



## Board Report

File #: 2016-0835, File Type: Project

Agenda Number: 9.

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### PLANNING AND PROGRAMMING COMMITTEE MARCH 15, 2017

**SUBJECT: BUS RAPID TRANSIT CORRIDOR STUDIES**

**ACTION: APPROVE STUDY FINDINGS AND APPROVE INITIATION OF ENVIRONMENTAL CLEARANCE**

#### RECOMMENDATION

CONSIDER:

- A. RECEIVING AND FILING update on **Vermont BRT Corridor Technical Study**;
- B. APPROVING the findings and recommendations from the **North Hollywood to Pasadena Bus Rapid Transit (BRT) Technical Study**;
- C. APPROVING advancement of the **North Hollywood to Pasadena BRT corridor into environmental review**; and
- D. APPROVING initiation of a technical study for the **North San Fernando Valley BRT Improvements Project preceding environmental review**.

#### ISSUE

In July and October 2014, Board motions were passed (Attachments A and B) directing staff to begin technical analysis on the Vermont Avenue and the North Hollywood to Pasadena corridors, which were both identified in the Los Angeles County Bus Rapid Transit and Street Design Improvement Study (CBRT) as strong candidates for BRT implementation. This report provides an update on Phase I of the Vermont BRT Corridor Technical Study. This report also presents the findings and recommendations from the North Hollywood to Pasadena BRT Technical Study and recommends that the corridor be advanced into environmental review. It also recommends the initiation of the North San Fernando Valley BRT Improvements Project.

#### DISCUSSION

##### Background

In July 2015, BRT staff formally kicked off the technical studies for the Vermont Avenue and the North

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Hollywood to Pasadena corridors. The scope included a detailed review of the corridor environment, transit market(s) analysis, development of potential BRT concepts and routes/stations, sketch planning-level conceptual design, evaluation of system performance, forecasting of system benefits, and identification of environmental issues.

### Vermont BRT Corridor

The Vermont Corridor, which extends approximately 12.5 miles from Hollywood Boulevard south to 120<sup>th</sup> Street, is the second busiest bus corridor in Los Angeles County, carrying over 45,000 weekday boardings. The bus service performs unevenly due primarily to challenges associated with operating in a congested, mixed traffic environment. The purpose of the study was to investigate opportunities to improve bus service through the implementation of BRT elements that have been proven in other settings to lower travel time, increase service reliability and enhance the customer experience. The study identified four initial BRT concepts, two of which appear to be promising in terms of improved passenger travel times, faster bus speeds, and increased ridership.

Vermont Corridor Outreach - A special Technical Advisory Committee (TAC) was established early in the study consisting of representatives from the City of Los Angeles' Department of Transportation (LADOT), Bureau of Engineering (LABOE), and Planning, and the County of Los Angeles Department of Public Works. The TAC met regularly to discuss project status, provide technical consultation, and receive feedback on concept definition, design issues, and potential resolutions.

Beginning in December 2015, staff initiated stakeholder outreach efforts through a briefing with elected officials and Board staff. Individual briefings were also offered and provided to representatives from the City of Los Angeles with jurisdiction over the Vermont Corridor. In January 2016, a round of stakeholder roundtable meetings were held on the corridor with invitees from local businesses, religious institutions, schools, hospitals, community/neighborhood groups, major cultural centers, neighborhood councils, and Chambers of Commerce. These briefings yielded valuable feedback that helped inform alternatives development and next steps.

In January and February 2017, staff held a final TAC meeting, elected officials and Board staff briefing, and an Open House for key targeted stakeholders to present and discuss the findings for the Vermont BRT study. Overall, there was strong agreement that BRT could greatly improve bus service along Vermont, but that it needed to consider future conversion to rail.

Measure M includes funding after FY 2067 for potential conversion to rail on the Vermont Corridor. In light of that circumstance, and coupled with the community's express interest to examine the potential for rail conversion, staff is proceeding with Phase II of the Vermont BRT Technical Study, which would evaluate how the BRT could be converted to rail in the future. Environmental review of the BRT would commence thereafter, informed by that effort. Phase II is expected to take approximately 12 months to complete; the Measure M expenditure plan lists the Vermont corridor with a groundbreaking date of 2024.

### North Hollywood to Pasadena BRT Corridor

The North Hollywood to Pasadena study area extends approximately 16 miles from the North

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Hollywood Metro Red/Orange Line Station to the Metro Gold Line in Pasadena. Of the 700,000 daily trips entering the study area, the overwhelming mode share is single occupant auto trips. Transit currently accounts for just 2% of corridor trips, despite the presence of Metro Rail connections at both ends of the corridor. Transit has been unable to capture a larger share of this travel market for several reasons. First and foremost, there is not a large captive transit market. To attract this choice rider, transit must be more competitive with the automobile in terms of door-to-door travel time, good transit access and passenger comfort/convenience. The existing transit service lacks convenient access to key activity centers and does not offer competitive travel times.

In addition, the existing transit service has a largely east-west orientation with limited access to the study area's biggest activity centers and employers. As a result, market penetration for transit has been low and the overall transportation system is imbalanced. The key challenge for the North Hollywood to Pasadena corridor is to design a premium transit service that captures more of the choice rider market by offering competitive travel times, better transit access and enhanced passenger comfort/convenience. Regional connectivity is also a key element, especially given that this is among the region's largest commuter sheds without a premium transit service.

As described in Attachment C, the study started with ten BRT route concepts. Based on extensive feedback received from corridor cities - Burbank, Glendale, Los Angeles and Pasadena - staff narrowed down routing options to two promising concepts, a street running concept and freeway running concept. The street running concept, which could be a side or center running BRT, would provide improved transit access to major activity centers south of SR-134 and Metro Rail connections at both ends. In the West segment, the most promising alignment is along Olive Avenue, although other arterials like Alameda Street and Magnolia Avenue remain under consideration. In the Center segment, there are two potential routing options via Brand Boulevard or Central Avenue. In the East segment, the route would continue via Colorado Boulevard with a couplet option along Green Street/Union Street.

The freeway running concept would travel via the SR-134 with fewer stops and a slightly shorter route. Under the freeway concept, the BRT could operate along the shoulder or the existing HOV lane and have in-freeway BRT stops/shelters. Although it may provide a faster travel time between North Hollywood and Pasadena, it would provide fewer connections to major activity centers along the corridor. A variation of this option includes a freeway alignment that provides access to the Hollywood Burbank Airport via the SR-134/I-5 freeways.

Both the street and freeway running concepts have merit and are viable concepts that have the potential to address the unmet travel needs in the study area. Projected corridor ridership could range from approximately 10,000 to 18,000 daily riders by 2035 dependent on the final alignment selected. Capital costs range from approximately \$274 to \$448 million for the street running concept and \$123 to \$246 million for the freeway running concept. More technical work needs to be done to finalize routing, stop locations, design configuration and operations. Staff recommends advancing both concepts into the environmental phase.

North Hollywood to Pasadena Corridor Outreach - Similar to Vermont, a special TAC was established early in the study consisting of representatives from the Cities of Burbank, Glendale, Pasadena and Los Angeles, as well as other key stakeholders such as Caltrans and the Hollywood Burbank Airport.

Staff also met individually, as needed, with the Cities of Burbank, Glendale, and Pasadena.

Beginning in December 2015, staff initiated stakeholder outreach efforts through a briefing with elected officials and Board staff. Staff also provided updates on the North Hollywood to Pasadena Corridor to the Arroyo-Verdugo Subcommittee, the City of Pasadena's Municipal Services Committee, the Burbank City Council, and Eagle Rock business stakeholders.

In January 2016, a round of stakeholder roundtable meetings were held in the corridor with invitees from local businesses, religious institutions, schools, hospitals, community/neighborhood groups, major cultural centers, neighborhood councils, and Chambers of Commerce. In January and February 2017, staff held a final TAC meeting, elected officials and Board staff briefing, and an Open House for key targeted stakeholders to present and discuss the findings for the North Hollywood to Pasadena BRT study.

Because Measure M includes funding after FY 2067 for potential conversion to rail on the North Hollywood to Pasadena Corridor, the study team notes that one of the alternatives being advanced-- a freeway BRT alternative-- does not preclude future conversion to rail. Considerations for conversion can be incorporated into the environmental analysis scope. Overall, there was overwhelming support for advancing BRT into the next phase of study. Staff recommends moving forward with environmental review on the North Hollywood to Pasadena BRT Corridor. Immediately beginning the environmental review will help ensure that the Measure M schedule (groundbreaking date FY 2020) for this project is met.

#### North San Fernando Valley BRT Improvements

In June 2016, a Board motion was approved (Attachment D) directing staff to begin environmental planning work no later than six months after passage of Measure M. The purpose of this project is to provide a high-capacity east-west transit service in the North San Fernando Valley, especially service to California State University, Northridge (CSUN), ease traffic, meet the growing demand for transit in the San Fernando Valley, and contribute to the success of the countywide transit system by adding connectivity to a large population and significant trip generators, including CSUN and others. The environmental work will be preceded by a technical study exploring routing, stop locations and operations.

### **DETERMINATION OF SAFETY IMPACT**

Approval of this item will not impact the safety of Metro's customers or employees.

### **FINANCIAL IMPACT**

The FY 2016-17 budget includes \$1,071,146 in Cost Center 4240 (Regional Transit Planning), Project 405403 (Countywide BRT Program) to initiate Phase II of the Vermont BRT Technical Study and the environmental phase for the North Hollywood to Pasadena BRT Corridor and the North San Fernando Valley BRT Improvements project. Since work on the three corridors would be multiyear, it will be the responsibility of the cost center manager and Chief Planning Officer to budget funds in future years.

### Impact to Budget

The source of funds for this recommendation is Proposition A, C and TDA Administration funds which is not eligible for bus and rail operating and capital expenditures.

### ALTERNATIVES CONSIDERED

The Board may decide not to approve advancing the North Hollywood to Pasadena BRT Corridor and the North San Fernando Valley BRT Improvements project to the next level of environmental review. This is not recommended as both corridors are included and funded in Measure M. Delaying the environmental analysis would jeopardize the ability to meet the Measure M schedule for project groundbreaking and opening dates.

### NEXT STEPS

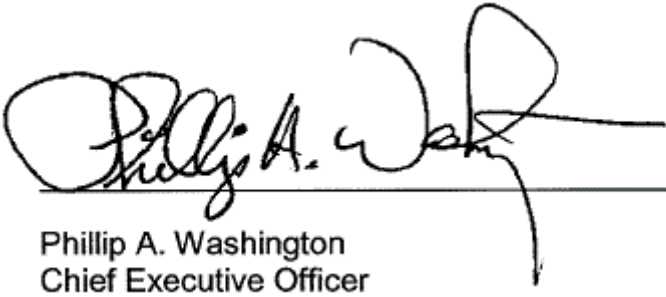
Should the Board choose to approve staff's recommendations, we will proceed immediately to procure consultant services for environmental reviews of the two corridors. Staff will keep the Board apprised of the three studies and return to the Board with final results. Staff will also move forward with staff recruitment requests, subject to necessary approvals in the FY18 budget, to accomplish the necessary development work on these three transit corridors.

Staff will also begin developing BRT branding and design guidelines/criteria to be considered when designing and implementing any type of BRT system. These guidelines/criteria will also include a methodology for evaluating the performance and benefits of a potential BRT corridor. The BRT system performance standards will assess how well a BRT corridor may be performing, identify actions for improving operating performance and efficiency, and highlight best practices and lessons learned. We anticipate this effort to take approximately nine months to complete.

### ATTACHMENTS

Attachment A - July 24, 2014 Board Motion  
Attachment B - October 16, 2014 Board Motion  
Attachment C - North Hollywood to Pasadena BRT PowerPoint  
Attachment D - June 23, 2016 Board Motion

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Phillip A. Washington  
Chief Executive Officer

**MOTION BY DIRECTORS MICHAEL ANTONOVICH,  
ARA NAJARIAN, MARK RIDLEY-THOMAS AND ERIC GARCETTI**

**July 24, 2014**

After several years of evaluation, MTA staff developed a list of eligible corridors for additional bus rapid transit (BRT) projects based on, among other things, ridership potential and net savings of operations funding. Two of the corridors hit upon unmet transit needs, which would greatly relieve congestion and link major transit centers.

The first corridor, Vermont Avenue, has long been recognized as one of the most congested streets in Los Angeles. According to MTA statistics, the Vermont Avenue corridor has among the most daily bus boardings in all of LA County. The bus system is unable to accommodate commuter demands without service improvements.

The second corridor between the North Hollywood Red/Orange Lines and the Pasadena Gold Line, by all accounts, has huge ridership potential and would connect the San Fernando and San Gabriel Valleys. Metro, in collaboration with Bob Hope Airport, is providing an important plane-to-train connection through improvements to the Metrolink Antelope Valley and Ventura County Lines. The Airport recently opened its Regional Intermodal Transit Center that provides seamless connectivity from trains to buses to planes. An additional connection through enhanced BRT is warranted to increase mobility.

I THEREFORE MOVE that the CEO direct staff to advance these projects and provide the Board with a report back in September on an implementation plan to include:

- A. Operations requirements
- B. Funding requirements
- C. Implementation timelines

I FURTHER MOVE that the CEO:

- A. Immediately initiate the hiring process for the Bus Rapid Transit planning position included in the Board-approved MTA Fiscal Year 2014-15 budget
- B. Dedicate additional staff to the aforementioned projects and the Countywide BRT Study as needed

**MOTION BY DIRECTORS ARA NAJARIAN, GARCETTI AND ANTONOVICH**

Construction Committee

October 16, 2014

At the July 24, 2014 board meeting, the MTA board approved moving both the Vermont Avenue BRT and the North Hollywood to Pasadena BRT to the environmental phase in preparation and anticipation of future funding. Board Chair, Mayor Garcetti, amended the motion to direct that both BRT's should be MTA's top priority for federal small starts funds.

At the board staff briefing this week, MTA staff stated that a consultant was being procured only for the Vermont Avenue BRT, in direct contrast to the board's direction that both BRT projects move forward in tandem to be positioned for small starts funding. To support this motion,

**WE THEREFORE MOVE** that the consultant procurement for BRT advancement be amended to include the North Hollywood to Pasadena BRT.



## Metro

Los Angeles County  
Metropolitan Transportation  
Authority  
One Gateway Plaza  
3rd Floor Board Room  
Los Angeles, CA



## Board Report

File #:2016-0521, File Type:Motion / Motion  
Response

Agenda Number:

**REGULAR BOARD MEETING  
JUNE 23, 2016**

**Motion by:**

**Directors Garcetti, Kuehl, Antonovich, Krekorian and Najarian**

**as amended by Director Fasana**

June 23, 2016

**Relating to Item 49, File ID 2016-0319  
*North San Fernando Valley Transit Improvements***

Over the past several years, MTA has studied adding various BRT routes throughout Los Angeles County. It is a priority for MTA to expand its BRT network.

High-capacity east-west transit service in the North San Fernando Valley, especially service California State University, Northridge (CSUN), will ease traffic and meet the growing demand for transit in the San Fernando Valley and will contribute to the success of the countywide transit system by adding connectivity to a large population and significant trip generators, including CSUN and others.

CSUN generates more than 200,000 weekly car trips in Los Angeles County. With over 41,000 students, CSUN has the most students of any California State University. Additionally, with the second highest number of students in the nation receiving need-based federal assistance, CSUN's student population is one that would benefit the most from improved transit service.

Currently, the only high-capacity east-west transit service in the San Fernando Valley is at the far south end of the Valley.

Throughout the Potential Ballot Measure public review process, San Fernando Valley stakeholders repeatedly raised the need for high-capacity transit in the North San Fernando Valley with service to CSUN.

**MOTION by Garcetti, Kuehl, Antonovich, Krekorian and Najarian that the Board direct the CEO to add a new "Multi-Year Subregional Program" in the Los Angeles County Transportation Expenditure Plan named "North San Fernando Valley Bus Rapid Transit Improvements" and provide the following:**

- A. Designate the "North San Fernando Valley Bus Rapid Transit Improvements" as a System Connectivity ("sc") sub-regional category;
- B. Funds for the North San Fernando Valley Bus Rapid Transit Improvements will be programmed from the System Connectivity portion of the Transit Construction subfund at \$180 million under the "Measure \_ Funding 2015\$" for this program;
- C. A "Schedule of Funds Available" in Fiscal Year 2019 and an "Expected Opening Date" of Fiscal Year 2023;
- D. Designate the modal code for this program as a transit category, or "T";
- E. Add a footnote to state the following:
  - 1. This project will increase system connectivity in the North San Fernando Valley and the Metro transit system. Environmental planning work shall begin no later than six months after passage of Measure \_.
- F. Remove the North San Fernando Valley BRT project from footnote "m" (Line 39) as an eligible expenditure.

**FASANA AMENDMENT:** To provide equivalent funding based on the original allocation of funding (i.e. \$180 million is 13% of such funding based on the San Fernando Valley's share) to each of the other subregions to assure and maintain equitable funding.

North Hollywood to Pasadena  
BRT Corridor Technical Study  
Planning & Programming Committee  
March 15, 2017

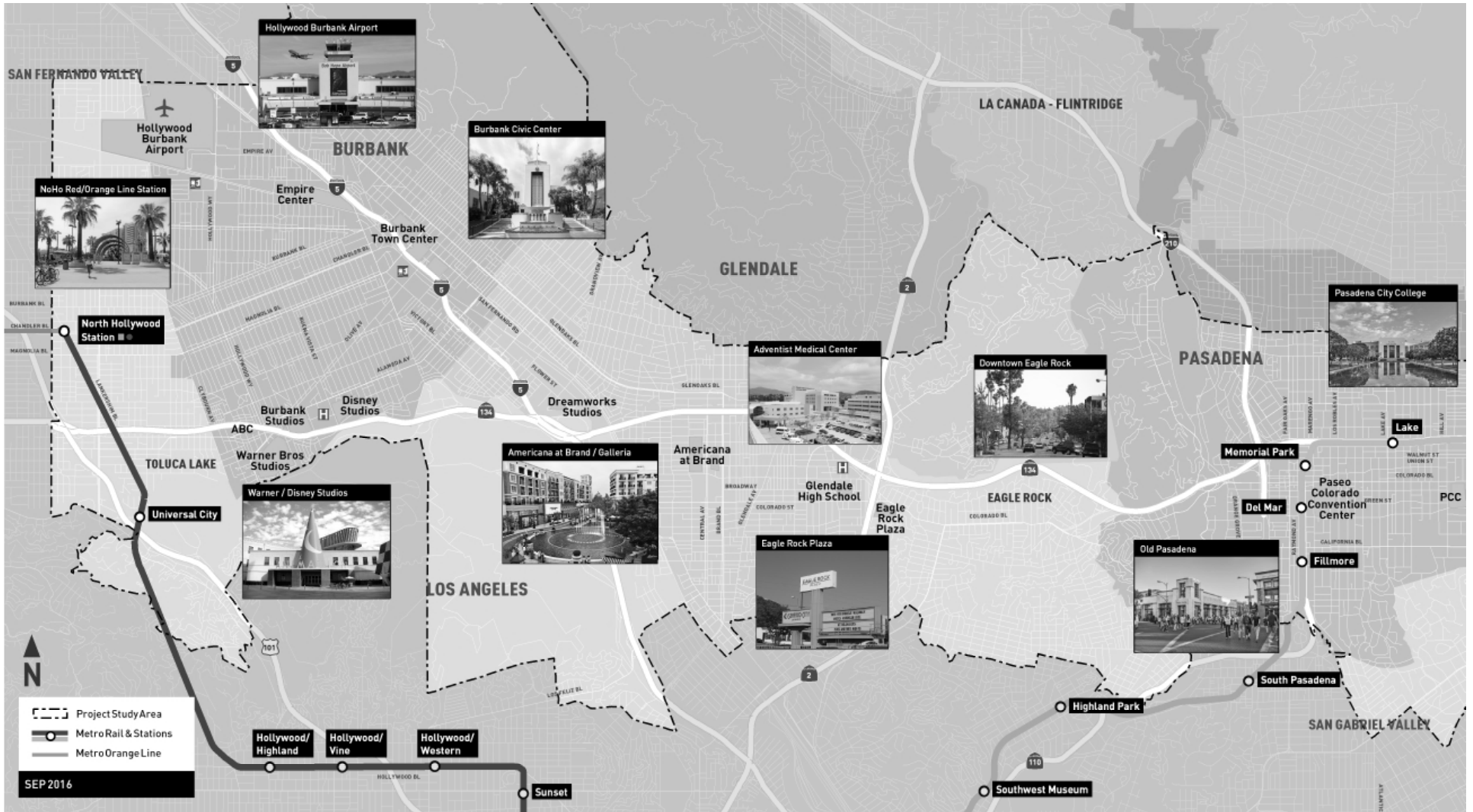


# Outline

- > Corridor Overview
- > Project Goals
- > Key Challenges
- > Preliminary BRT Concepts
- > Assessment of Preferred BRT Concepts
- > Key Findings

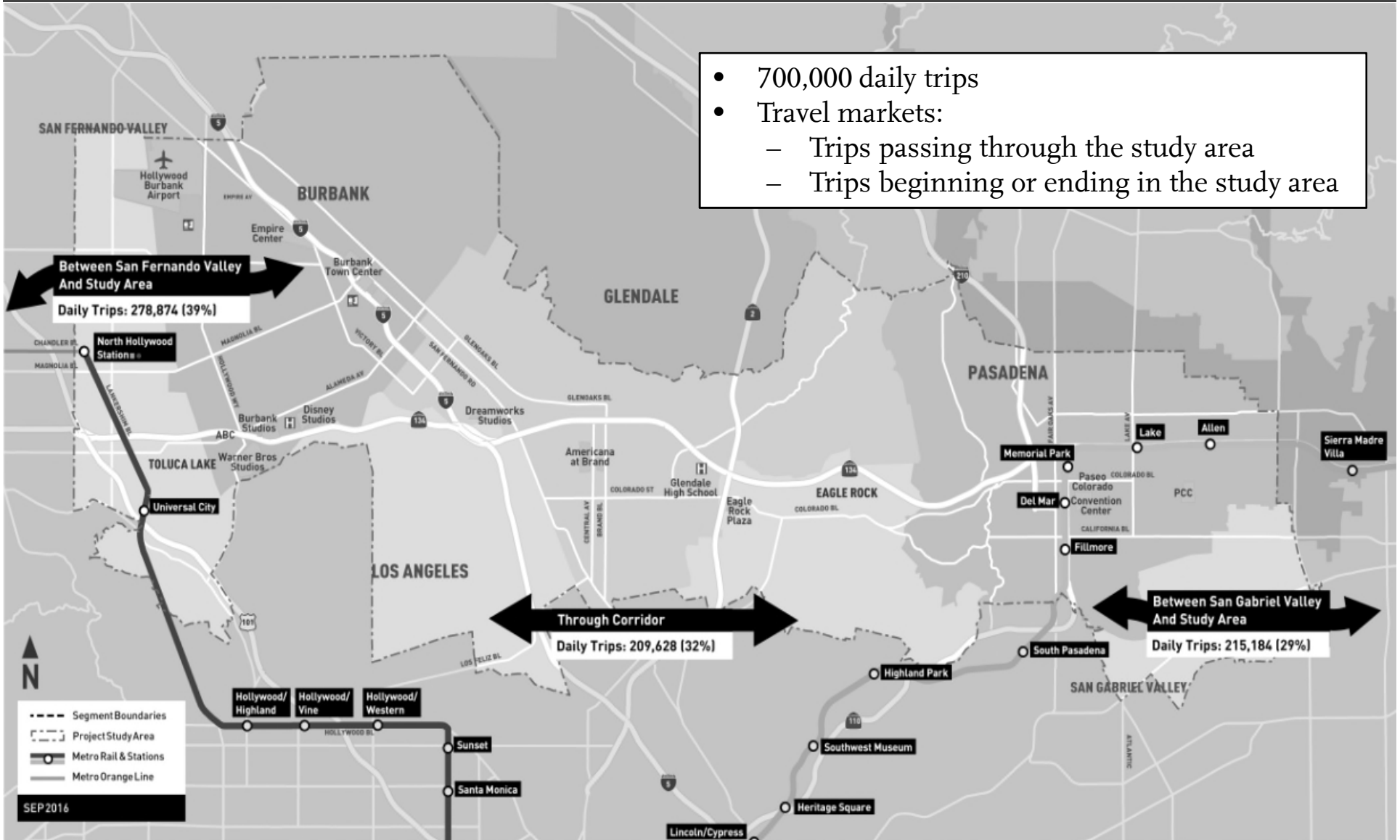
# North Hollywood to Pasadena Corridor Overview

16-mile corridor from North Hollywood to Pasadena



# There Are Two Distinct Travel Markets

- 700,000 daily trips
- Travel markets:
  - Trips passing through the study area
  - Trips beginning or ending in the study area



# Key Challenge

- > Busy corridor with 700,000 daily trips
- > Trips are overwhelmingly single occupant auto trips
- > Transit carries just 2% of corridor trips
  - Lacks convenient access to key activity centers
  - Does not offer competitive travel times
- > Improved transit service is needed to help balance the overall transportation system in the corridor

The primary challenge is to attract more choice riders through a premium bus service that is more competitive with automobiles



# Five Project Goals

- > Design a premium transit service that is more competitive with auto travel to attract choice riders
- > Improve transit access to major activity centers and employment sites
- > Enhance connectivity to Metro and regional rail services
- > Provide improved passenger comfort and convenience
- > Support community plans and transit-oriented development goals





# BRT Elements



Running Ways



Stations & Stops



Vehicles



Fare  
Collection



Signal Priority/  
Other Signal  
Improvements

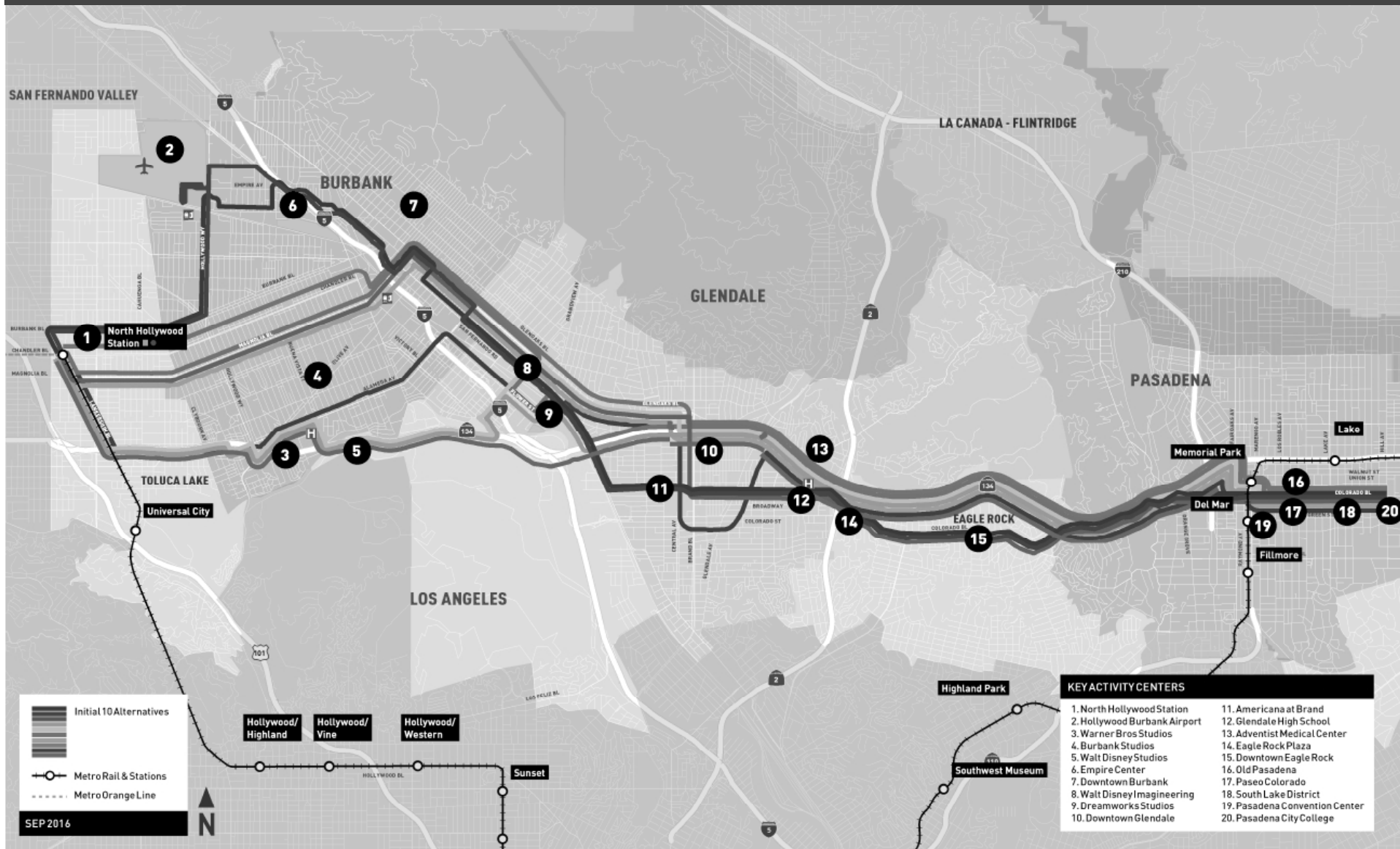


Branding & Image

# What Makes a Good BRT Alignment?

- > Serves key activity centers, employment centers, and other destinations
- > Improves connectivity to other transit services
- > Provides an enhanced customer experience
- > Improves transit travel times
- > Offers sufficient street widths to accommodate dedicated bus lanes

# The Process Started with 10 Alignment Concepts



# What We've Heard from the Corridor Cities

## City of Burbank

- > Concerned with loss of bike path on Chandler
- > Desire to minimize parking loss
- > Olive has sufficient ROW for BRT and least impact to parking

## City of Glendale

- > Desire to maintain parking on Brand
- > Potential for median running BRT on Glenoaks

## City of Pasadena

- > Any BRT station components on Colorado would need to be removable for annual Rose Parade
- > Other city projects may preclude implementation of dedicated bus lanes

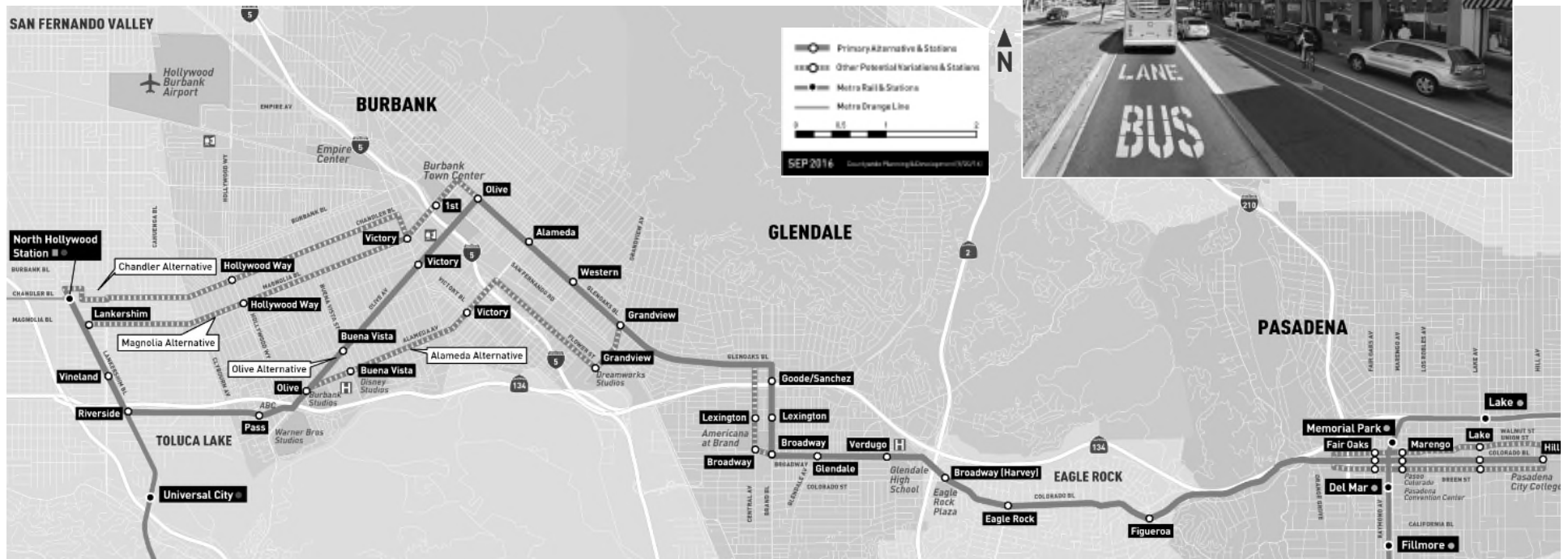
## City of Los Angeles

- > Provide transit access along Colorado through Eagle Rock



# Concept 1: Primary Street Alignment

- Approximately 18 miles connecting the Metro Gold Line and Orange/Red Line via Colorado, Broadway, Brand, Glenoaks, Olive, and Lankershim
- Dedicated bus lanes along majority of alignment
- Street alignment options:
  - Green/Union Couplet (Pasadena)
  - Magnolia (Burbank)
  - Central (Glendale)
  - Alameda (Burbank)
  - Chandler (Burbank)



# Concept 2: Primary Freeway Alignment

- Approximately 16 miles of BRT connecting the Metro Gold Line and Red/Orange Line via SR-134
- Freeway alignment option: access to Burbank Airport via the SR-134/I-5 Freeways



# Assessment of Preferred BRT Concepts

	Travel Time (minutes) (2035)	Ridership (2035)	Capital Cost (\$ Millions) (2016)	O&M Cost (Annual – \$ Millions) (2016)
Primary Street Running	77	18,000	\$274 - \$448	\$14
Primary Freeway Running	52	10,300	\$123 - \$246	\$10

The Street Running Concept has the potential to attract more riders because it has more stations that serve key activity centers

# Key Findings

- > Substantial untapped transit market in the study area
- > A premium bus service has the potential to capture more choice riders
- > The Street Running and Freeway Running concepts serve different market segments
- > Both concepts are feasible BRT options to improve transit service and increase ridership in the study area



Street Running Concept



Freeway Running Concept