OmniTrans
Connecting Our Community.

West Valley Connector Corridor

ALTERNATIVES ANALYSIS EXECUTIVE SUMMARY

FINAL | September 2014


Ontario International Airport

Ontario Mills


Rancho Cucamonga Metrolink Station


Kaiser Permanente

PARSONS

EXECUTIVE SUMMARY

The purpose of the Alternatives Analysis of Route 61, as it began in early 2013, was to evaluate alternatives for the introduction of premium transit service along the Holt Boulevard Corridor between the City of Pomona in Los Angeles County and the Cities of Montclair, Ontario, Rancho Cucamonga, and Fontana in San Bernardino County; and to identify the alternatives that best serve local transportation needs.

Omnitrans' Route 61 and Route 66 run east-west in the West Valley. Based on input from Omnitrans, the five cities along the corridor, and other stakeholders over the course of the AA study, a hybrid alignment alternative was developed that includes portions of Route 61 and a portion of Route 66 on Foothill Boulevard. This hybrid alignment is referred to as the West Valley Connector Corridor as shown in **Figure Ex-1.** The West Valley Connector serves a wider range of major destinations/activity centers and generates higher ridership than either of the individual corridors alone.

Outreach Process

Omnitrans' stakeholder outreach occurred throughout the AA process in multiple forms, primarily through monthly meetings with the Project Development Team (PDT) comprised of representatives from all of the local jurisdictions traversed by the West Valley Connector Corridor and other affiliated agencies and businesses. The purpose of the PDT was to review all technical work and provide input on the preferred transit solution. The PDT includes staff representatives from the following:

- City of Fontana
- City of Montclair
- City of Ontario
- City of Pomona
- City of Rancho Cucamonga
- County of San Bernardino
- Foothill Transit
- Kaiser Permanente
- Los Angeles County Metropolitan Transportation Authority (LA Metro)
- Los Angeles World Airports (LAWA)
- Omnitrans
- San Bernardino Associated Governments (SANBAG)
- Southern California Association of Governments (SCAG)
- Southern California Regional Rail Authority (SCRRA/Metrolink)
- Simon Group (Ontario Mills)

In May and June, 2014, Omnitrans conducted public outreach activities for the West Valley Connector Corridor project. The purpose of the outreach activities was to explain the purpose and objectives of the project, and provide a range of opportunities to answer questions and collect comments from the public.

Project Goal and Objectives

As determined by the PDT, the project goal of the West Valley Connector Corridor Alternatives Analysis (AA) study is to increase transit ridership in the corridor by providing a transit alternative that is more competitive with the automobile. The supporting objectives to achieve that goal include:

- Support city/community stakeholder goals and plans
- Respond to population, employment and travel demand growth
- Implement Omnitrans' *System-wide Transit Corridors Plan for the San Bernardino Valley*
- Provide premium transit service
- Improve transit amenities and facilities to provide greater passenger comfort and safety

- Increase transit travel speed and reduce travel time/delay
- Improve mobility and better serve multiple destinations
- Reduce vehicle miles of travel (VMT)
- Minimize negative impacts to traffic operations
- Improve pedestrian and bicycle access to transit
- Facilitate economic development and TOD opportunities

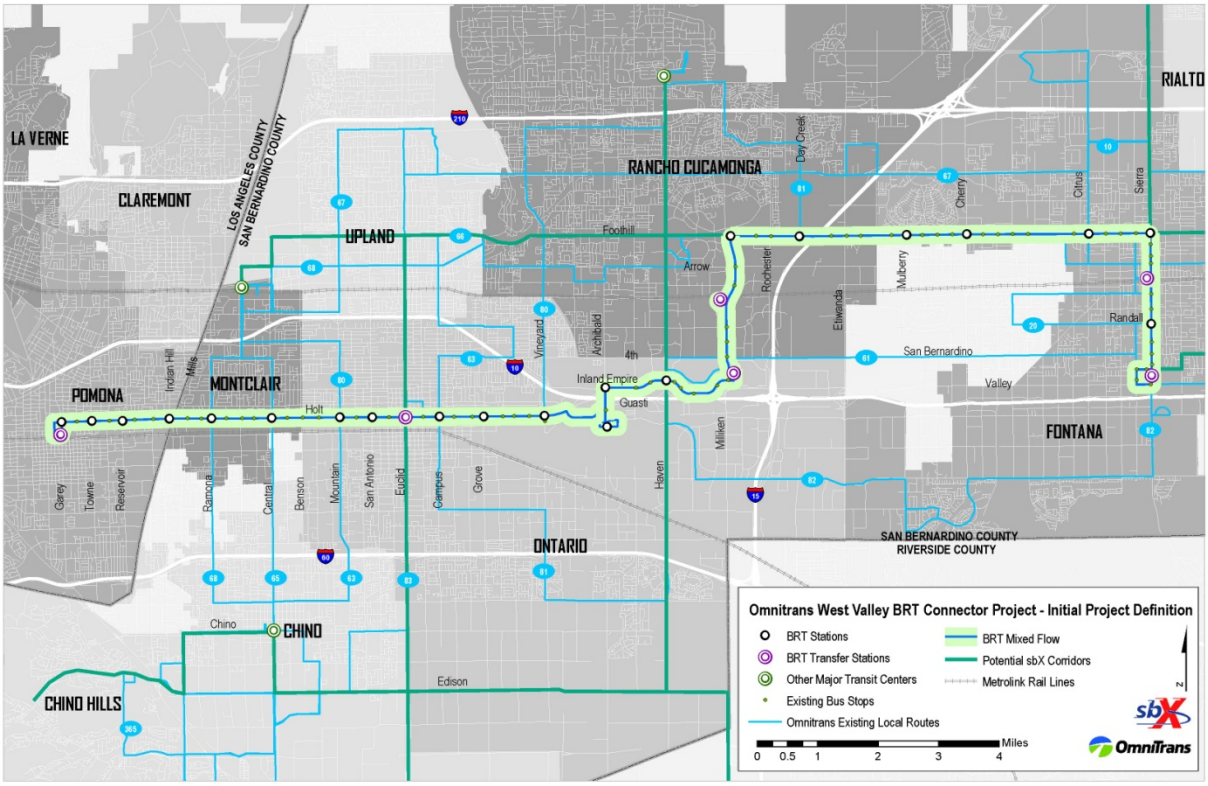


Figure Ex-1: Recommended Alternative; West Valley Connector Rapid Service

Existing Conditions

Route 61 is the highest ridership route in Omnitrans' system as shown in **Figure Ex-2**, providing more than 1.86 million boardings in 2012 and approximately 6,100 boardings per average weekday. Route 66 also has high ridership, providing more than one million boardings in 2012 and approximately 3,500 boardings per average weekday. Route 61 and Route 66 provide vital links with connecting transit lines. Existing traffic conditions in the two corridors vary with some areas experiencing congestion; however, the majority of the streets in the corridor experience low levels of traffic congestion. Low levels of bus stop amenities are also prevalent along both routes.

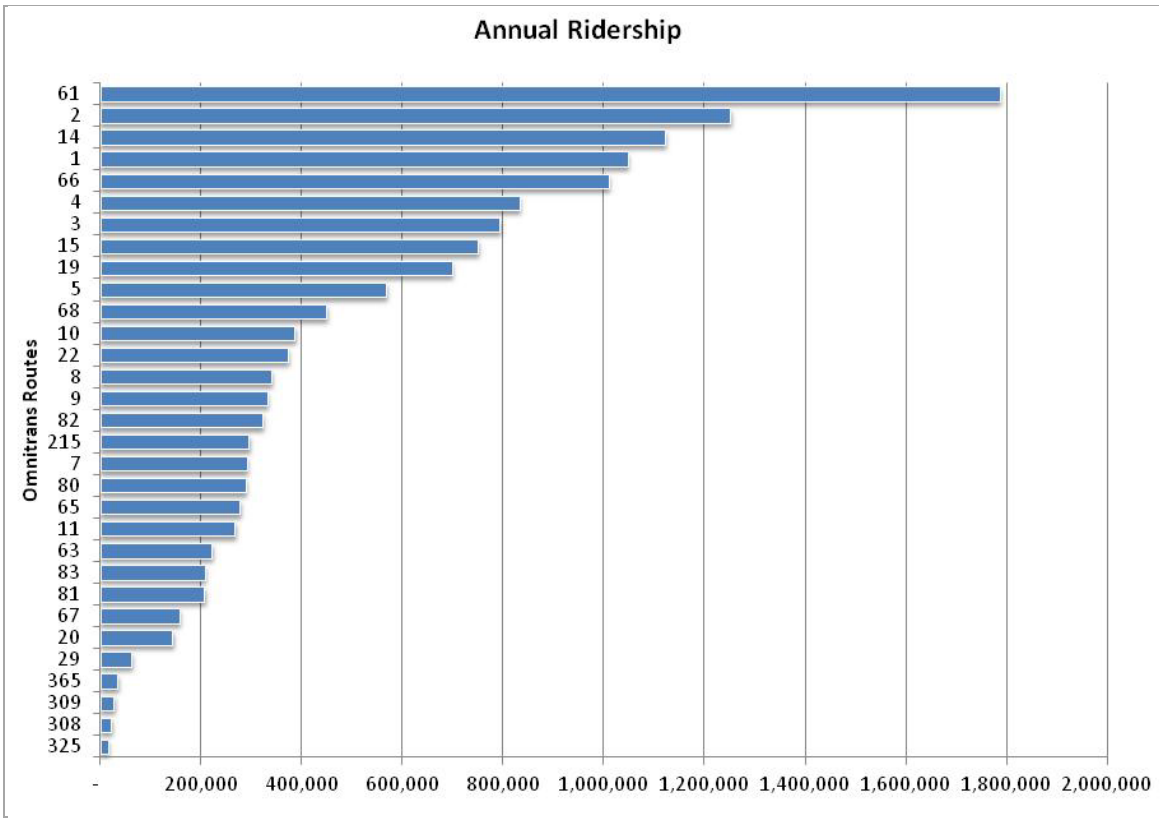


Figure Ex-2: Omnitrans Annual Ridership by Route

There are many key activity centers within the project corridor that serve as major trip generators. These are distributed across the corridor, as illustrated in **Figure Ex-3**.

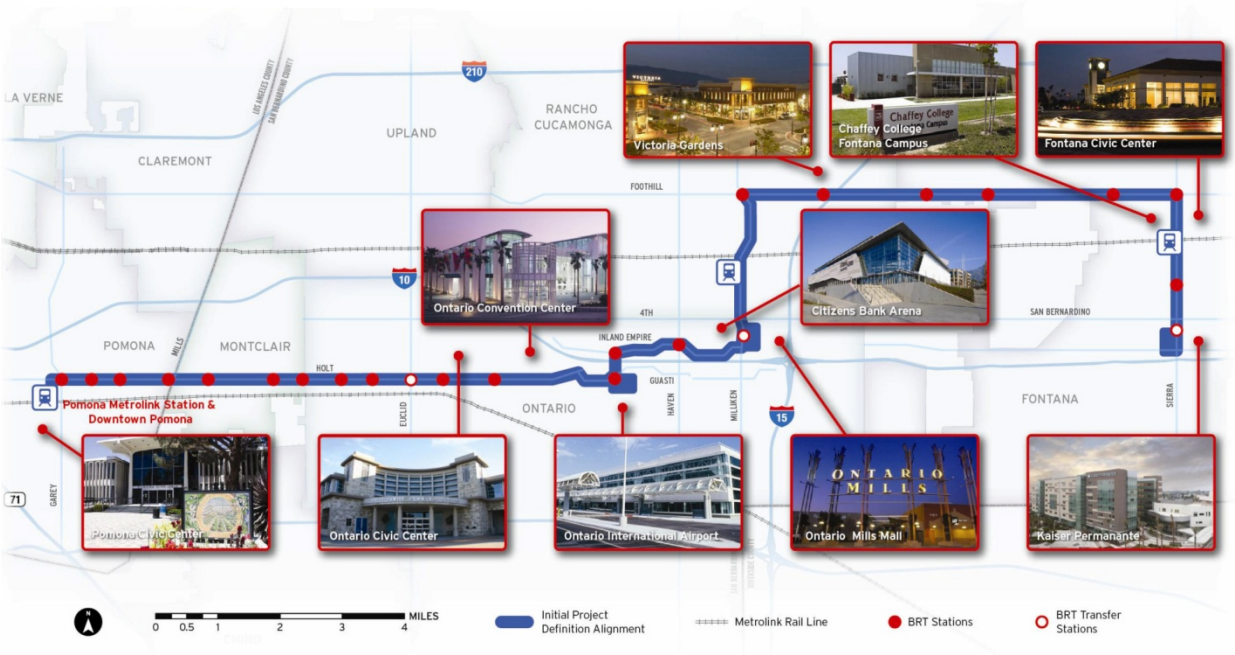


Figure Ex-3: West Valley Connector Corridor Trip Attractors and Activity Centers

AA Process and Conceptual Alternatives

Conceptual and detailed alternatives were analyzed in a multi-step screening process for the introduction of premium transit service and to best serve local transportation needs. This process leads to a project definition with the most appropriate improvements for the corridor.

Bus Rapid Transit (BRT) is a premium transit service that includes the development of coordinated improvements to a bus transit system's infrastructure, equipment, operations, and technology to provide a faster, more attractive, high quality, high capacity bus service. BRT is not a single type of transit improvement; rather, it encompasses a range of potential improvements, including buses using mixed flow or various types of dedicated lanes, enhanced stations, transit signal improvements including synchronization and transit signal priority, and improved bus service on city arterial streets.

Definition of Alternatives

Alternatives were developed based on consultations with Omnitrans, City staff and the project development team (PDT). The basic characteristics of each alternative considered and analyzed for the Route 61/Holt Boulevard Corridor and subsequently for the West Valley Connector Corridor are summarized below in **Table Ex-4**, with more detailed descriptions and corresponding figures provided in the AA Report.

Alternative	Local Bus Stops	Route 61 headway	BRT Headway	BRT Stations	Miles of Dedicated Lanes (2-way)	Total Buses/Hour
Route 61 Alignment						
No build	92	15	0	0	0.0	4
TSM	92	10	0	0	0.0	6
A	92	30	10	18	0.0	8
B	92	30	10	18	20.4	8
C	0	0	10	30	0.0	6
D	92	30	10	18	10.0	8
E	92	30	10	18	5.0	8
F	92	30	10	18	3.5	8
G	92	60	10	30	3.5	7
H	92	30	10	30	3.5	8
I	92	20	10	30	3.5	9
J	92	30	10	30	10.0	8
K	92	60	10	30	0.0	7
West Valley Connector/Hybrid Alignment						
L	88	30	10	28	0.0	8
M	88	30	10	27	3.5	8
N	88	30	10	27	6.5	8

Table Ex-4: Characteristics of the Initial Set of Alternatives

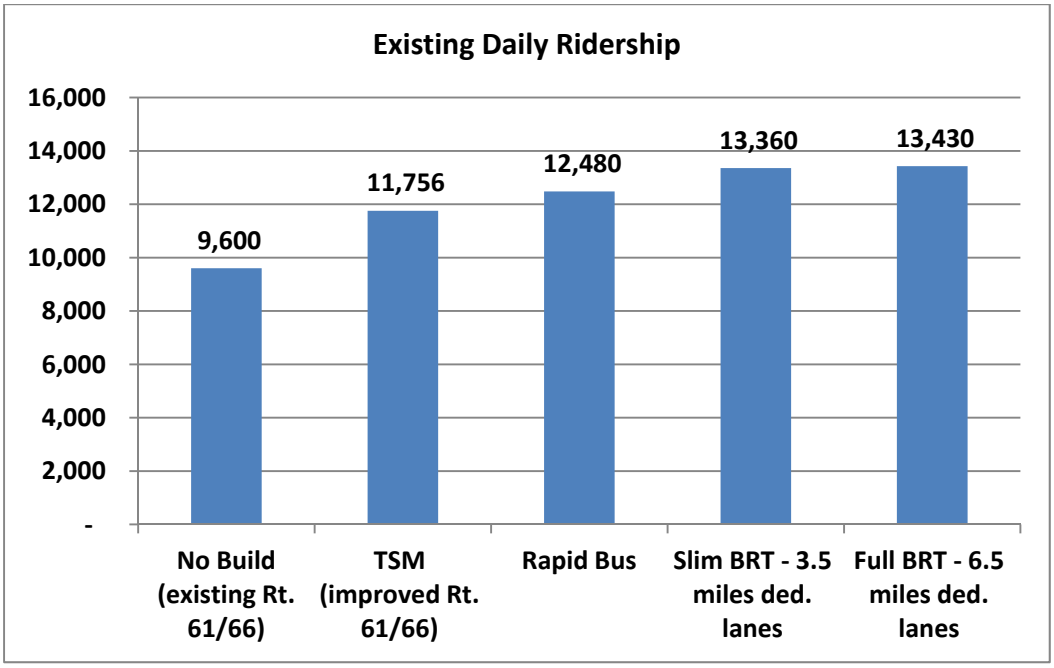
Alternatives Evaluation

An alternatives evaluation process was developed in coordination with Omnitrans and the project development team (PDT). This evaluation process was developed to identify the alternatives that best address the project Goals and Objectives identified in Section 1.3. The five main categories of evaluation are as follows:

- Ridership and performance
- Capital costs
- O&M costs
- Cost effectiveness
- Financial viability

Opening year ridership results, based on 2015 model year projections of the alternatives are presented in **Figure Ex-5** and summarized based on type of service on the preferred West Valley Connector Alignment station locations. Hybrid alignments L, M, and N (combining portions of the Holt Boulevard and Foothill Boulevard corridors) generate the highest total ridership, indicating significant ridership gains by using Foothill Boulevard instead of San Bernardino Avenue.

Figure Ex-5: Opening Year Ridership Results



Based on the ridership and performance evaluation, significant ridership gains occur without dedicated BRT lanes, and marginal benefits occur based on the inclusion of dedicated lanes. Ridership gains of approximately 50% of these numbers are generated in 2035 ridership forecasts. Conceptual capital costs are presented in **Figure Ex-6** based on the sbX Green Line experience. O&M costs are presented in **Figure Ex-7.** O&M for the Rapid bus is the lowest of the build alternative, and provides a lower O&M cost than the TSM alternative.

The cost effectiveness evaluation shown in **Figure Ex-8** indicates that Rapid Bus option provides the lowest O&M cost of all build alternatives and the highest cost effectiveness per rider, without the need for

substantial investment in dedicated bus lanes. This indicates that the best performing alternative is a Rapid bus service rather than a larger BRT investment.

Figure Ex-6: Capital Cost Comparison

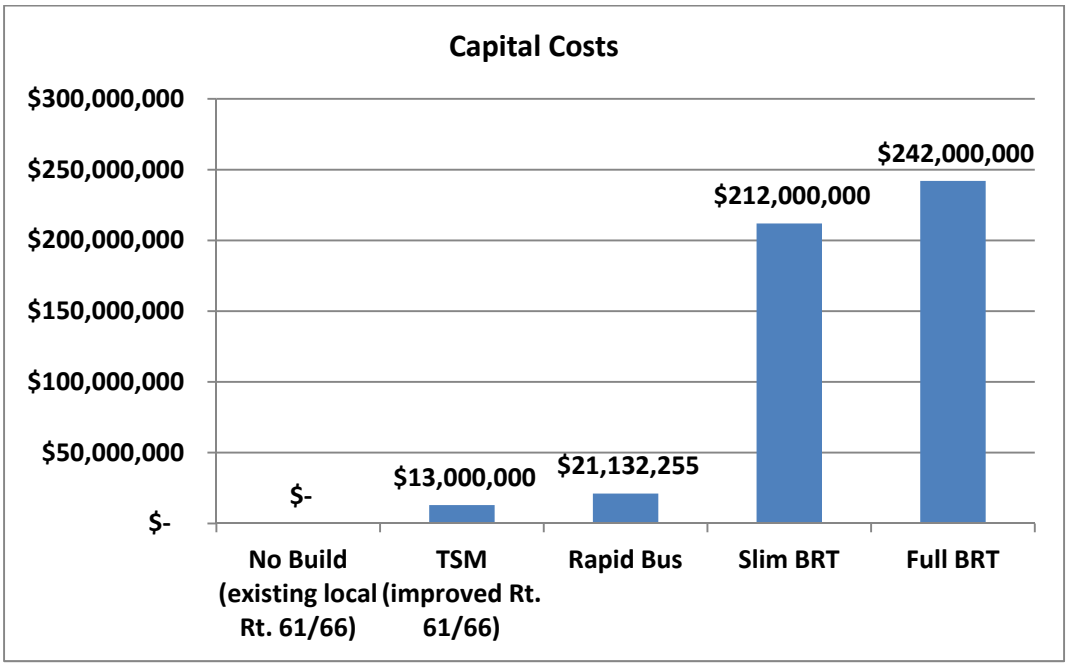
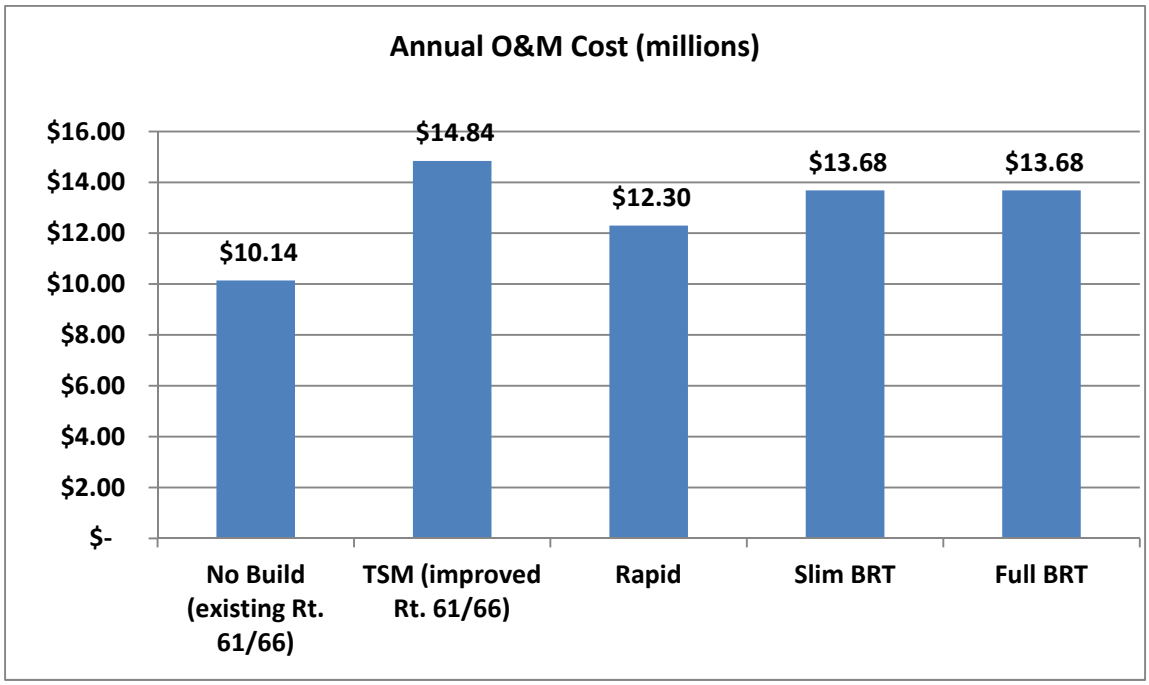


Figure Ex-7: Annual O&M Cost Comparison



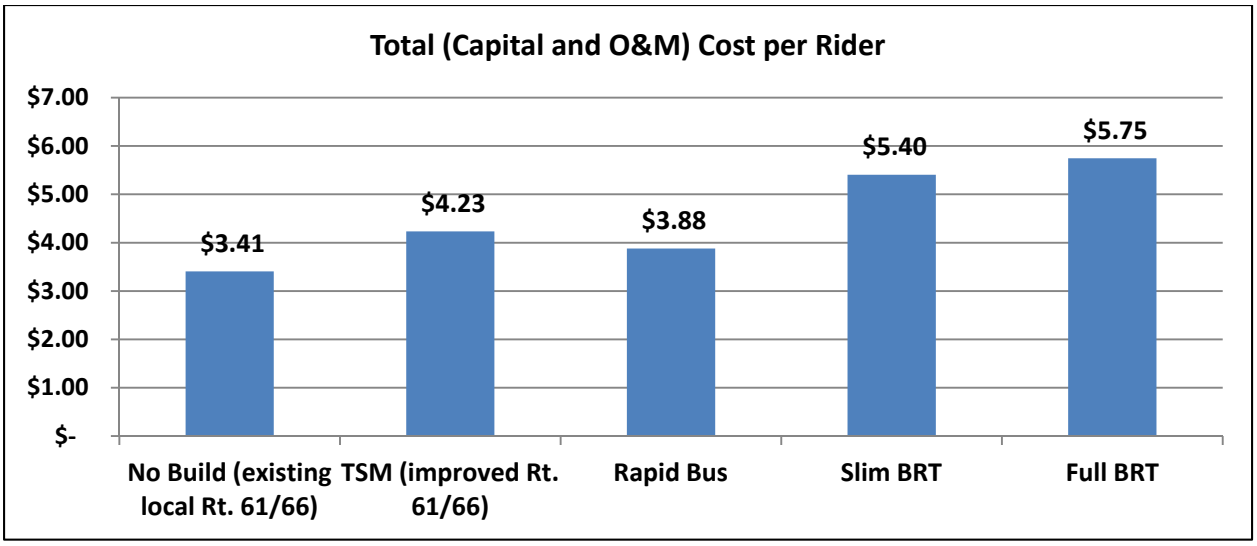


Figure Ex-8: Total Cost per Rider

Based on the results of this evaluation and the need for transit improvements in this corridor, a reduced cost Rapid bus service with the preferred stations and alignment of Alternative N, is the most appropriate to be carried forward for consideration and further development.

Findings from the Evaluation

Based on the comprehensive technical evaluation and public/stakeholder input, the following key findings are presented:

- Limited stop Rapid bus service would increase the corridor ridership by 30% to 12,480 per day in the existing condition and is forecasted to grow to 18,790 daily riders by 2035.
- A limited stop Rapid service provides the most cost-effective service of the build alternatives.
- The preferred alignment is shown in **Figure Ex-7.**

Recommended Alternative

Based on these findings, the recommended alternative is a modified low-cost version of Alternative L. This alternative continues local Route 61 and Route 66 service at 60-minute headways plus 10-minute Rapid bus service in mixed flow operation with 27 enhanced stations. The Rapid bus service would also benefit from Transit Signal Priority (TSP) applications in the corridor that would speed up the service and make it more attractive and more efficient.

Local service on the portions of Route 61 and 66 not covered by the Rapid alignment would be equilibrated to the demand on those portions of the route, with likely headways of 30 minutes for Route 61 and 20 minute for Route 66.

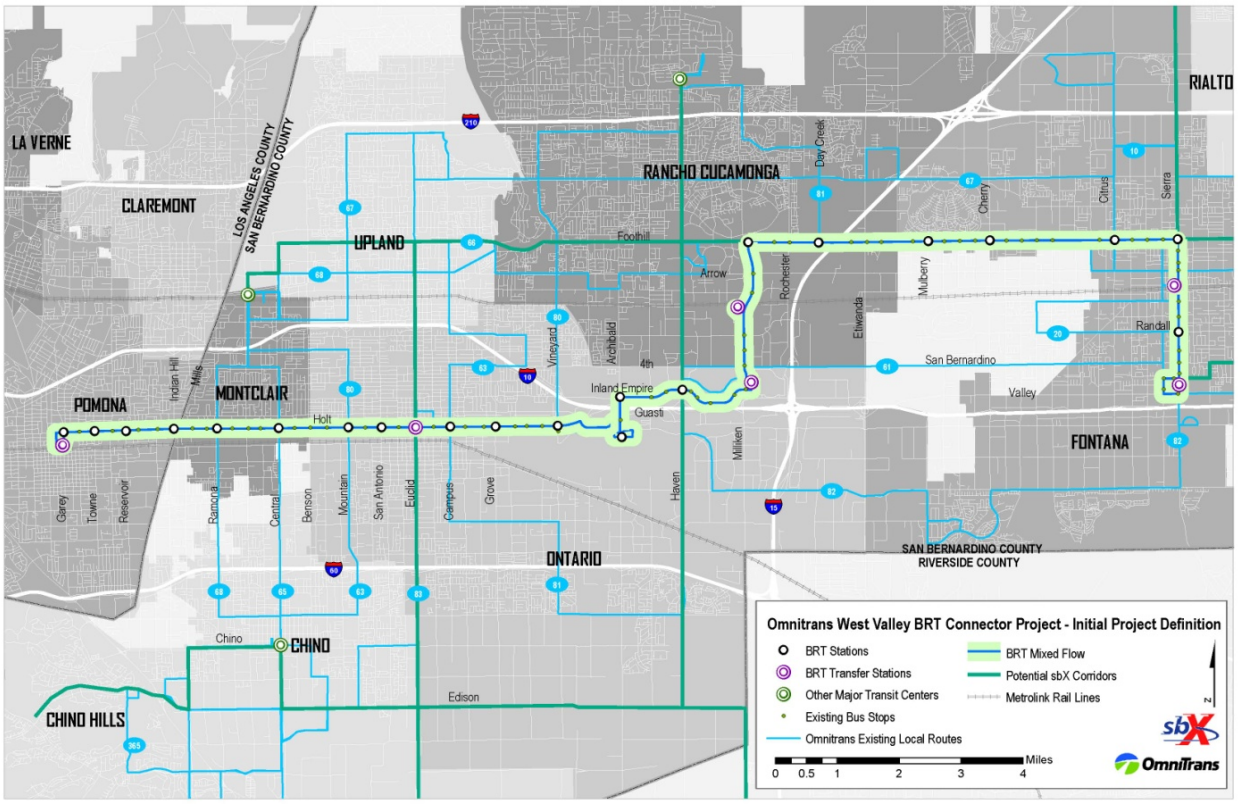


Figure Ex-7: Recommended Alternative; West Valley Connector Rapid Service

The relatively low cost Rapid service is proposed to use typical 40-foot vehicles that are branded to reflect Omnitrans' San Bernardino Valley Express (sbX) branding of premium transit service. **Figure Ex-8** is a typical Rapid Bus station concept.

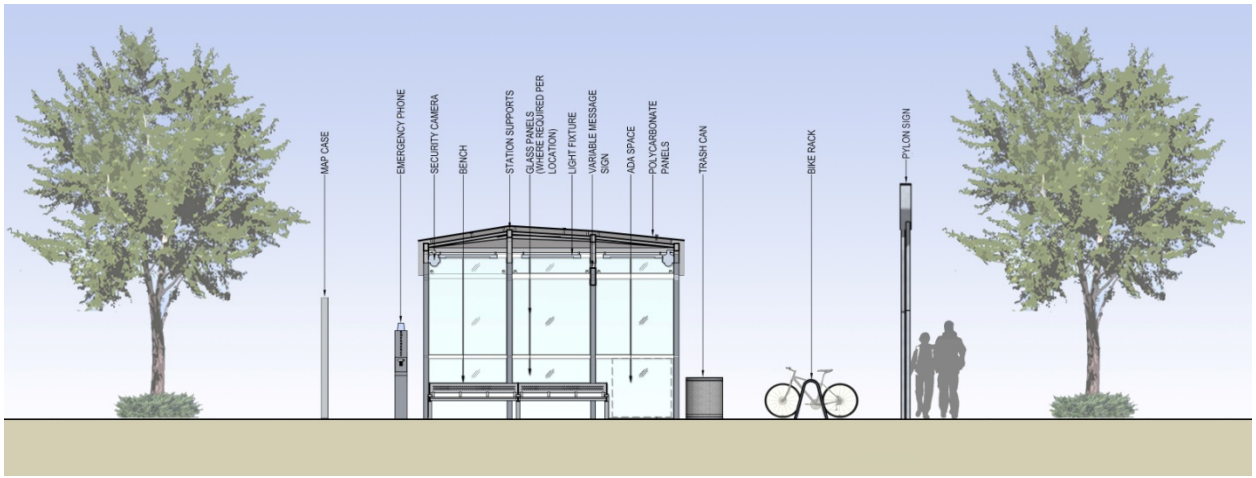


Figure Ex-8: Recommended Rapid Bus Station Concept

Project Cost Estimates and Recommended Funding Strategy

Capital cost estimates for the Rapid option are based on the sbX Green Line BRT experience and reflect the lower level of amenities provided at stations compared to the sbX Green Line. The conceptual capital and O&M cost estimates are shown in **Table Ex-9 and Ex-10**. Capital funding for this project is shown in

Table Ex-11; all of the required capital funding is currently available. The net increase in operations and maintenance costs will be funded by existing operations and maintenance funding sources including potential savings found from restructuring west valley routes in OmniConnects Short Range Transit Plan, with no net increase in Omnitrans' operations and maintenance funding resulting in an possible cost neutral improvement in service.

Capital Costs	
27 stations (48 stops)	$10,998,255
Transit signal priority	$1,725,000
Vehicles (7 new vehicles)	$4,200,000
Rebranding of 23 vehicles	$134,550
Design and Professional services	$3,180,814
Contingency	$4,230,814
Total	**$24,469,433**

Table Ex-9: Rapid Bus Conceptual Cost Estimate

O&M Costs	
Existing Route 61/66 Costs	$ 6,171,174
Costs of rapid bus and shadow service	$ 7,431,288
Increase in O&M cost	**$1,260,114**

Table Ex-10: Rapid Bus Conceptual O&M Estimate

Potential Capital Funding Sources	
Value of Mid-Valley Land	$21,000,000
Mid-Valley funds already programmed for construction	$4,000,000
Ontario Mills Mall Station improvement funds	$800,000
City Permit/Plan Check Fee Waivers	$50,000
Total Funding Available	**$25,850,000**

Table Ex-12: Rapid Bus Conceptual Funding Sources

In the future, as additional funding becomes available, Omnitrans will consider implementing the following additional improvements in the corridor:

- Phase 2: 60-foot articulated sbX buses – approximate cost $25 million
- Phase 3: Dedicated BRT lanes on Holt Blvd. in Ontario – approximate cost $50 million (as recommended in Ontario's *Holt Blvd. Streetscape and Mobility Plan*, 2013.)
    - 6 station upgrades
    - 3.5 miles of dedicated, center-running BRT lanes and streetscape improvements
    - Site work/utilities
    - Additional ROW

The Haven Avenue corridor is also a high priority for premium transit service in conjunction with the City of Rancho Cucamonga's development plans along the corridor. A future extension of the Rapid line or a connecting line along Foothill Boulevard/Fifth Street to connect to the sbX Green Line in the City of San Bernardino will provide additional network connectivity as identified in Omnitrans' *Systemwide Plan*.