Chapter 1
INTRODUCTION AND BACKGROUND

Study Purpose

The purpose of this technical study is to identify strategies for improving bus service along Vermont Avenue, which experiences significant performance deficiencies in terms of vehicle speeds, schedule reliability and passenger comfort due to severe traffic congestion and difficult operating conditions. This report focuses on the feasibility of implementing Bus Rapid Transit (BRT), which could include a number of elements such as dedicated bus lanes, enhanced station stops, all-door boarding and transit signal priority (TSP) – that have demonstrated the ability to improve bus service in similar corridor environments. This report also discusses the benefits of potential BRT concepts, in addition to physical and operational impacts to the existing corridor setting.

Passengers boarding a Metro Rapid on Vermont

There are five key study objectives:

1. Characterize existing conditions affecting bus transit performance, and establish the case for bus service improvement strategies;
2. Describe conditions and constraints, both physical and operational, affecting BRT planning and design;
3. Evaluate the feasibility and challenges associated with potential BRT concepts;
4. Estimate project benefits, non-transit impacts, and key tradeoffs associated with potential BRT options; and,
5. Identify promising BRT concepts to carry forward into environmental study and more detailed design.

Study Background

The Vermont Avenue Corridor is one of nine identified in the 2013 Countywide Bus Rapid Transit (CBRT) and Street Design Improvement Study for potential implementation. That study's primary focus was to advance Metro's goal of developing a countywide BRT system featuring innovative BRT elements proven to improve bus transit performance and attract new transit riders, including dedicated bus lanes, signal priority and enhanced station stops. Of the top nine corridors, Vermont Avenue performed the best, demonstrating the highest net 20-year benefits. The CBRT study found that, if

implemented, BRT along dedicated bus lanes on Vermont Avenue could yield significantly faster travel times, improve service reliability, and capture new riders.

The Vermont Corridor was chosen as one of the first to be studied for potential BRT implementation. In May 2014, the Metro Board directed staff to conduct advanced technical analysis of the Vermont Corridor, culminating in this study effort.

In November 2016, voters in Los Angeles County passed the "Los Angeles County Traffic Improvement Plan" otherwise referred to as Measure M, which provides funding for the implementation of BRT service on Vermont Avenue. The Vermont Corridor is slated for a ground-breaking date of FY 2024 and an opening date of FY 2028. Additionally, the expenditure plan for Measure M identifies a potential conversion of BRT service on Vermont to light rail or heavy rail service after FY 2067, based on ridership demand.

Study Area

Figure 1 shows a map of the study area, which includes one half mile to either side of Vermont Avenue. The Vermont Corridor is approximately 12.4 miles, extending from Hollywood Boulevard (near the Sunset/Vermont Metro Red Line Station in Hollywood) south to 120th Street (south of the Vermont/Athens Metro Green Line Station). Most of the corridor falls within the City of Los Angeles with approximately 2.5 miles at the south end (west side of Vermont only) in the County of Los Angeles.

The Vermont Avenue Corridor is the second busiest bus corridor in Los Angeles County, carrying approximately 45,000 passengers per day. That ridership is expected to grow to 54,600 by 2035. Ridership on Vermont Avenue is high because the existing bus service connects a number of communities, including East Hollywood/Los Feliz, USC/Exposition Park, Koreatown, West Adams, and South Los Angeles. In addition, Vermont Avenue provides a number of important transfer connections to east-west Metro lines, including the Purple Line, Metro Rapid 720, the Exposition Line, Metro Rapid Line 704 and the Metro Green Line.

Figure 1: Vermont BRT Corridor and Study Area

Right-of-Way

The right-of-way (ROW) width ranges from 80 feet in the northern part of the corridor to up to 200 feet south of Gage Avenue. As shown in Figure 2, the Vermont Corridor was divided into eight segments, each with a common street width and general lane configurations:

A. Hollywood Blvd. to Wilshire Blvd.

B. Wilshire Blvd. to Jefferson Blvd.

C. Jefferson Blvd. to Exposition Blvd.

D. Exposition Blvd. to MLK Jr. Blvd.

E. MLK Jr. Blvd. to Gage Ave.

F. Gage Ave. to Manchester Blvd.

G. Manchester Blvd. to I-105 Freeway

H. I-105 Freeway to 120th St.

Dividing the corridor in segments helped inform the development and design of potential BRT concepts, which often includes features like dedicated running ways that may require eliminating some on-street parking or a travel lane, particularly along narrower segments.

Figure 2: Vermont Corridor Segments

Segment	Boundary
A	Hollywood - Wilshire (2.7 Miles)
B	Wilshire - Jefferson (2.6 Miles)
C	Jefferson - Exposition (0.5 Miles)
D	Exposition - MLK (0.5 Miles)
E	MLK - Gage (2.0 Miles)
F	Gage - Manchester (1.5 Miles)
G	Manchester - 105 Fwy (2.2 Miles)
H	105 Fwy - 120th St (0.4 Miles)

Land Use

The Vermont Corridor is densely populated and has land use patterns common to much of City of Los Angeles. There are many older street facing storefronts and newer buildings oriented toward sidewalks that rely on on-street parking, which totals approximately 2,005 spaces throughout the corridor.

There are also many busy corner mini-malls, where off-street parking is accessed near major intersections, resulting in significant vehicular activity near bus stop locations. Throughout the corridor, there are also pockets of mixed use, residential and new transit oriented development (TOD) sites near major bus/rail stations. The best example is the new mixed use development at Wilshire and Vermont above the Metro Rail station.

Metro Red / Purple Line Wilshire Vermont Station Mixed-Use Transit Village

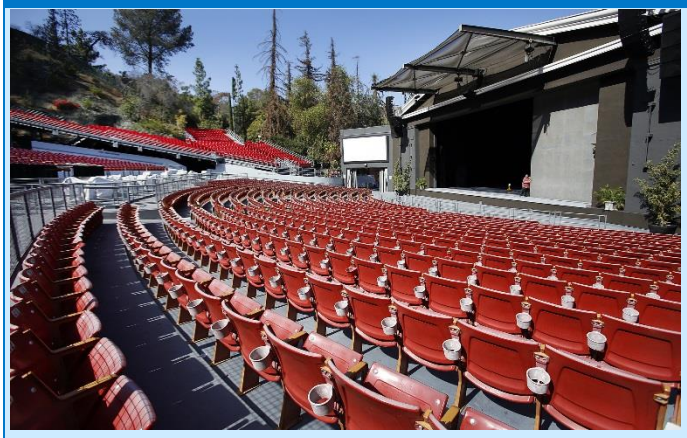
Existing Transit Service

Kaiser Permanente Los Angeles Medical Center

The corridor is currently served by Metro Local Line 204 and Metro Rapid Line 754 providing important connections to several rail lines, including the Metro Red, Purple, Exposition, and Green lines. It also connects to dozens of other local and Metro Rapid east-west lines, several Los Angeles Department of Transportation (LADOT) local neighborhood DASH lines, and G-Trans Line 2. Vermont Avenue also provides access to numerous major activity centers like Kaiser Permanente Los Angeles Medical Center. Figure 3 shows some of the study area's major activity generators, including Children's Hospital Los Angeles, Los Angeles City College, University of Southern California (USC), and Exposition Park, as well as many others.

According to data collected as part of Metro's 2011 on-board passenger survey (adjusted for 2015 ridership), approximately 60 percent of all Metro Rapid Line 754 and Metro Local Line 204 riders do not have a car available for their trip; 84 percent do not have a driver's license; and 83 percent have household annual incomes below $25,000.

Figure 3: Major Activity Centers/Destinations on Vermont

Key Destinations along Corridor	
	
The Greek Theatre	Southwestern University School of Law
	
Griffith Park Observatory	Beverly/Vermont Metro Red Line Station
	
Barnsdall Park	West Adams Preparatory School

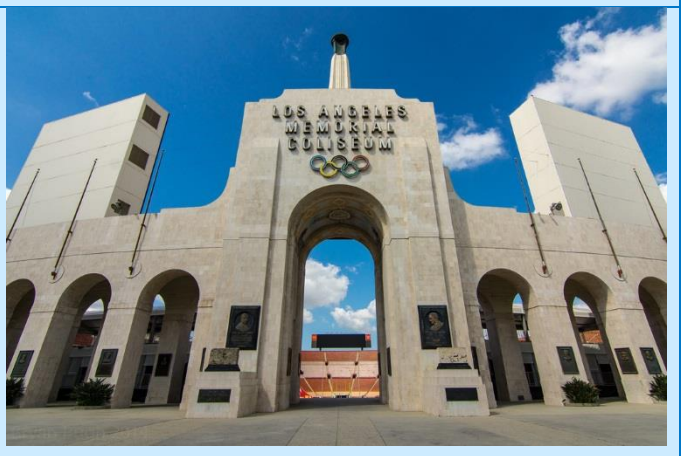
Vermont/Sunset Metro Red Line Station

Manual Arts High School

Kaiser Permanente Medical Center

University of Southern California (USC)

Children's Hospital Los Angeles



Los Angeles Memorial Coliseum

Hollywood Presbyterian Hospital

California Science Center

Los Angeles City College

Exposition Park

Wilshire/Vermont Metro Red/Purple Line Station

African-American Museum

Koreatown

Natural History Museum

Stakeholder Engagement

The study process included a Technical Advisory Committee (TAC), which consists of representatives from the City of Los Angeles, Los Angeles County Department of Public Works, and several Metro departments. The role of the TAC was to provide technical feedback on the planning and design of BRT concepts and identify ways to identify and address key project challenges. In addition, the TAC provided an important role in establishing the following project goals:

- Enhance the customer experience
  - Reduce passenger travel times
  - Improve service reliability
- Improve service performance
  - Create a cost-effective, long-term transit solution
  - Faster average bus speeds
  - Increase ridership
- Increase person throughput for the corridor

Metro also conducted several rounds of key targeted stakeholder roundtable meetings at locations along the corridor. Invitees included businesses, religious institutions, schools, hospitals, community/neighborhood groups, major cultural centers, neighborhood councils, and Chambers of Commerce. The purpose of these meetings was to provide general overview of the study, solicit feedback that might help inform alternatives development, identify community concerns and/or corridor challenges, and discuss next steps. In addition to the stakeholder roundtables described above, Metro also provided project briefings to affected City of Los Angeles Council Districts along the corridor.

Document Overview

The remainder of the study consists of the following chapters:

Chapter 2 – Setting the Transportation Context: discussion of existing transit service, operating conditions, the travel markets, and corridor challenges.

Chapter 3 – Bus Improvement Concepts: description of the initial BRT concepts.

Chapter 4 – Assessment of Preliminary Concepts: description of the evaluation criteria (ridership, travel time connectivity, ROW constraints, traffic and parking impacts, and cost) used to assess the preferred BRT concepts, and performance results.

Chapter 5 – Findings and Recommendations: summary of the Vermont BRT study findings and recommendations.