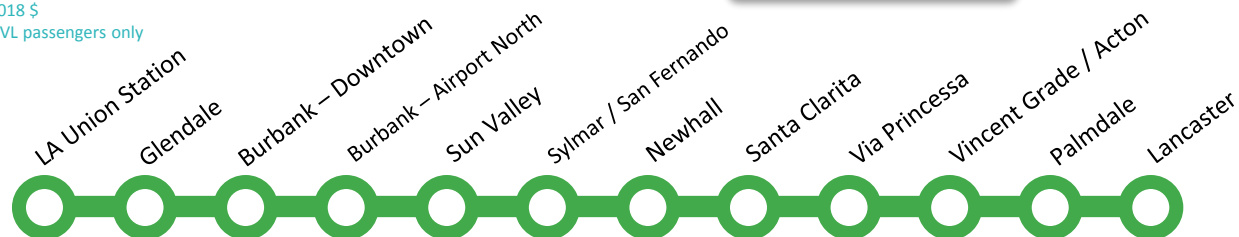
¹ Costs reported in 2018 \$
² Ridership reflects AVL passengers only

Proposed Metrolink AVL Service Scenarios










SCENARIO	Existing Conditions	M Option 1 Add 1 Evening Train Friday, Saturday	M Option 60 60-min Bi-directional	M Option 30 30-min Bi-directional	M Option 15 15-min Bi-directional
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	 Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	 Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	 60-minute bi-directional AVL	 30-minute bi-directional AVL	 15-minute bi-directional AVL
WEEKDAY ROUND TRIPS	 15 Antelope Valley Line  16 Ventura County Line  6 Amtrak	 16 Antelope Valley Line  16 Ventura County Line  6 Amtrak	 18 Antelope Valley Line  16 Ventura County Line  9 Amtrak	 36 Antelope Valley Line  16 Ventura County Line  9 Amtrak	 74 Antelope Valley Line  16 Ventura County Line  9 Amtrak
ADDITIONAL IMPROVEMENTS	None	None	1. Double Track near Balboa Tunnel	1. Additional trains 2. North AVL Improvements	1. Additional train 2. North AVL Improvements 3. Optional third track and station modifications to Glendale and Burbank-Downtown
CAPITAL COSTS ¹	None	None	\$42M	\$175.2M	\$760 M
ANNUAL O&M COSTS ¹	\$34.5M	\$35.4M	\$38.5M	\$45.5M	\$68.8M
AVERAGE WEEKDAY BOARDINGS ² 2028 / 2042	 Metrolink 16,500 / 36,000	 Metrolink 16,500 / 36,400	 Metrolink 15,600 / 38,100	 Metrolink 22,800 / 41,600	 Metrolink 38,000 / 59,200

¹ Costs reported in 2018 \$

² Ridership reflects AVL passengers only



Evaluation Criteria & Study Results

		Metrolink 60M	Metrolink 30M	Metrolink 15M	RMU	LRT in Corridor	LRT Glendale/ Burbank
	Transit Accessibility	●	●	●	●	●	●
	Ridership	●	●	●	●	●	●
	Stakeholder Preferences	●	●	●	●	●	●
	ROW Requirements	●	●	●	●	●	●
	Environmental Constraints	●	●	●	●	●	●
	Parking Considerations	●	●	●	●	●	●
	Travel Time & Headways	●	●	●	●	●	●
	Integration of Operations	●	●	●	●	●	●
	Capital & Operating Costs	●	●	●	●	●	●

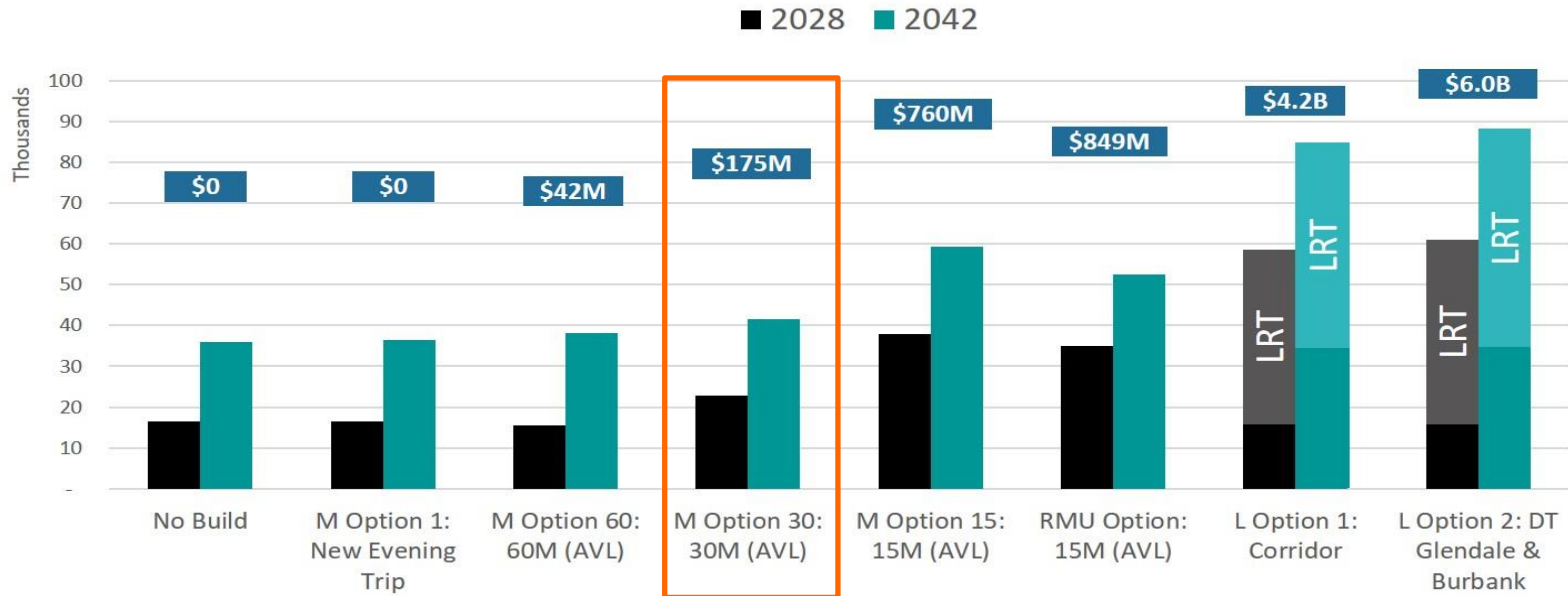


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● low ● medium ● high

Conclusion

Average AVL Weekday Boarding Forecasts (2028 and 2042) and Total Capital Costs



The Metrolink 30-min option is the preferred scenario

1. Strong ridership growth is achieved, an increase from 7,000 daily passengers today to 22,000 daily passengers in 2028 and 40,000 daily passengers in 2042.
2. Much lower capital costs (\$175.2M) compared to RMU (\$849B) and LRT (\$4.2B up to \$6B) scenarios
3. Most of all of the required capital improvements to serve 30 min service are within Metro owned ROW with limited environmental and right-of-way impacts.
4. Allows for incremental approach to service expansion based on demand and funding.
5. Allows for future services in the corridor (e.g. Virgins Trains high-speed rail, RMU).



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Questions?



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