Vol. II-H: Community Impact Assessment

MOUNT VERNON AVENUE BRIDGE PROJECT
Bridge No. 53C-0066

City of San Bernardino, California

08-SBd-0-SBD

prepared for

City of San Bernardino

California Department of Transportation, District 8

August 2010

This page intentionally left blank.

TABLE OF CONTENTS

1 INTRODUCTION 1
2 PROJECT DESCRIPTION/ALTERNATIVES 1
2-1 NO-BUILD ALTERNATIVE 4
2-2 RETROFIT/REHABILITATION ALTERNATIVE 4
2-3 LOCALLY PREFERRED REPLACEMENT ALTERNATIVE 5
3 PURPOSE AND NEED 6
3-1 PROJECT NEED 6
3-2 PROJECT PURPOSE 7
4 COMMUNITY PROFILE 8
4-1 LAND USE AND PLANNING 8
4-1.1 *Existing Land Use* *8*
4-1.2 *Plans and Policies* *8*
4-2 POPULATION AND HOUSING 9
4-2.1 *Regional Demographics* *13*
4-2.2 *Study Area Demographics* *15*
4-2.3 *Income and Poverty Status* *16*
4-2.4 *Neighborhood and Community Characteristics* *17*
4-3 COMMUNITY FACILITIES AND SERVICES 17
4-4 BUSINESS, EMPLOYMENT, AND ECONOMIC CONDITIONS 17
4-4.1 *Businesses and Employment* *17*
4-4.2 *Taxes* *19*
5 POTENTIAL IMPACTS 20
5-1 LAND USE AND PLANNING IMPACTS 20
5-1.1 *Compatibility with Existing Land Use* *21*
5-1.2 *Consistency with Plans and Policies* *21*
5-1.3 *Acquisitions and Displacements* *22*
5-2 POPULATION AND HOUSING IMPACTS 26
5-2.1 *Temporary Construction Effects* *27*
5-2.2 *Access/Circulation* *28*
5-2.3 *Community Cohesion* *43*
5-2.4 *Changes in Demographic Characteristics/Growth* *46*
5-2.5 *Environmental Justice* *46*
5-3 COMMUNITY FACILITIES AND SERVICES IMPACTS 56
5-3.1 *Temporary Construction Effects* *56*
5-3.2 *Access/Circulation* *57*
5-3.3 *Acquisitions and Displacements* *59*
5-3.4 *Demand for New or Expanded Facilities and Services* *60*
5-4 BUSINESS, EMPLOYMENT, AND ECONOMIC IMPACTS 60
5-4.1 *Temporary Construction Effects* *61*
5-4.2 *Acquisitions and Displacements* *62*
5-4.3 *Tax Revenue* *62*
6 AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES 63

APPENDICES

APPENDIX A: LIST OF PREPARERS
APPENDIX B: PERSONS AND AGENCIES CONSULTED
APPENDIX C: REFERENCES

LIST OF FIGURES

Figure 1:	Regional Location	2
Figure 2:	Project Vicinity	3
Figure 3:	Existing Land Use	10
Figure 4:	Population and Housing Study Area	11
Figure 5:	Location of Property Acquisitions (Replacement Alternative)	24
Figure 6:	Detour Routes	35

LIST OF TABLES

Table 1:	Existing Regional and Local Population Characteristics – Race/Ethnicity (2000)	12
Table 2:	Existing Regional and Local Population Characteristics – Age (2000)	13
Table 3:	Existing Regional and Local Housing Characteristics – Type (2000)	14
Table 4:	Existing Regional and Local Housing Characteristics – Occupancy (2000)	14
Table 5:	Existing Regional and Local Housing Characteristics – Tenure (2000)	15
Table 6:	Existing Regional and Local Population Characteristics – Income/Poverty (2000)	16
Table 7:	Study Area Community Facilities and Services	18
Table 8:	County of San Bernardino Economic Statistics	19
Table 9:	City of San Bernardino Economic Statistics	20
Table 10:	Property Acquisitions (Replacement Alternative)	23
Table 11:	Trip Purpose by Time of Day (Saturday)	29
Table 12:	Trip Purpose by Time of Day (Sunday)	29
Table 13:	Trip Purpose by Time of Day (Monday)	30
Table 14:	Trip Characteristics by Day of Week	31
Table 15:	Existing 2009 AM and PM Peak Hour Traffic Volume	34
Table 16:	Existing 2009 Daily Traffic Volume	34
Table 17:	Intersection Level of Service Definitions	37
Table 18:	Existing (2009) Peak Hour Intersection Level of Service	38
Table 19:	Year 2012 Without Detour Peak Hour Levels of Service	39
Table 20:	Year 2012 With Detour Peak Hour Levels of Service	40
Table 21:	Year 2012 Detour with Temporary Improvements Peak Hour Levels of Service	41

1 INTRODUCTION

This Community Impact Assessment (CIA) describes the relationship between the proposed Mount Vernon Avenue Bridge project (proposed project) and the community surrounding the project area. The CIA is intended to serve as a supporting technical report for the environment documentation for the proposed project. The CIA has been prepared in accordance with *Caltrans Environmental Handbook Volume 4 – Community Impact Assessment* (1997).

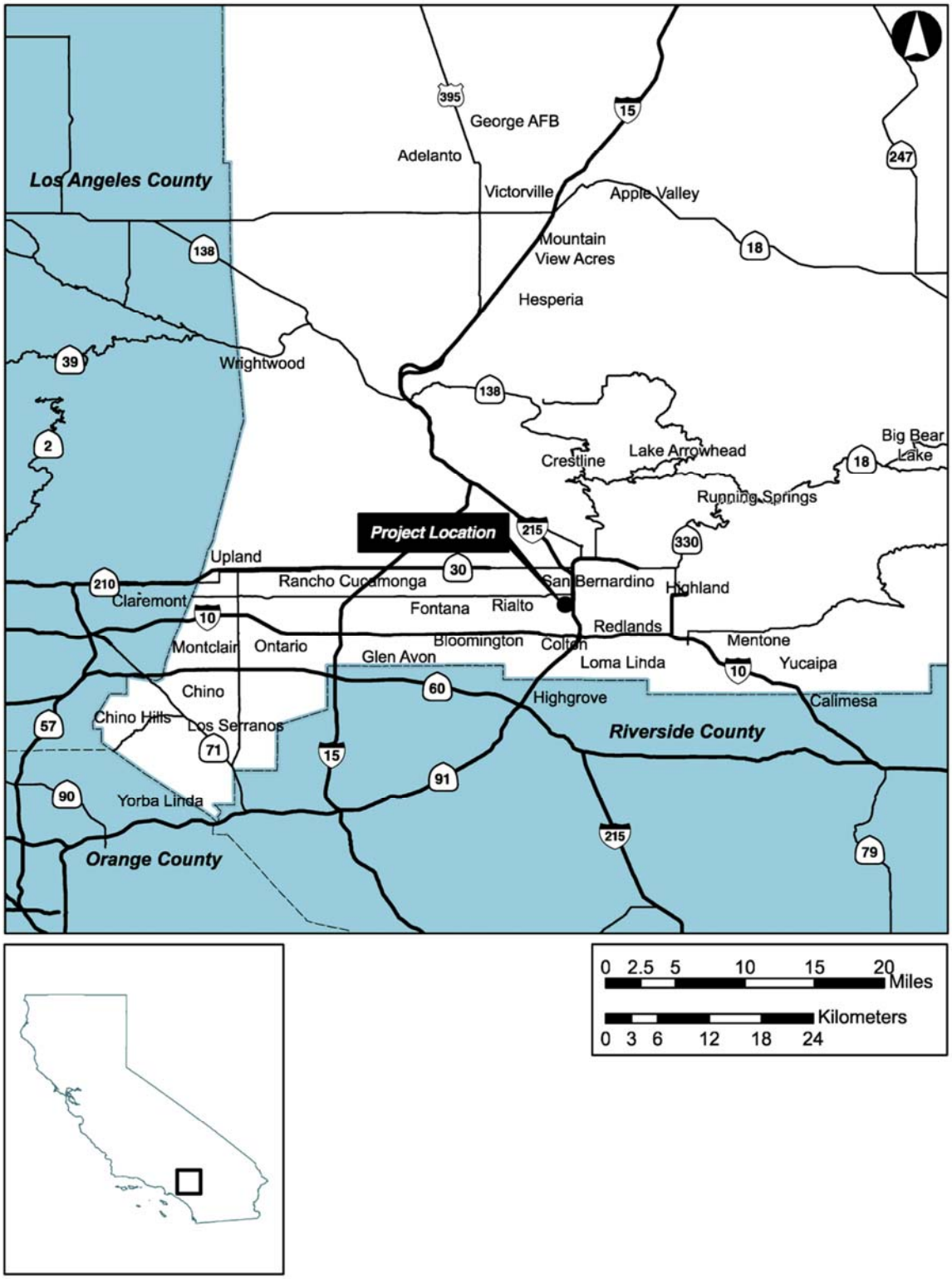
2 PROJECT DESCRIPTION/ALTERNATIVES

The City of San Bernardino (City), in association with the California Department of Transportation, District 8 (Caltrans), and the Federal Highway Administration (FHWA), proposes to reconstruct the Mount Vernon Avenue Bridge (Caltrans Bridge No. 54C-0066) over the Burlington Northern Santa Fe (BNSF) railroad facility in the City of San Bernardino, County of San Bernardino, State of California (see Figure 1 and Figure 2).

The Mount Vernon Avenue Bridge (bridge) is located west of downtown San Bernardino, on Mount Vernon Avenue between West 2nd and West 5th Streets, approximately 0.3 km (0.2 miles) south of State Route 66 and 1.1 km (0.7 miles) west of Interstate 215. The bridge crosses the BNSF railroad mainlines, storage tracks, and intermodal yard, as well as regional commuter rail tracks operated by the Southern California Regional Rail Authority (Metrolink) and rail tracks used by Amtrak.

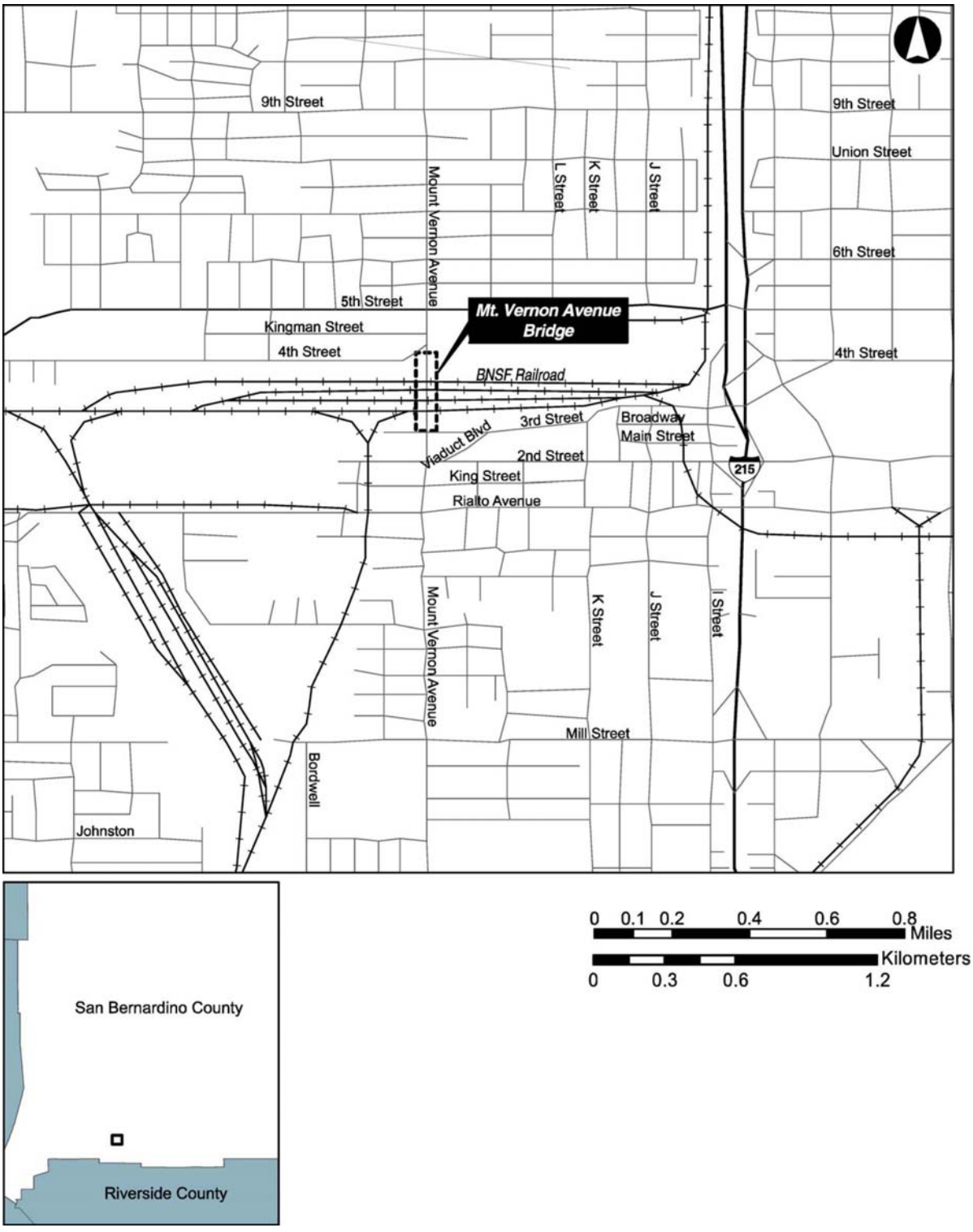
The existing bridge follows a generally north-south alignment along Mount Vernon Avenue and carries both vehicular and pedestrian traffic. Average Daily Traffic (ADT) measured at the bridge in 2009 was about 14,677. The bridge is approximately 309.7 m (1,016 ft) long and 14.9 m (49 ft) wide, with four 3.1 m (10 ft) traffic lanes (two in each direction) and no median or shoulders. Sidewalks on each side of the existing bridge are 1.1 m (3.5 ft) wide. Concrete barrier railings are located on each side of the bridge, though multiple areas are deteriorated or have been damaged and replaced with steel plates or plywood. Current vertical clearance over West 3rd Street is 4.0 m (13 ft), less than the current 4.6 m (15 ft) standard. Vertical clearance over the BNSF railroad yard is 6.6 m (21.8 ft), which does not meet the current minimum clearance requirements of either the California Public Utilities Commission (CPUC) (minimum 6.9 m [22.5 ft] vertical clearance) or the BNSF railroad (minimum 7.3 m [24 ft] vertical clearance). The existing horizontal clearance between the bridge bents and some of the railroad tracks is only 1.8 to 2.4 m (6 to 8 ft) with no crash walls. Standard minimum horizontal clearances are 6 m (20 ft) without crash walls and 3 m (10 ft) with crash walls. Because the bridge is slightly offset to the east from the centerline of Mount Vernon Avenue at about West 2nd Street, the current south approach is misaligned with the bridge.

Figure 1 – Regional Location



SOURCE: County of San Bernardino GIS (2010).

Figure 2 – Project Vicinity



SOURCE: County of San Bernardino GIS (2010).

2-1 NO-BUILD ALTERNATIVE

Under the No-Build Alternative (Alternative 1), no new or modified bridge or other physical improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets. The existing viaduct would be left in its current condition, and no structural or functional deficiencies would be corrected. Ongoing maintenance would continue. This option was studied by the City in 1996 and was later discontinued in favor of constructing a new bridge. On June 4, 2004, Caltrans Structures Maintenance and Investigations staff recommended closure of the existing bridge, concluding that steel beam and girder cracking caused the bridge to be deemed unsafe. The City closed the bridge and has executed an agreement with BNSF to install temporarily shoring which requires removal of the shoring after a two-year period, resulting in conditions that would require re-closure of the bridge.. The 2·year timeframe has passed for the removal of shoring outlined in the agreement between the City and BNSF has currently been exceeded by approximately 4 years. Subsequent to installation of the shoring, the bridge continues to undergo periodic inspection by both Caltrans and shoring designers.

To prevent further damage to the bridge structure, the City adopted an emergency ordinance prohibiting all commercial vehicles from using the bridge. Vehicles such as passenger cars, pickup trucks, and passenger vans are currently permitted. Regardless of this ordinance, Caltrans identified new girder cracks beyond those initially identified in 2004 when the bridge was closed (approximately four years after the initial shoring installation). These new girder cracks required the addition of supplementary shoring in order to maintain ongoing use of the bridge; with installation warranting further coordination and approval by BNSF.

Additional inspection by Caltrans has occurred and results of the most recent inspection are pending (results are anticipated in late 2010). Should results of this inspection indicate installation of further shoring is required, or repair to existing shoring is necessary, the City may proceed with bridge closure until it the bridge can be replaced in entirety.

2-2 RETROFIT/REHABILITATION ALTERNATIVE

The Retrofit/Rehabilitation Alternative (Alternative 2) would seismically retrofit, rehabilitate, and widen the existing bridge to improve its structural safety and functionality. As part of this alternative, new footings would be excavated and new piles drilled. Widening and retrofit of the existing structure would involve improvements to the substructure to meet seismic standards. Anticipated additional work would include complete deck replacement, girder strengthening, removal of lead paint, repainting, installation of new railings and roadway lighting, replacement or rehabilitation of expansion joints, and the addition of crash walls around the bridge piers. The existing roadway configuration and sidewalks would be improved to provide a bridge 21.9 m (72 ft) wide with two 3.7 m (12 ft) lanes in each direction, a 1.2 m (4 ft) median, 1.2 m (4 ft) shoulders, and 1.5 m (5 ft) sidewalks.

2-3 LOCALLY PREFERRED REPLACEMENT ALTERNATIVE

The locally preferred Replacement Alternative (Alternative 3) would involve removal of the existing bridge structure, construction of a new replacement bridge structure, and improvements to bridge approaches and roadways in the project vicinity. The new replacement bridge would be 317.1 m (1,040 ft) long and 24.4 m (80 ft) wide, with four 3.7 m (12 ft) lanes (two in each direction), a median 1.2 m (4 ft) wide, and shoulders 2.4 m (8 ft) wide. Sidewalks on each side of the new bridge would be 1.5 m (5 ft) wide and would meet Americans with Disabilities Act (ADA) requirements for sidewalk width and slopes. Concrete barrier railings (1.1 m [3.5 ft) high) topped with fencing (1.9 m [6.1 ft] high) would be provided on each side of the new bridge.

The profile of the new replacement bridge would be approximately 12.73 m (41.75 ft) above finished grade, which would provide a maximum vertical clearance of approximately 10.963 m (35.970 ft), and would meet and exceed the 7.3 m (24 ft) minimum vertical clearance required by the BNSF railroad and the CPUC in all locations. Bents for the new bridge would include crash walls and would meet and exceed the minimum horizontal clearance requirements. To correct the misalignment of the south approach roadway, the bridge would be widened on the west side. This widening would require that the Mount Vernon Avenue service road between West 2nd and West 3rd Streets be closed at its southern terminus at West 2nd Street; however, the existing sidewalk would remain, with additional upgrades to comply with ADA standards, as needed. Assuming future/continued residential occupancy of properties along the service road (described in further detail below), a parallel alleyway behind four residential parcels in this area would be widened to provide a replacement vehicular access road for the neighboring residents and railroad facilities.

The alleyway would be upgraded to "Access Roadway" standards, providing a travelled way of 26 feet (curb-to-curb) consisting of two un-striped 13-foot wide lanes (beyond 10-foot standard lanes). The road will be located on right-of-way owned and maintained by the City of San Bernardino; therefore, the road would be open for public access and residents who live adjacent to the road would be primary users of the road. An additional two-foot easement beyond both westerly and easterly curbs will provide room for placement of future utilities, and maintenance of the roadway itself; however, this area does not provide room for new parking spaces for vehicles nor new sidewalks. Although the road will not include formal sidewalks, pedestrian use of this road would not be prohibited.

There are residential structures on three of the four affected residential properties. These three properties consist of one existing residential structure (habitable/occupied), one recently renovated structure for sale (habitable/not occupied), and one structure currently in renovation for future sale (habitable once renovations are complete/not occupied), all with entrances facing the permanently closed service road. The fourth property is a vacant lot, zoned for residential use, but without any existing residential structures. The partial acquisitions affect the rear yards of these properties and would not affect primary structures on these four residential properties; however, secondary structures in the rear yards of two of the four of the properties would be affected and acquisition on the vacant lot would not be so substantial that future development on the vacant parcel is not possible.

Additional roadway improvements at the south end of the bridge would include minor restriping and repaving and installation of curbs and gutters. At the north end of the new bridge, similar types of roadway improvements would be provided. Additionally, retaining walls would be constructed along both sides of the north approach between about Kingman Avenue and West 4th Street. These retaining location and dimensions are presented below:

Additionally, retaining walls would be constructed along both sides of the north approach between about Kingman Avenue and West 4th Street. These retaining location and dimensions are presented below (measurements shown in feet):

- Location 1: max height-19.23 min height-2.00 Length: 246.47
- Location 2: max height-31.51 min height-7.68 Length: 345.94
- Location 3: max height-07.68 min height-2.00 Length: 157.18
- Location 4: max height-06.90 min height-2.00 Length: 154.25
- Location 5: max height-06.90 min height-2.00 Length: 221.94
- Location 6: max height-31.51 min height-2.00 Length: 605.26

The project does not substantially increase roadway or rail noise; therefore, the retaining walls would not serve as sound walls.

It is also anticipated that the intersection of West 4th Street and Mount Vernon Avenue would be reconstructed in a cul-de-sac configuration as part of a separate City public works project.
Construction of this alternative would require that two temporary railroad tracks ("shoofly" tracks) be installed within the north side of the BNSF yard, on both sides of the bridge, parallel to the existing BNSF railroad tracks. The temporary shoofly tracks would be required in order to accommodate bridge construction staging and avoid effects to railroad operations during the bridge construction period. The temporary tracks would be removed upon completion of construction.

3 PURPOSE AND NEED

3-1 PROJECT NEED

Seismically Deficient: The existing bridge was constructed in 1934 and incorporated steel girders salvaged from an earlier 1907 structure. As part of the Local Bridge Seismic Safety Retrofit Program, a seismic analysis and retrofit study was conducted in 1996. The Final Seismic Retrofit Strategy Report issued in June 1997 determined that the bridge fell under Category 1, a category for bridges that could potentially collapse in a seismic event and threaten public safety.

Sufficiency Rating: Caltrans maintains the National Bridge Inventory – Structure Inventory and Appraisal for bridges both on and off the federal highway system in the state. The inventory includes a Sufficiency Rating (SR) for each bridge. The SR is typically determined by three considerations: (1) structural adequacy and safety, (2) serviceability and functional obsolescence, and (3) essentiality for public use. A special reduction factor is considered to account for

conditions related to detours, traffic safety features, and structure type. When a bridge has an SR that classifies it as "deficient," it is placed on the federal eligible bridge list (EBL) to receive high priority for rehabilitation or replacement under the Highway Bridge Replacement and Rehabilitation Program (HBRRP). A "deficient" bridge is defined as having an SR $\leq$ 80 and a status flag as Structurally Deficient (SD) and/or Functionally Obsolete (FO). Bridges with an SR $\leq$ 80 and SD or FO status are eligible for rehabilitation, while bridges with SR $\leq$ 50 and SD or FO status are eligible candidates for replacement. In 2002, the SR for the Mount Vernon Avenue Bridge was 45.6 with flags for both SD and FO. The major bridge deficiencies in 2002 were identified as poor deck condition, nonstandard deck geometry, and nonstandard under-clearance at West 3rd Street. With the results of the recent 2004 bridge inspections, the SR for the Mount Vernon Avenue Bridge has dropped to 2.0. The very low SR for the bridge is the result of the following factors: low superstructure capacity (SD), poor substructure condition (SD), serious deck condition (SD), inadequate deck geometry (FO), and substandard vertical clearance at West 3rd Street. Additionally, the capacity of the existing bridge railing does not meet current standards.

Structurally Deficient: The existing bridge has been found to be Structurally Deficient (SD) because the deck is in poor condition, with moderate and severe transverse cracks at various locations.

Functionally Obsolete: The existing bridge is considered to be Functionally Obsolete (FO) because of the nonstandard deck geometry, misaligned south approach, and nonstandard vertical clearance at West 3rd Street.

Other Deficiencies: In addition to the deficiencies described above, other serious conditions exist (i.e., substandard vertical clearance over the railroad, substandard vertical clearance for third street and paint condition). The bridge was last painted in 1954. Paint Condition Index (PCI) dropped from 74.5 in 2000 to 67.6 in 2002. It is expected to fall even further to less than 65.0 in 2006. Bridges on the EBL with a PCI of 65.0 or less, it qualifies as a stand-alone painting project under HBRRB guidelines. Finally, as explained more fully below, the existing bridge has nonstandard vertical and horizontal clearances at the BNSF railroad yard.

3-2 PROJECT PURPOSE

To address the critical project need outlined above, the purpose of the proposed project is to provide a bridge that is structurally safe and meets current seismic, design, and roadway standards. This would entail construction of a bridge with standard geometry to correct the current misalignment of the south approach, standard vertical clearance at West 3rd Street, as well as standard vertical and horizontal clearances at the BNSF yard. In implementing the project as expeditiously as possible under the circumstances, the City desires to restore a vitally important connector linking communities north and south of the BNSF railroad.

4 COMMUNITY PROFILE

The following sections describe the existing land use and planning, population and housing, and community facilities and services in the proposed project area.

4-1 LAND USE AND PLANNING

A land use study area has been defined to include the community within about a ½-mile radius of the Mount Vernon Avenue Bridge. The study area is intended to encompass an area where the potential land use impacts, if any, from construction and operation of the proposed project would be reasonably foreseeable.

4-1.1 Existing Land Use

The study area is highly developed with commercial and residential uses, as well as transportation uses associated with the nearby BNSF railroad facility and Metrolink/Amtrak station. Residential neighborhoods are located southwest of the study area, along the Mount Vernon Avenue service road between West 2nd and West 3rd Streets and also to the northwest (see Figure 3, Existing Land Use).

4-1.2 Plans and Policies

a. City of San Bernardino General Plan

The City of San Bernardino General Plan was updated in 2005. The General Plan establishes the goals, objectives, policies, and programs applicable to the land use planning and development in the City. The area surrounding the project site is located in an area with seven individual land use designations. These include: 1) Industrial Heavy (IH) (0.75 floor area ratio); 2) Industrial Light (IL) (0.75 floor area ratio); 3) Commercial Office (CO) (1.0 floor area ratio); 4) General Commercial (CG-1) (0.7 floor area ratio); 5) General Commercial-2 (GC-2) - (1.0 floor area ratio); and 6) Residential Suburban (RS) [4.5 dwelling units per acre (7,200 minimum lot size)]. Existing development in study area is generally consistent with the associated designations. The following General Plan policies and goals apply to the proposed project:

- Land Use Element Policy 2.2.5 - Establish and maintain an ongoing liaison with Caltrans, the railroads, and other agencies to help minimize impacts and improve aesthetics of their facilities and operations; including possible noise walls, berms, limitation on hours and types of operations, landscaped setbacks and decorative walls along its periphery.

- Land Use Element Policy 2.3.6 - Circulation system improvements shall continue to be pursued that facilitate connectivity across freeway and rail corridors.

- Land Use Element Policy 2.3.7 - Improvements shall be made to transportation corridors that promote physical connectivity and reflect consistently high aesthetic values.

- Land Use Element Goal 2.7 - Provide for the development and maintenance of public infrastructure and services to support existing and future residents, businesses, recreation, and other uses.

- Land Use Element Policy 2.8.1 - Ensure that all structures comply with seismic safety provisions and building codes.

Paseo Las Placitas Specific Plan (Also known as the Mount Vernon Corridor Specific Plan)

There are eight approved specific plans governing land use development in designated areas throughout the City (City of San Bernardino, 2005). The northern portion of the project site is located within the Paseo Las Placitas Specific Plan. The intended use of this designation is to provide incentives and policies to help the businesses in the area become more economic viability and improve the aesthetics of the street (City of San Bernardino, 2005).

Mount Vernon Corridor Redevelopment Plan

The City has a comprehensive and diverse redevelopment program currently containing ten redevelopment project areas (City of San Bernardino, 2005). The project site is within the Mount Vernon Corridor Redevelopment Plan. The renovation of Mount Vernon Avenue Bridge is identified as a future development project for this area (City of San Bernardino, 2005).

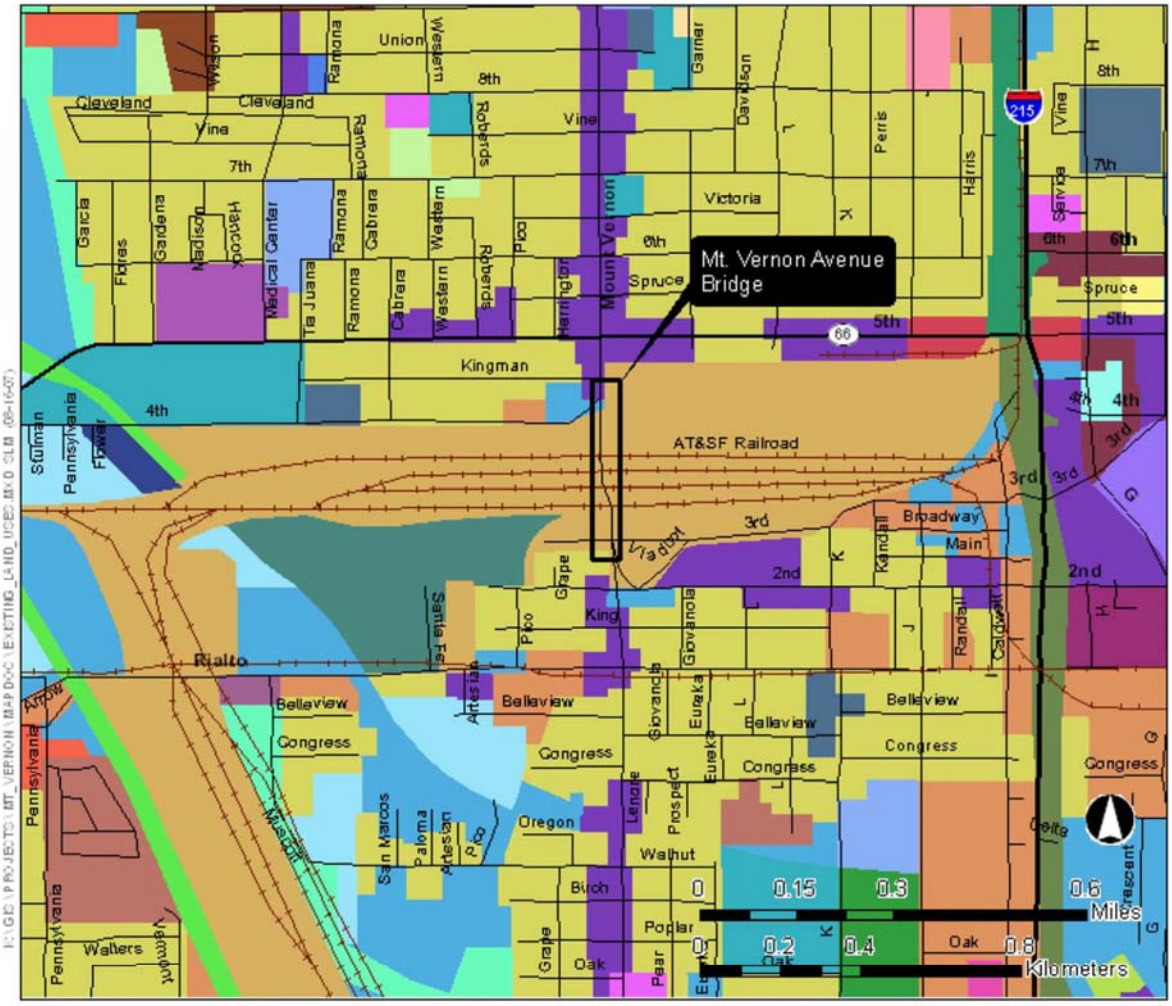
City of San Bernardino General Plan Circulation Element

The City's General Plan Circulation Element designates Mount Vernon Avenue as a Major Arterial. These roadways can accommodate six or eight travel lanes, may have raised medians, and can carry high traffic volumes. These roadways are the primary thoroughfares linking San Bernardino with adjacent cities and the regional highway system (City of San Bernardino, 2005). Policies in the Circulation Element do not specifically address the proposed project.

4-2 POPULATION AND HOUSING

A population and housing study area has been defined to include the 2000 U.S. Census of Population and Housing (2000 U.S. Census) census tracts located adjacent to the proposed project. The study area is intended to encompass an area where the potential population and housing impacts, if any, of construction and operation of the proposed project would be reasonably foreseeable (see Figure 4, Population and Housing Study Area). In addition to the demographic data provided for the project study area, demographic data are provided for the County of San Bernardino, City of San Bernardino, and the neighboring City of Colton.

Figure 3 – Existing Land Use

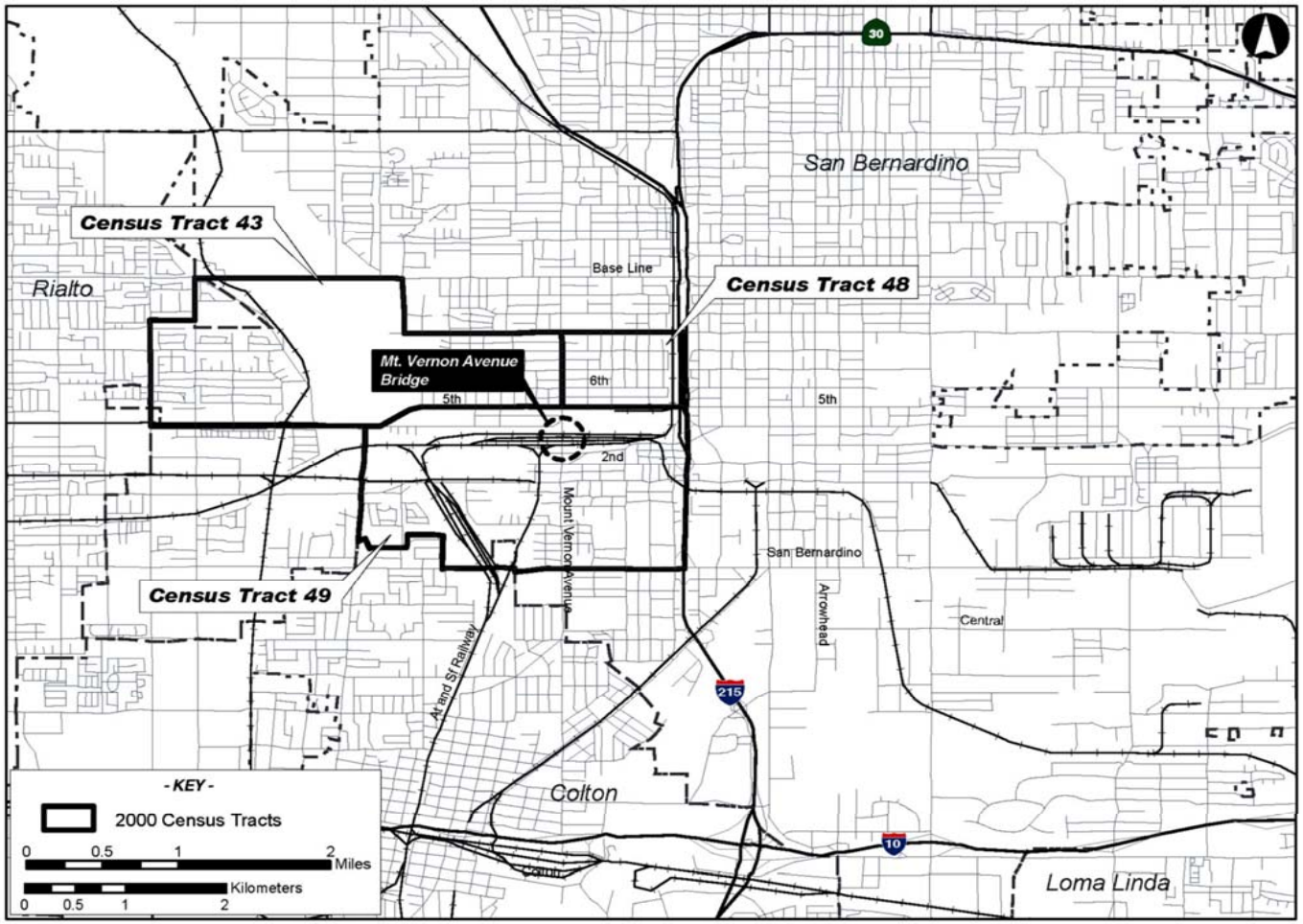


Land Use San Bernardino County (2000)

- Bus Terminals and Yards
- Communication Facilities
- Developed Local Parks and Recreation
- Duplexes, Triplexes and 2-or 3-Unit Condominiums and Townhouses
- Electrical Power Facilities
- Elementary Schools
- Fire Stations
- Freeways and Major Roads
- Government Offices
- High-Density Single Family Residential
- Hotels and Motels
- Improved Flood Waterways and Structures
- Junior or Intermediate High Schools
- Low- and Medium-Rise Major Office Use
- Low-Density Single Family Residential
- Low-Rise Apartments, Condominiums, and Townhouses
- Maintenance Yards
- Manufacturing, Assembly, and Industrial Services
- Medium-Rise Apartments and Condominiums
- Mixed Residential
- Mixed Transportation
- Mixed Urban
- Modern Strip Development
- Older Strip Development
- Open Storage
- Other Open Space and Recreation
- Other Public Facilities
- Other Special Use Facilities
- Railroads
- Regional Shopping Center
- Religious Facilities
- Retail Centers (Non-Strip With Contiguous Interconnected Off-Street
- Trailer Parks and Mobile Home Courts, High-Density
- Truck Terminals
- Vacant Undifferentiated
- Water Storage Facilities

SOURCE: Southern California Association of Governments (2000).

Figure 4 – Population and Housing Study Area



SOURCE: U.S. Census Bureau (2000), Myra L. Frank/Jones & Stokes (2004).

Table 1: Existing Regional and Local Population Characteristics – Race/Ethnicity (2000)

Area	Total Population	White	%	Hispanic/ Latino	%	Black/ African American	%	Native American/ Alaska Native	%	Asian	%	Native Hawaiian/ Pacific Islander	%	Two or More Races	%	Other	%
County of San Bernardino	1,709,434	752,222	44.0%	669,387	39.2%	150,201	8.8%	9,804	0.6%	78,154	4.6%	4,387	0.3%	42,240	2.5%	3,039	0.2%
City of San Bernardino	185,401	53,630	28.9%	88,022	47.5%	29,654	16.0%	1,129	0.6%	7,594	4.1%	582	0.3%	4,502	2.4%	288	0.2%
City of Colton	47,662	9,911	20.8%	28,934	60.7%	5,031	10.6%	224	0.5%	2,474	5.2%	69	0.1%	950	2.0%	69	0.1%
*Study Area**	18,065	1,530	8.5%	13,385	74.1%	2,645	14.6%	68	0.4%	147	0.8%	37	0.2%	250	1.4%	3	0.0%
Census Tract 43	8,313	793	9.5%	5,203	62.6%	2,038	24.5%	27	0.3%	84	1.0%	24	0.3%	142	1.7%	2	0.0%
Census Tract 48	2,945	94	3.2%	2,639	89.6%	168	5.7%	16	0.5%	2	0.1%	0	0.0%	26	0.9%	0	0.0%
Census Tract 49	6,807	643	9.4%	5,543	81.4%	439	6.4%	25	0.4%	61	0.9%	13	0.2%	82	1.2%	1	0.0%

*The study area consists of the three census tracts adjacent to the project (see Figure 4).

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

4-2.1 Regional Demographics

a. Existing Regional Population and Housing

The total population in the County of San Bernardino as reported in the 2000 U.S. Census was 1,709,434 persons. Of the total population, White persons composed the largest group, at 44.0 percent, while persons of Hispanic/Latino origin composed the next largest group, at 39.2 percent. The remaining 16.8 percent, in order by descending proportions, were Black, Asian, Multi-racial, Native American, Native Hawaiian/Pacific Islander, and Other.

The City of San Bernardino had 185,401 persons in 2000, with the largest group being persons of Hispanic/Latino origin, at 47.5 percent. White persons were the next largest group, at 28.9 percent of the total population. The remaining 23.6 percent, in order by descending proportions, were Black, Asian, Multi-racial, Native American, Native Hawaiian/Pacific Islander, and Other (see Table 1, Existing Regional and Local Population Characteristics – Race/Ethnicity [2000]).

Of those residing within the County of San Bernardino, 32.3 percent of the population were under 18 years of age in 2000, while 8.6 percent were 65 years of age and over. The City of San Bernardino had a similar distribution for persons under 18 years of age and 65 years of age and over, at 35.2 percent and 8.2 percent, respectively (see Table 2, Existing Regional and Local Population Characteristics – Age [2000])

Table 2: Existing Regional and Local Population Characteristics – Age (2000)

Area	Total Population	Age			
		Under 18	%	65 and Over	%
County of San Bernardino	1,709,434	552,047	32.3%	146,459	8.6%
City of San Bernardino	185,401	65,180	35.2%	15,266	8.2%
City of Colton	47,662	16,655	34.9%	3,053	6.4%
Study Area[1]	18,065	6,899	38.2%	1,566	8.7%
Census Tract 43	8,313	2,955	35.5%	1,003	12.1%
Census Tract 48	2,945	1,215	41.3%	2,18	7.4%
Census Tract 49	6,807	2,729	40.1%	345	5.1%

Notes:
[1]The study area consists of the three census tracts adjacent to the project (See Figure 4).

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

According to the 2000 U.S. Census, the total number of housing units in the County of San Bernardino was 601,369. Single-family units composed 73.7 percent of all housing units, while 19.4 percent were multi-family units. Of the total housing units, 87.9 percent were occupied and 12.1 percent were vacant. Of the total occupied housing units, 64.5 percent were owner-occupied and 35.5 percent were rented. The City of San Bernardino had a total of 63,535 housing units in 2000, of which 63.1 percent were single-family units and 29.9 were multi-family units. Of the total, 88.7 percent of the housing units were occupied and 11.3 percent were vacant. Owner-occupied housing units composed 52.4 percent of the total, and 47.6 percent were renter-occupied (see Table 3, Existing Regional and Local Housing Characteristics – Type [2000];

Table 4, Existing Regional and Local Housing Characteristics – Occupancy [2000]; and Table 5, Existing Regional and Local Housing Characteristics – Tenure [2000]).

b. Projected Regional Population and Housing

According to demographic data in the Southern California Association of Governments (SCAG) 2004 Regional Transportation Plan (RTP), the population of the County of San Bernardino in 2030 is projected to be 2,713,149, an increase of about 59 percent from 2000. SCAG projects that the population of the City of San Bernardino in 2030 would increase by about 15 percent to 214,069. The number of households in the County of San Bernardino is projected to be 897,739 in 2030, or about 70 percent greater than in 2000. The number of households in 2030 for the City of San Bernardino is projected to be 66,734, an increase of about 18 percent.

Table 3: Existing Regional and Local Housing Characteristics – Type (2000)

Area	Total Units[2]	Single Family	%	Multi Family	%	Other[3]	%
County of San Bernardino	601,369	442,954	73.7%	116,581	19.4%	41,834	7.0%
City of San Bernardino	63,414	40,007	63.1%	18,935	29.9%	4,472	7.1%
City of Colton	15,787	9,765	61.9%	5,201	32.9%	821	5.2%
Study Area[1]	5,310	4,121	77.6%	745	14.0%	444	8.4%
Census Tract 43	2,370	1,998	84.3%	167	7.0%	205	8.6%
Census Tract 48	919	837	91.1%	73	7.9%	9	1.0%
Census Tract 49	2,021	1,286	63.6%	505	25.0%	230	11.4%

Notes:
[1]The study area consists of the three census tracts adjacent to the project (See Figure 4).
[2]Total housing units for this data set are from Summary File 3, which uses a population sample. Thus, the total units shown here do not correspond to the total units reported in the Summary File 1 data sets.
[3]"Other" units include mobile homes, recreational vehicles, vans, campers, tents, etc.

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 3 (2000).

Table 4: Existing Regional And Local Housing Characteristics – Occupancy (2000)

Area	Total Units	Occupied	%	Vacant	%	Persons Per Household
County of San Bernardino	601,369	528,594	87.9%	72,775	12.1%	3.2
City of San Bernardino	63,535	56,330	88.7%	7,205	11.3%	3.2
City of Colton	15,680	14,520	92.6%	1,160	7.4%	3.3
Study Area[1]	5,288	4,608	87.1%	680	12.9%	*3.4*
Census Tract 43	2,370	2,169	91.5%	201	8.5%	3.7
Census Tract 48	897	753	83.9%	144	16.1%	3.9
Census Tract 49	2,021	1,686	83.4%	335	16.6%	4.0

Notes:
[1]The study area consists of the three census tracts adjacent to the project (See Figure 4).

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

Table 5: Existing Regional And Local Housing Characteristics – Tenure (2000)

Area	Occupied Units	Owner Occupied Units	%	Renter Occupied Units	%
County of San Bernardino	528,594	340,933	64.5%	187,661	35.5%
City of San Bernardino	56,330	29,536	52.4%	26,794	47.6%
City of Colton	14,520	7,545	52.0%	6,975	48.0%
Study Area[1]	4,608	2,586	56.1%	2,022	43.9%
Census Tract 43	2,169	1,508	69.5%	661	30.5%
Census Tract 48	753	336	44.6%	417	55.4%
Census Tract 49	1,686	742	44.0%	944	56.0%

Notes:
[1]Study Area consists of the three census tracts adjacent to the project alignment (See Figure 4).

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

4-2.2 Study Area Demographics

a. Existing Local Population and Housing

The total population of the three census tracts composing the project study area was 18,065 in 2000. Of the total population in the study area, persons of Hispanic/Latino origin accounted for 74.1 percent, while Black/African American persons were 14.6 percent and White persons totaled 8.5 percent. The proportion of persons of Hispanic/Latino origin was substantially larger than in both the City and County of San Bernardino (see Table 1, Existing Regional and Local Population Characteristics – Race/Ethnicity [2000]).

The study area population under 18 years of age was 38.2 percent, while 8.7 percent were 65 years of age and older. The study area had a slightly greater proportion of people under the age of 18 and about the same proportion of people age 65 and older compared to the City and County of San Bernardino (see Table 2, Existing Regional and Local Population Characteristics – Age [2000]).

According to the 2000 U.S. Census, the total number of housing units in the study area was 5,288, of which 77.6 percent of those were single-family units and 14.0 percent were multi-family units. Of the total housing units, 87.1 percent were occupied and 12.9 percent were vacant. Of the total occupied housing units, 56.1 percent were owner-occupied and 43.9 percent were rented, generally resembling the housing tenure characteristics for the surrounding City and County of San Bernardino (see Table 3, Existing Regional and Local Housing Characteristics – Type [2000]; Table 4, Existing Regional and Local Housing Characteristics – Occupancy [2000]; and Table 5, Existing Regional and Local Housing Characteristics – Tenure [2000]).

b. Projected Local Population and Housing

Demographic data from the SCAG 2004 RTP indicates that the study area population is projected to be 20,454 in 2030, an increase of about 13 percent from 2000. The number of households in 2030 for the study area is projected to be 5,195, an increase of about 11 percent.

4-2.3 Income and Poverty Status

To determine the income and poverty characteristics for the study area, data were obtained from the 2000 U.S. Census at the census tract level. These data indicate that per capita incomes for the study area population were for the most part markedly lower than in either the County or City of San Bernardino. In two of the three census tracts surrounding the proposed project (i.e., Tracts 48 and 49) per capita incomes were about 40 to 50 percent lower than in the region, at $7,729 and $8,344 per year, respectively.

Data on the numbers of persons below the poverty threshold in the study area are similarly indicative of a disadvantaged population. Two of the three census tracts composing the study area had proportions of persons below the poverty threshold that were greater than the proportions reported for either the County or City of San Bernardino. (*Note: The 1999 poverty threshold used for the 2000 U.S. data, as defined by the U.S. Census Bureau, was $8,501 for an individual and $17,029 for a family of four. For year 2006 and 2009, the poverty threshold was defined at a household income of $20,614 and $22,050, for a family of four, respectively.)*

The U.S. Department of Health and Human Services (HHS) poverty guidelines have not been used for this assessment because those guidelines are a simplified version of the poverty threshold data issued by the U.S. Census Bureau and are intended to be used only for administrative purposes (e.g., determining financial eligibility for certain federal programs). The HHS poverty statistics web site (http://aspe.hhs.gov/poverty/faq.shtml) indicates that the proper and preferred source of statistical data for calculating numbers of persons in poverty is the U.S. Census Bureau poverty threshold data (see Table 6, Existing Regional and Local Population Characteristics – Income/Poverty [2000]).

Table 6: Existing Regional and Local Population Characteristics – Income/Poverty (2000)

Area	Total Population	Per Capita Income ($)	Persons Below Poverty Threshold	%[2]
County of San Bernardino	1,709,434	$16,856	263,412	15.8%
City of San Bernardino	185,401	$12,925	49,691	27.6%
City of Colton	47,662	$13,460	9,343	19.6%
Study Area[1]	18,065	$9,279	5,586	31.1%
Census Tract 43	8,313	$11,765	1,933	23.5%
Census Tract 48	2,945	$7,729	1,081	36.7%
Census Tract 49	6,807	$8,344	2,572	38.0%

Notes:
[1]The study area consists of the three census tracts adjacent to the project (See Figure 4).
[2]Percentages are based on total number of persons over age 16 for whom poverty status could be determined.

SOURCE: U.S. Census Bureau, Census of Population and Housing, Summary File 3 (2000).

4-2.4 Neighborhood and Community Characteristics

As noted earlier, the predominant land uses within the project area are the railroad-related facilities for the BNSF, Amtrak, and Metrolink, with neighborhoods of single- and multi-family residences and commercial strips established to the north and south of the proposed project site along Mount Vernon Avenue and the intersecting cross streets.

Historically, residents of the project area and, more generally, the West San Bernardino community, have noted that public works projects, infrastructure improvements, and economic development opportunities have been focused in more prosperous areas to the east of the I-215 freeway. Indeed, community members have pointed to construction of the freeway itself as one of the principal barriers, both literally and figuratively, to enhancing the westside community. In response to these long-held concerns, residents and City officials increasingly have been working together to secure more development prospects for the community. Among the successful results of these efforts are the impending I-215 improvements, which would include ramp modifications and local street improvements to better direct freeway traffic to and from the westside community. Recently completed renovations to the historic Santa Fe Depot just east of the Mount Vernon Avenue Bridge are considered to be an important anchor to stimulate further redevelopment in the area. The community also points to the proposed Mount Vernon Avenue Bridge project as an important and overdue component of its long-term revitalization pursuits.

A Public Information Meeting/Open House for the proposed project was held on Wednesday, July 21, 2004, from 6:00 p.m. to 9:00 p.m., in the Community Room at the historic Santa Fe Depot. As documented more fully in the summary report for the meeting, none of the public meeting attendees and none of the persons submitting written comments afterward expressed opposition to the proposed bridge project. The general consensus was that the recent bridge closure has made implementation of a bridge replacement project more critical than ever.

4-3 COMMUNITY FACILITIES AND SERVICES

Community facilities that serve the project area are listed in Table 7.

4-4 BUSINESS, EMPLOYMENT, AND ECONOMIC CONDITIONS

4-4.1 Businesses and Employment

Local commercial centers within the vicinity of the proposed project area are situated along Mount Vernon Avenue, south of the project site, and along West 5th Street, north of the project site. The types of businesses in the area are not unlike those elsewhere in San Bernardino and include both independent and national chain businesses. The local commercial establishments include automobile-related businesses, such as auto repair shops and parts retailers; service-oriented businesses, such as hair salons, shoe repair shops, video rental stores, bars, and restaurants; ethnic food markets; discount stores; and a Mexican food products manufacturer.

Table 7: Study Area Community Facilities and Services

Type	Name	Address	Miles from Project
Fire/EMS	San Bernardino Fire Department, Station #222	1201 W 9th St.	0.71
Police/Sheriff	San Bernardino Police Dept. Western District (Area A)	1574 W. Baseline St.	0.66
	Santa Fe Depot (Western District) Office	1204 West Third Street	0.01
	San Bernardino Police Dept. Western District (Area A)	1332 W. 5th St.	0.66
Hospitals	Community Hospital of San Bernardino	(northwest of project area)	2.20
	Saint Bernardine Medical Center (Redlands)	2101 N Waterman Ave.	4.00
	Kaiser Permanente/Fontana Medical Center	25828 Redlands Blvd,	6.40
	Loma Linda University Medical Center (Loma Linda)	11234 Anderson St.	6.90
	Loma Linda University Children's Hospital (Loma Linda)	11175 Campus St.	6.90
	County of San Bernardino Arrowhead Regional (Colton)	400 North Pepper Ave.	7.40
Schools	Lytle Creek Elementary School	275 S. K St.	0.80
	Ramona-Alessandro Elementary School	670 N. Ramona Ave.	0.93
	Mount Vernon Elementary School	1271 W. 10th St.	0.57
	Richardson Prep Hi Middle School	455 S K St.	0.45
	Nunez Park	1717 W. 5th St.	0.60
Parks	La Plaza City Park	N. Mount Vernon Ave.	0.66
	Sal Saavedra Field	W. 8th St./N. Roberds Ave.	0.78
	9th St. Park	W. 9th St./N. Garnier Ave.	1.00
	Encanto Park	W. 10th St./N. Garner Ave.	0.67
	Municipal Baseball Park	S. G St./Rialto Ave.	1.00
	Lytle Creek Park	S K. St./W. Oak St.	1.00
	Fifth Street Senior Citizens Center	600 W. 5th St.	0.86
Community Centers	San Bernardino Area Chamber of Commerce	546 W. 6th St.	0.64
	Downtown Apostolic Church	766 W. 6th St.	0.53
Places of Worship	Good Shepherd United Presbyterian Church	829 N. Mount Vernon Ave.	0.38
	Guadalupe Center	1475 W. 7th St.	0.66
	Holy Tabernacle Church	1322 W. Belleview St.	0.66
	Paul Villaseñor Branch Library	525 N. Mount Vernon Ave.	0.25
Library	Metrolink San Bernardino Station Park & Ride	1204 W. 3rd St.	0.15
Transportation Centers	San Bernardino Greyhound Bus Station	596 N. G St.	0.89
	Omnitrans Bus Terminal	1700 W. 5th St.	0.62
	Omnitrans Bus Terminal	1700 W. 5th St.	0.62

SOURCE: Rand McNally, http://www.randmcnally.com/ (2009), accessed May 2010.

The 2000 U.S. Census found that 661,272 persons were employed in the civilian labor force in San Bernardino County, with 4.9 percent of the total population unemployed. In the City of San Bernardino there were 62,289 persons employed in the civilian labor force, with 6.3 percent of the total population unemployed. In both the city and county, the majority of jobs were in management, professional, sales, and office occupations.

According to data compiled by the U.S. Census Bureau in the 2002 Economic Census, most business establishments, sales, and employees in San Bernardino County were distributed among wholesale and retail trade, real estate, professional services, health care, food services and accommodations, and other service industries (see **Error! Reference source not found.**). Business establishments in the City of San Bernardino were similarly distributed (see Table 9).

Table 8: County of San Bernardino Economic Statistics

Business Type	Number of Businesses	Sales or Receipts ($1,000)	Annual Payroll ($1,000)	Number of Employees
Wholesale Trade	2,083	21,191,081	1,135,951	31,605
Retail Trade	4,439	15,969,020	1,555,857	66,929
Information	385	N/A	368,571	8777
Real Estate, Rental, & Leasing	1,240	1,089,434	203,114	7224
Professional, Scientific, & Technical Services	1,991	1,366,756	473,587	13,194
Administrative & Support & Waste Management & Remediation Services	1,415	1,857,171	853,037	38,468
Educational Service	223	140,493	48,353	2075
Health Care & Social Assistance	2,993	5,654,081	2,123,797	61,474
Arts, Entertainment, & Recreation	276	658,323	126,572	8537
Accommodation & Food Service	2,528	1,841,198	506,888	43,578
Other Services (except Public Administration)	2,181	1,235,150	410,592	17,352

SOURCE: U.S. Census Bureau, 2002 Economic Census (2002).

4-4.2 Taxes

The California Board of Equalization report of taxable sales for the second quarter of 2004 indicates that total taxable sales for San Bernardino County were $6,486,527, an increase of 14.7 percent from the previous year. For the City of San Bernardino, total taxable sales were $769,669 for the second quarter of 2004. The city's Finance Department has stated that sales tax receipts increased by about 8 percent between 2003 and 2004, with 6 percent growth expected from 2004 to 2005.

Table 9: City of San Bernardino Economic Statistics

Business Type	Number of Businesses	Sales or Receipts ($1,000)	Annual Payroll ($1,000)	Number of Employees
Wholesale Trade	175	N/A	N/A	N/A
Retail Trade	589	2,483,481	226,468	8,996
Information	48	N/A	42,410	1,028
Real Estate, Rental, & Leasing	137	97,879	17,658	654
Professional, Scientific, & Technical Services	271	264,255	95,731	2,158
Administrative & Support & Waste Management & Remediation Services	144	204,590	97,358	4,680
Educational Service	30	17,629	6,530	250
Health Care & Social Assistance	446	844,521	297,440	9,089
Arts, Entertainment, & Recreation	31	33,903	9,223	778
Accommodation & Food Service	316	258,114	72,877	6,249
Other Services (except Public Administration)	255	129,142	43,265	2,143

SOURCE: U.S. Census Bureau, 2002 Economic Census (2002).

Businesses in the proposed project area are subject to a Business Registration fee imposed by the City of San Bernardino. The fee is based on gross receipts for businesses located in the city. Businesses located outside the city that provide services within the city pay a flat fee.

Property taxes in the proposed project area are collected by the San Bernardino County Treasurer–Tax Collector. Total property tax revenue in the county amounts to over $1.4 billion. The City of San Bernardino expects to receive about $9 million in property tax revenue for the 2004 – 2005 fiscal year.

5 POTENTIAL IMPACTS

The following discussion is intended to describe the potential impacts to the community that could result from construction and operation of the proposed project.

5-1 LAND USE AND PLANNING IMPACTS

The potential land use and planning impacts that have been evaluated are related to (1) the compatibility of the project with existing land use, (2) the consistency of the project with local plans and policies, and (3) the type and number of property acquisitions required for the project.

Impact Criteria: A proposed project alternative would result in an effect if:

- the alternative would be incompatible with the existing pattern of land use and development in the study area;
- the alternative would be inconsistent with the adopted land use plans, policies, or regulations of the applicable local and regional jurisdictions; or
- the alternative would require property acquisitions and displacements so substantial as to disrupt the pattern and/or rate of land use and development.

5-1.1 Compatibility with Existing Land Use

a. No-Build Alternative

Under this alternative no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. Insofar as the elimination of the bridge crossing would severely disrupt the regional and local circulation system, this alternative would result in an effect on existing land uses.

b. Retrofit/Rehabilitation Alternative

This alternative would retrofit and rehabilitate the existing bridge with generally similar characteristics and capacity, but it would not address the nonstandard vertical and horizontal clearances associated with the viaduct. Consequently, the owners and operators of an important neighboring land use, the BNSF, would oppose the project. In addition, this alternative would not replace all of the existing girders that have been determined to have neared their life span. As a result, the bridge would likely have a remaining service life of only 16 years beyond the completion year of 2007. An effect would occur as neighboring land uses would have to be disrupted by bridge construction activities a second time in the relatively near future.

c. Replacement Alternative

Since this alternative would replace an existing bridge with a new bridge of generally similar characteristics and capacity, it would remain consistent with the land uses in the surrounding area. The replacement bridge would have a normal useful lifespan and would not require additional future disruption of neighboring land uses for many years. No effect would occur.

5-1.2 Consistency with Plans and Policies

a. No-Build Alternative

Under this alternative no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. Insofar as the elimination of the bridge crossing would severely disrupt the regional and local

circulation system, this alternative would result be inconsistent with local and regional plans and policies.

b. Retrofit/Rehabilitation Alternative

Retrofit/rehabilitation of the Mount Vernon Avenue Bridge is not specifically identified in any of the applicable land use plans or policies; however, the renovation of the bridge has been identified as a future development project in the Mount Vernon Corridor Redevelopment Plan. Policies within the General Plan cite the safe and efficient movement of traffic as an important community objective. This alternative would not address that goal since it would not provide a safe and reliable bridge structure with a normal useful lifespan, and would therefore be inconsistent with the local plans and policies. Thus, an effect would result from this alternative.

c. Replacement Alternative

Although replacement of the Mount Vernon Avenue Bridge is not specifically identified in any of the applicable land use plans or policies, the renovation of the bridge has been identified as a future development project in the Mount Vernon Corridor Redevelopment Plan. Policies within the General Plan cite the safe and efficient movement of traffic as an important community objective. Since this alternative is intended to address that goal by providing a safe and reliable bridge structure for a normal useful lifespan, it would be considered consistent with the local plans and policies. Thus, no effect would result from this alternative. The proposed project would not negatively affect the implementation of the Paseo Las Placitas redevelopment plan or the Mount Vernon Corridor Strategic Area Plan.

The project is consistent with the City's General Plan Circulation Element, which depicts of Mount Vernon Road as a Major Arterial; therefore, the project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

5-1.3 Acquisitions and Displacements

For purposes of this analysis, property acquisitions have been identified wherever the proposed right-of-way, as shown on the preliminary engineering drawings, encompasses all or a portion of an adjacent property. Temporary acquisitions due to project construction activities have also been identified.

a. No-Build Alternative

Because no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative, no acquisitions and displacements would be necessary.

b. Retrofit/Rehabilitation Alternative

This alternative would not entail any acquisitions and displacements because retrofit/rehabilitation improvements would be constructed within existing rights-of-way. Temporary construction easements would be acquired to accommodate construction activities along Mount Vernon Avenue near West 5th Street. However, since these easements would be necessary only for the duration of the project construction period, and would not substantially interfere with the use of the affected parcels, they are not expected to have an effect on other nearby properties or the overall pattern and rate of land use and development in the study area.

c. Replacement Alternative

Table 10 summarizes the property acquisitions associated with this alternative. The locations of affected properties are illustrated in Figure 5 on the following page.

Table 10: Property Acquisitions (Replacement Alternative)

APN	Address	Land Use	Full/Partial Acquisition
138-251-04	N. Mount Vernon Avenue	Residential	Partial
138-251-05	N. Mount Vernon Avenue	Residential	Partial
138-251-06	N. Mount Vernon Avenue	Residential	Partial
138-251-07	N. Mount Vernon Avenue	Residential	Partial
138-251-08	N. Mount Vernon Avenue	Commercial – car wash	Partial
138-251-09			
Various	Various	Various	Temporary construction easements

SOURCES: Geographic Information Systems (County of San Bernardino, 2009)
Preliminary Design Plans (LAN Engineering, 2009).

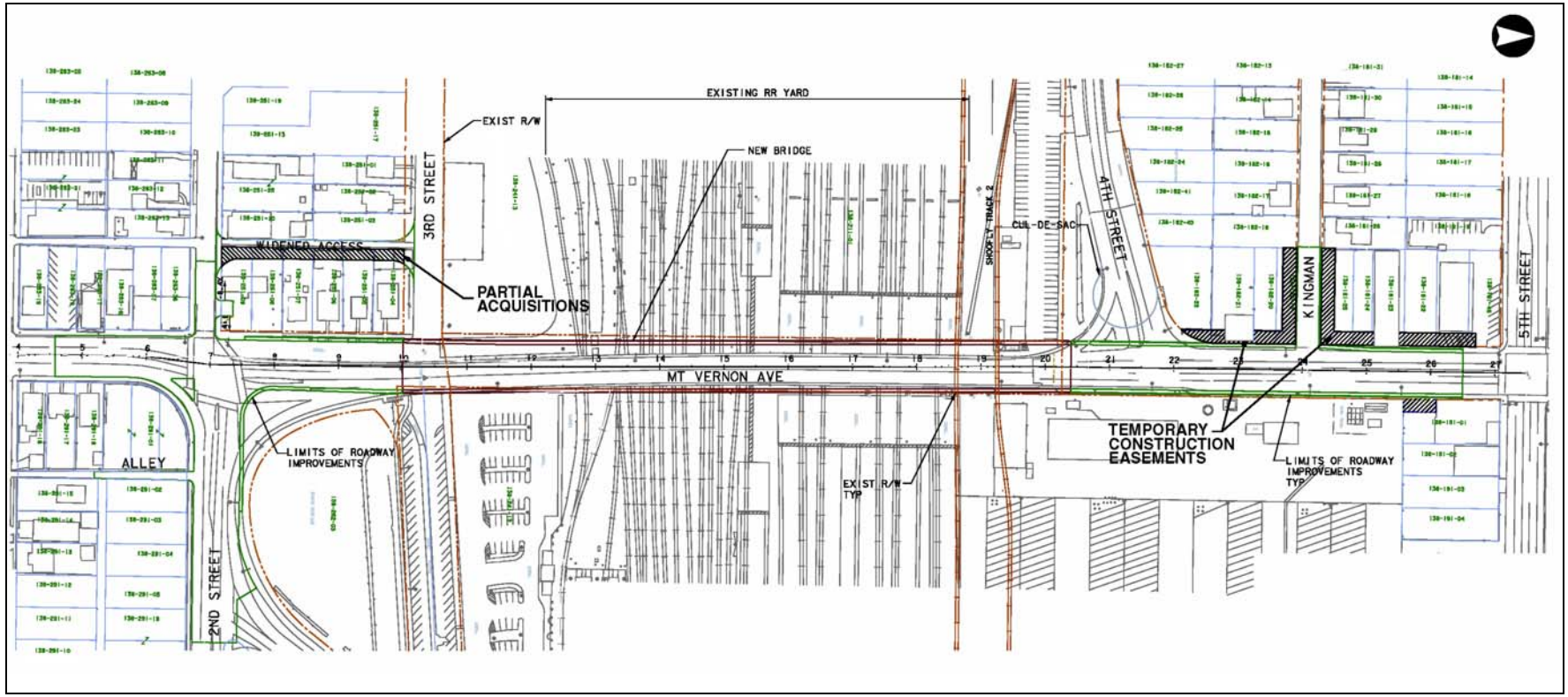
Non-Residential Acquisitions and Displacements

This alternative would require no permanent full acquisitions of non-residential property. However, one partial property acquisition would be necessary. A portion of the parking area and part of a vacuum facility would be acquired from a car wash at the northwest corner of Mount Vernon Avenue and West 2nd Street. It is anticipated that the car wash could remain operable even with the loss of parking area and relocation of the vacuum facility.

Given the absence of any full acquisitions, and the very minor partial acquisition from one non-residential property, no substantial change in either the pattern or rate of non-residential land use and development is expected in the study area. Thus, no effect would result.

In accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970 as amended (42 USC Secs. 4601-4655) (Uniform Act), compensation for partial acquisitions would be provided to eligible recipients. The Uniform Act provides for fair and

Figure 5 – Location of Property Acquisitions (Replacement Alternative)



SOURCE: County of San Bernardino GIS (2010), AECOM Preliminary Plans (2010).

equitable treatment of persons whose property would be acquired as a result of federally funded projects. The programs and assistance provided under the Uniform Act shall be available to all eligible recipients without discrimination. For partial acquisitions, compensation would be provided to eligible recipients for the portion of the property acquired. Additional compensation may be provided for any demonstrated damage to the remainder property. If it is determined that the remainder property would have little or no value or utility (i.e., an uneconomic remnant), then the property owner would have the option of either accepting full purchase of the remnant or keeping it.

Residential Acquisitions and Displacements

This alternative would require no permanent full acquisition of any residences. However, permanent partial acquisitions would be necessary from the rear yards of four residential parcels along the southwest end of the Mount Vernon Avenue Bridge. The acquisitions are required in order to widen the alleyway behind these four residential parcels between West 2nd and West 3rd Streets. Three of the four affected residential parcels have homes on them. The three parcels consist of one existing residential structure (habitable/occupied), one recently renovated structure for sale (habitable/not occupied), and one structure currently in renovation for future sale (habitable once renovations are complete/not occupied). The fourth parcel is a vacant open lot without an existing residential structure.

As noted in the project description, the proposed new bridge would entail widening to the west of the current alignment, thereby eliminating the current Mount Vernon Avenue service road between West 2nd and West 3rd Streets. Thus, the alleyway would be improved to maintain access to the properties in this area.

The partial acquisition of four residential properties would not result in an effect; and, effects of acquisition are offset because access to several homes and railroad facilities along West 3rd Street would be preserved along with the access to the four properties. Three of the four residential parcels are developed with residential structures. Acquisition on the vacant lot would be minimal, and therefore the future development on the vacant parcel would not be compromised. Additionally, the partial acquisitions would not affect any primary structures. However, rear yards, rear yard fences, and secondary structures on two of the four of the properties would be affected. Furthermore, the secondary structures could be reconfigured and then be re-built within the affected properties.

In accordance with the Uniform Relocation Assistance Act, potential replacement of fences and secondary structures would be determined during the right-of-way acquisition process in coordination with affected property owners.

The project does not require full acquisition nor encourage growth; therefore, it would not result in redistribution of the population or an influx or loss of population. Additionally, because only one of the four residential properties adjacent to the service road is currently occupied:

- community cohesion would not be present,
- interaction among persons and/or groups within a community would not be affected,

- social values of a community would not change,
- landmarks and social gathering places shared by a community do not exist, and
- people would not be separated or set apart from others.

It is unlikely that the project would have an effect to any of these social considerations.

Although the bridge would shift to the west, and closer to these residential properties, quality of life may be improved due to a combination of the following factors:

- the closure of the service road, and
- the potential for the project to utilize only half of the approximately 25-foot width of the service road, thereby maintaining and potentially improving pedestrian access.

Shadows resulting from the project were also considered in assessing the project's effect on the quality of life for the residential occupants. Shadows from the bridge are the most prominent at points where the bridge is at its highest elevation. Near these four residential properties and adjacent to the service road, the height of the bridge substantially decreases to join existing Mount Vernon Avenue to the south. Due to the decrease in bridge elevation at this location, it is unlikely that shadows created from the westerly shift in the bridge alignment would extend beyond the existing service road's edge of pavement.

Compensation for partial acquisitions would be provided to eligible recipients in accordance with the Uniform Act (see above).

Temporary Construction Easements

Temporary construction easements would be acquired to accommodate construction activities along Mount Vernon Avenue near West 5th Street. However, since these easements would be necessary only for the duration of the project construction period, and would not substantially nterfere with the use of the affected parcels, they are not expected to have an effect on other nearby properties or the overall pattern and rate of land use and development in the study area.

5-2 POPULATION AND HOUSING IMPACTS

The potential population and housing impacts that have been evaluated are related to: (1) temporary construction effects, (2) community access and circulation, (3) changes in demographic characteristics, and (4) community cohesion.

Impact Criteria: A proposed project alternative would result in an effect if:

- the alternative would have indirect construction effects on the surrounding community that would be substantially greater in magnitude and/or longer in duration than is typical of similar construction projects and similar communities;

- alternative would permanently impair access to and from the surrounding community through the placement of barriers or other impediments to the local circulation pattern;
- the alternative would create a barrier or other physical change in the environment so substantial as to permanently divide, disperse, or otherwise severely disrupt a cohesive community; or
- the alternative would require residential property acquisitions and displacements so substantial as to disrupt the pattern and/or rate of existing and planned population and housing growth.

5-2.1 Temporary Construction Effects

a. No-Build Alternative

Because no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative, there would be no effects on the local population and housing from construction activities.

b. Retrofit/Rehabilitation Alternative

Construction activities would result in temporary, localized, site-specific disruptions to the population and housing in the proposed project area, related primarily to construction-related traffic changes from trucks and equipment in the area; partial and/or complete street and lane closures, with some requiring detours; increased noise and vibration; lights and glare; and changes in air emissions. Since the project construction activities would be temporary in duration and would not be likely to have effects substantially different than the same types of nuisance-like effects associated with typical construction activities throughout Southern California, no effect is expected to result. Additional information is provided below regarding the effects of construction activities on access and circulation.

c. Replacement Alternative

The temporary construction effects associated with this alternative would be essentially the same as those described above for the Retrofit/Rehabilitation Alternative. Demolition of the existing bridge would add some additional time to the construction period but would not make temporary construction effects substantially more disruptive. Additional information is provided below regarding the effects of construction activities on access and circulation.

5-2.2 Access/Circulation

a. No-Build Alternative

No new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. Because the elimination of the bridge crossing would severely disrupt the regional and local circulation system, this alternative would result in an effect on access and circulation for the residents and visitors in the local community.

b. Retrofit/Rehabilitation Alternative

Other than the short-term access disruptions related to project construction, which are described below, no permanent barriers to neighborhood access are expected to result from this alternative. Existing access points and circulation routes to and from the residential neighborhoods in the project area would all remain open once the project is completed. To the extent that this alternative would provide a safer bridge, local traffic circulation and safety could be expected to improve, with some ancillary beneficial effects on access to the residential neighborhoods and local commercial centers. However, the improved bridge under this alternative would not have a normal useful lifespan. The community would be subject to a second period of access and circulation disruption in the relatively near future when a new bridge would have to be constructed.

In order to address the effects of construction activities on pedestrian and vehicular traffic on the bridge, a Pedestrian and Vehicular Detour Analysis (LSA 2004) and updated Pedestrian and Vehicular Detour Analysis (Iteris, 2010) evaluated various options to provide pedestrian mobility and vehicular detours during the construction period.

Pedestrian Detour Analysis

Sidewalks on each side of the existing bridge are 1.1 m (3.5 feet) wide. Concrete barrier railings are located on each side of the bridge, though multiple areas have deteriorated or have been damaged and replaced with steel plates or plywood.

There are no existing bicycle facilities or trails located within or adjacent to the project area. However, there is an existing proposal for a Local Multi-Purpose Trail on Mount Vernon Avenue, both on the bridge and the adjacent northern and southern segments of Mount Vernon Avenue (November 2005 City of San Bernardino General Plan, Page 8-13). Currently there is no existing trail that is officially designated on Mount Vernon Avenue Bridge, nor the adjacent northern and southern segments of Mount Vernon Avenue; however, due to the possibility for a future trail, the project would accommodate any future bicycle trail.

Methodology

Pedestrian and bicyclist counts and interviews were conducted on a Saturday and Sunday in April 2004 and on Monday, May 3, 2004. Interviews were conducted by bilingual English/Spanish speakers from 11:00 a.m. to 3:00 p.m. on Saturday, 8:00 a.m. to noon on Sunday, and 5:00 a.m. to 11:00 p.m. on Monday. Every pedestrian and bicyclist crossing the bridge was counted, with the time and direction of travel recorded. Interviewers attempted to collect information from each pedestrian and cyclist concerning the origin, destination, and purpose of his or her trip. The pedestrian information has been updated with current school attendance boundary maps provided by the San Bernardino Unified School District and updated cost estimates provided by Omnitrans. The pedestrian and bicycle analysis has not otherwise been updated because the pedestrian survey conducted in 2004 showed that the main reasons for pedestrians using the bridge were to get to shopping or work destinations. The type and location of such destinations has not changed significantly because there has been no substantial change in the amount of development in the area. The redevelopment of the Second Street Shopping Center reflected a modernization rather than a change in type or size of development; the primary tenant in this center, Superior Grocers, replaced the Mercado previously occupying the site, which was similar in terms of goods available and expected shoppers. Thus, no reasonable change in the amount of shoppers using Mount Vernon Avenue would be expected. In addition, no significant new businesses have opened within the areas located on either side of the bridge; therefore, pedestrians walking to places of employment can be reasonably assumed to be consistent since 2004 and, in fact, it might be reasonable to expect this number has decreased due to the current economic conditions. In addition, school boundaries remain unchanged from 2004; therefore, the numbers of school-aged children and their parents would not be reasonably expected to change.

Analysis and Results

Tables 11, 12, and 13 summarize the results of the pedestrian and bicyclist interviews on Saturday, Sunday, and Monday, respectively.

Table 11: Trip Purpose by Time of Day (Saturday)

Time Interval	Direction		Purpose							Total
	North	South	Home-Work	Home-Shopping	Home-Metrolink	Home-Other	Metrolink-Other	Other-Other	Work-Other	
11 am to 12 pm	17	9	4	7	1	8	5	1	0	26
12 pm to 1 pm	6	7	0	6	0	5	0	1	1	13
1 pm to 2 pm	6	6	5	1	1	1	2	2	0	12
2 pm to 3 pm	9	3	2	8	1	1	0	0	0	12
Total	35	25	11	22	3	15	7	4	1	63
Percentage	60%	40%	17%	35%	5%	24%	11%	6%	2%	100%

Source: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Table 12: Trip Purpose by Time of Day (Sunday)

Time Interval	Direction		Purpose									Total
	North	South	Home-Work	Home-Shopping	Home-Metrolink	Home-Other	Home-School	Shopping-Other	Metrolink-Other	Other-Other	No Response	
8 am to 9 am	3	7	1	3	4	0	0	0	0	1	0	10
9am pm to 10 am	22	10	2	9	10	9	0	1	0	1	0	32
10 am to 11 am	4	4	0	2	0	3	0	0	1	1	1	8
11 am to 12 pm	11	3	1	1	1	9	1	0	1	0	0	14
Total	40	24	4	15	12	25	1	1	2	3	1	64
Percentage	63%	38%	6%	23%	19%	39%	2%	2%	3%	5%	2%	100%

Source: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Table 13: Trip Purpose by Time of Day (Monday)

Time Interval	Direction		Purpose											Total
	North	South	Home-Work	Home-Shopping	Home-Metrolink	Home-Other	Home-School	Shopping-Other	Metrolink-Work	Metrolink-Other	Other-Other	Work-Other	No Response	
5 am to 6 am	1	8	9	0	0	0	0	0	0	0	0	0	0	9
6 am to 7 am	3	7	4	0	0	2	0	0	0	1	1	2	0	10
7 am to 8 am	8	10	6	0	1	3	5	0	1	0	2	0	0	18
8 am to 9 am	6	4	3	2	1	1	1	0	0	1	1	0	0	10
9 am to 10 am	9	14	5	8	0	5	3	0	0	1	1	0	0	23
10 am to 11 am	4	4	3	2	0	2	0	0	0	0	0	0	1	8
11 am to 12 pm	4	8	2	5	0	0	1	0	0	0	0	0	4	12
12 pm to 1 pm	5	8	4	2	0	0	2	0	0	0	2	0	3	13
1 pm to 2 pm	9	9	3	0	0	3	1	0	0	0	5	0	6	18
2 pm to 3 pm	8	6	4	2	1	2	1	0	0	0	1	0	3	14
3 pm to 4 pm	8	7	3	0	4	2	3	0	0	0	2	1	0	15
4 pm to 5 pm	10	16	1	3	0	11	5	0	1	0	1	0	4	26
5 pm to 6 pm	6	7	3	1	4	1	3	0	0	1	0	0	0	13
6 pm to 7 pm	6	14	7	3	0	3	0	0	0	1	0	0	6	20
7 pm to 8 pm	7	5	1	6	0	1	1	0	0	0	0	0	3	12
8 pm to 9 pm	6	4	1	1	0	1	0	1	0	0	0	0	6	10
9 pm to 10 pm	3	5	0	1	0	1	0	0	0	0	0	0	6	8
10 pm to 11 pm	1	2	0	0	0	1	0	0	0	0	0	0	2	3
Total	104	138	59	36	11	39	26	1	2	5	16	3	44	242
Percentage	43%	57%	24%	15%	5%	16%	11%	0%	1%	2%	7%	1%	18%	100%

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

On Saturday, an average of just over 15 pedestrians and cyclists crossed the bridge each hour during the count period. The largest single share of trips was trips between traveler's home and shopping destination. Most shopping trips were to and from the Mercado and surrounding stores just south of the Metrolink station on Third Street.

On Sunday, an average of just over 15 pedestrians and cyclists also crossed the bridge each hour during the court period. The largest single share of trips was trips between the traveler's home and a nonshopping, non-working destination. Most of these trips were to church, although some were social visits to friends or relatives.

On Monday, 242 pedestrians and cyclists crossed the bridge, with the greatest number of trips occurring between 4:00 and 5:00 p.m. The largest number of trips during the day was between traveler's home and place of work, although there was substantial numbers of shopping, church, and social trips throughout the day as well.

Table 14 presents some additional information concerning the nature of the pedestrians and cyclist trips across the Mount Vernon Bridge.

The vast majority of pedestrian and cyclist trips were home-based trips (i.e., has as their origin or destination the traveler's home). The area that was the origin or destination of the largest share of trips was the Metrolink Station and the adjacent Mercado, although this area's share of trip was

much larger on the weekend than on Monday. Pedestrians accounted for the majority of trips during the count periods.

Table 14: Trip Characteristics by Day of Week

Trip Type	Monday			Saturday			Sunday		
	Number of Trips	As % of all Trips	As % of Responses	Number of Trips	As % of all Trips	As % of Responses	Number of Trips	As % of all Trips	As %of Responses
Home-based trips	17	9	4	7	1	8	5	1	0
Trips to/from Mercado/Metrolink Station	6	7	0	6	0	5	0	1	1
Trips to/from Bus Stop	6	6	5	1	1	1	2	2	0
Bicycle Trips	9	3	2	8	1	1	0	0	0

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Alternatives

During the approximately two years that the bridge will be closed, there will be no pedestrian access across the BNSF rail yard at the bridge location. The shortest alternative pedestrian route is approximately two miles in length. Therefore, it will be necessary to provide alternative, motorized means for pedestrians to travel across the rail yard. Four feasible and potentially cost-effective alternative means of providing pedestrian and bicyclist mobility are evaluated in this report. These four alternatives are described below:

1. Dedicated Shuttle. In this alternative, a dedicated shuttle (most likely a van) would be provided to transport pedestrians along a designed route serving popular origins and destinations on both sides of the bridge.
2. Bus Passes for Area Residents. In this alternative, the City of San Bernardino would make arrangements to provide bus passes to residents of the area surrounding the bridge. These passes would be valid for travel on Omnitrans buses that serve the area.
3. Free Ridership on Area Bus Routes. In this alternative, arrangements would be made with Omnitrans to allow passengers boarding or alighting in the area surrounding the bridge to travel for free. Passes would not be required.
4. Extend Omnitrans Routes 3 and 4. This alternative was considered for implementation in conjunction with Alternative 3. In this alternative, Omnitrans Routes 3 and 4 would be extended from the Fourth Street Transit Mall to serve the Metrolink Station/Mercado are to provide more convenient transit service between the north and south sides of the bridge.

The feasibility of each option was evaluated. Based on the data presented in the detour analysis, implementation of option #2 (*free bus passes provided by the City of San Bernardino*) would be the most beneficial in providing consistent cost-effective mobility to individuals (including both pedestrians and cyclists) affected by the bridge closure. Should bicyclists opt out of utilizing the option for free bus passes, it is likely that detours similar to what is described in Vehicular Detours, below, would apply.

Evaluation of Alternatives

Each of the alternatives was evaluated to assess its feasibility. The following summarizes the results of the evaluation of each alternative.

1. Dedicated Shuttle. A shuttle is most useful if many pedestrian and cyclist trips share common origins and destinations. However, as shown in Table 14, the single most common origin/destination was the area near the Metrolink Station and the Mercado, which accounted for only 16 percent of weekday trips. Omnitrans was contacted as the most likely provider of the dedicated shuttle because, as a transit provider, Omnitrans has the necessary equipment and personnel to provide such service. Omnitrans indicated that the cost of providing a shuttle service would be at least $100 per hour. To provide service 18 hours per day would therefore cost approximately $54,000 per month. Based on 242 pedestrians and cyclist who crossed the bridge during the eighteen-hour count period on Monday, the average cost per trip of providing a shuttle service for that period of the day would be $7.44. Average per-trip costs would be even higher on weekends because of lower ridership.
2. Bus Passes for Area Residents. Under this alternative, the City would provide bus passes to provide mobility for the area residents. As shown in Table 14, over 80 percent of pedestrians and bicycle trips across the bridge are made by residents in the area. Therefore, this alternative would serve the large majority of current bridge users. Existing Omnitrans bus routes that serve the area (Routes 1, 3, and 4) run on headways of approximately 15 minutes from before 5:00 a.m. until the end of the evening rush hour, and then approximately 30 minute headways until after 10:00 p.m. Therefore, waiting times for pedestrians and cyclists to use the existing service would be reasonable. Omnitrans buses are fitted with bicycle racks, so that they would also be useable for those traveling by bicycle. A 31-day pass on Omnitrans costs $47 at retail, although it is expected that a lower bulk rate would be negotiated. At the retail rate, if 300 area residents received free bus passes, the monthly cost would be $14,100.
3. Free Ridership on Area Bus Routes. This alternative potentially offered the advantage of serving all travelers to the area, not just local residents. However, this alternative was found to be impractical because of the difficulty of confirming which riders would be alighting in the designated area. Fares are typically collected at the time of boarding, and bus drivers are not able to monitor individual passenger's destinations.
4. Extend Omnitrans Routes 3 and 4. This alternative would offer the benefit of more convenient transit service between the north and south sides of the bridge. Onmitrans was contacted concerning the feasibility of extending these routes. Omnitrans indicated that such an extension would not be feasible because of the tight headways that already exist on these routes. There is simply not time in each bus's schedule to lengthen the route.

School Trips

If large numbers of school children would need to travel from one side of the BNSF rail lines to the other during the bridge closure, then coordination would be required with the San Bernardino City Unified School District (SBCUSD) to ensure the appropriate transportation would be provided. The SBCUSD was contacted to obtain information concerning the attendance areas of

the District's schools in the area. No SBCUSD schools have an attendance area that crosses the rail lines in the vicinity of the bridge. Therefore, no additional coordination is required.

Recommendation

Since there will be no pedestrian access across the BNSF rail yard at the bridge location during the approximately two years that the bridge will be closed, it is necessary to provide alternative, motorized means for pedestrians to travel across the rail yard during that time. Based on the data and analyses presented above, it is recommended that Alternative 2 be implemented in order to replace the pedestrian access that will be eliminated by the closure of the bridge during construction. Free bus passes, provided by the City, for travel on existing Omnitrans routes will provide mobility to area residents affected by the bridge closure. The alternative is the most practical and cost effective means for providing such mobility.

Vehicular Detour Analysis

Methodology

Study Area

The study area for the analysis of potential impacts from the traffic detour during construction includes the following intersections that will be affected by detoured or diverted traffic:

1. Foothill Boulevard and Rancho Avenue
2. 5th Street and Medical Center Drive
3. 5th Street and Cabrera Avenue
4. 5th Street and Mount Vernon Avenue
5. 5th Street and L Street
6. 5th Street (Foothill Boulevard) and 4th Street
7. 5th Street and H Street
8. 4th Street (I-215 On Ramps) and H Street
9. 3rd Street and I Street
10. 3rd Street and H Street
11. 2nd Street and Mount Vernon Avenue
12. 2nd Street and K Street
13. 2nd Street and I Street
14. 2nd Street and I-215 SB On Ramp
15. 2nd Street and I-215 NB On Ramp
16. 2nd Street and G Street
17. Rialto Avenue and Rancho Avenue
18. Rialto Avenue and Santa Fe Way
19. Rialto Avenue and Mount Vernon Avenue
20. Rialto Avenue and K Street
21. Rialto Avenue and I Street
22. Rialto Avenue and G Street

Existing Volumes

A detailed inventory of the intersection geometrics and control type was conducted in October 2009 at the 22 study intersections. Vehicle turning movement counts were conducted during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM) at the 22 study intersections in October 2009. The hour with the highest total traffic volume at each intersection was taken to be the peak hour for that peak period. Vehicle classification counts (e.g., passenger vehicle, 2-axle truck, 3-axle truck, and 4 or more axle truck), were conducted at the following four study intersections: 5th Street / Mount Vernon Avenue, 2nd Street / Mount Vernon Avenue, 3rd Street / H Street, Rialto Avenue / Mount Vernon Avenue. It should be noted

that heavy trucks are currently restricted from using the Mount Vernon Bridge. Therefore, heavy truck volumes on the bridge are relatively low.

A detailed inventory of the intersection geometrics and control type was conducted in October 2009 at the 22 study intersections. Vehicle turning movement counts were conducted during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM) at the 22 study intersections in October 2009. The hour with the highest total traffic volume at each intersection was taken to be the peak hour for that peak period. Vehicle classification counts (e.g., passenger vehicle, 2-axle truck, 3-axle truck, and 4 or more axle truck), were conducted at the following four study intersections: 5th Street / Mount Vernon Avenue, 2nd Street / Mount Vernon Avenue, 3rd Street / H Street, Rialto Avenue / Mount Vernon Avenue.

The traffic counts for these intersections were converted to passenger car equivalent (PCE) volumes using PCE factors of 1.5, 2.0, and 3.0 for 2-axle, 3-axle, and 4-axle trucks, respectively. Truck percentages for the remaining intersections for which classification counts were not collected were developed from the percentages at adjacent intersections. In addition, a 24-hour directional volume count was conducted for the Mount Vernon Avenue Bridge in October 2009. Approximately 14,700 vehicles per day cross the bridge. Table 15 and Table 16 summarize the 2009 peak hour and daily traffic volumes.

Table 15: Existing 2009 AM and PM Peak Hour Traffic Volume

Location	AM Peak Hour Volume			PM Peak Hour Volume		
	NB	SB	Total	NB	SB	Total
Mount Vernon Avenue Bridge	494	537	1,031	655	592	1,247

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Table 16: Existing 2009 Daily Traffic Volume

Location	Daily Traffic Volume		
	NB	SB	Total
Mount Vernon Avenue Bridge	7519	7158	14,677

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

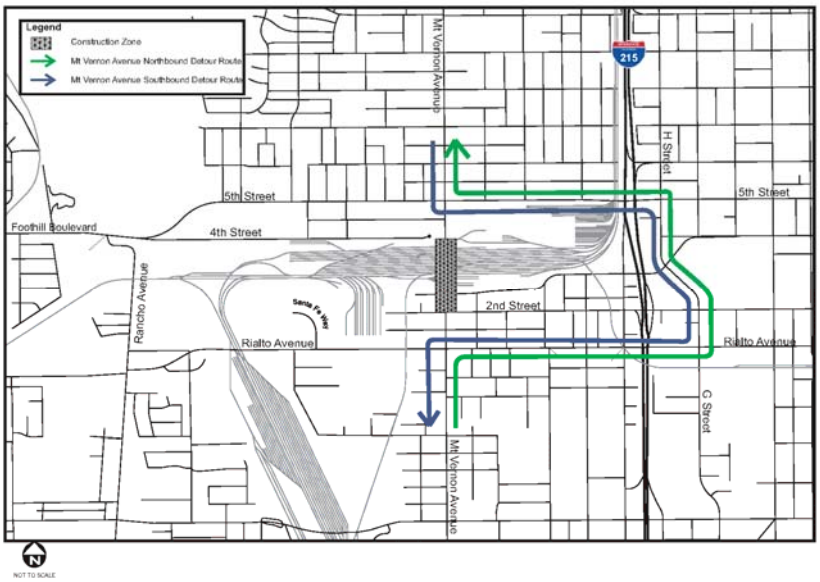
Traffic Forecast - Year 2012 Volumes

Background Traffic Volumes. Construction is scheduled to begin mid 2012 and completed mid 2014. The bridge closure will be closed for the duration of the project construction, since the existing bridge will be used for construction staging to build the new bridge. Because the initial construction will take place in 2012, traffic conditions during that year are analyzed in this report. Traffic impacts are most likely to occur during the initial period of construction, because drivers will adjust their routes and destinations as time goes on, reducing traffic volumes in the project area. Forecast year 2012 without detour traffic volumes were developed by applying a growth factor of 3% to year 2009 volumes (1% per year). Since the truck restrictions on the

bridge that are currently in place will remain in effect until the new bridge is opened, year 2012 truck traffic patterns will remain the same as under existing conditions. At the time the traffic counts were collected for this study (October 2009), the I-215 northbound and southbound on-ramps from 4th Street were still open. During the course of the study, the on-ramps were closed to vehicular traffic and detour routes were designated for freeway traffic. Initial observations of the traffic in the area suggested that significant portions of the traffic that had previously used the 4th Street interchange was not following the detour route, but had diverted out of the area completely. To assess the increase in traffic at the 2nd Street interchange due to the detour routes, spot turning movement counts (one half-hour counts during AM peak hour and PM peak hour) were conducted at 2nd Street / I-215 Southbound On-Ramp in April 2010 (included in Appendix B). The increase in volume at this location over pre-detour volumes was taken as an indication of the amount of traffic actually following the detour route. The projected 2012 without construction traffic volumes were adjusted to reflect the change in traffic patterns based on these spot counts. This adjustment was made by assuming that a similar amount of traffic would continue to follow the freeway detour route in 2012, and increasing the appropriate turning movements along the freeway detour route by that amount.

Detour Condition Traffic Volumes. Detour condition traffic volumes were developed by manually reassigning turning movement traffic affected by the detour of Mount Vernon Avenue traffic based on the expected detour route. During construction, the northbound and southbound traffic currently using Mount Vernon Avenue will be detoured between Rialto Avenue and 5th Street. The detour routes are depicted in Figure 6. Since the truck restrictions on the bridge that are currently in place will remain in effect until the new bridge is opened, detour conditions truck traffic patterns will remain the same as under existing conditions (i.e., trucks do not use the bridge).

Figure 6 – Detour Routes



SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Northbound traffic will be rerouted as follows:

- East on Rialto Avenue
- North on G Street/H Street
- West on 5th Street

Southbound traffic will be rerouted as follows:

- East on 5th Street
- South on H Street/G Street
- West on Rialto Avenue

Not all drivers will follow the posted detour. Drivers with local destinations who are familiar with the area may follow other routes. Based on the locations of destinations in the project vicinity, the following assumptions were also made to derive the detour traffic volumes:

- Ten percent of northbound traffic with destinations to the west of Mount Vernon Avenue will not follow the detour route and will instead travel to the west via Rialto Avenue, to the north via Rancho Avenue and continue to the west on Foothill Boulevard.
- Westbound traffic on 2nd Street that currently turns left at the Mount Vernon Avenue and 2nd Street intersection will instead turn left at K Street to reach Rialto Avenue and go west on Rialto Avenue.
- Ten percent of existing traffic turning from Mount Vernon Avenue onto 2nd Street travels to destinations west of I-215, thirty percent travels north on I-215, thirty percent travels south on I-215, and the remaining thirty percent travels east to downtown San Bernardino.

Intersection Level of Service

The efficiency of traffic operations at a location can be described in terms of Level of Service (LOS). The level of service concept is a measure of average operating conditions at an intersection during an hour. It is based on vehicle delay and volume-to-capacity (V/C) ratio. Levels range from A to F, with A representing excellent (free-flow) conditions and F representing extreme congestion.

The analysis of traffic operations at intersections was conducted according to the Highway Capacity Manual (HCM 2000) Operations Methodology. The analysis was conducted using Synchro 6 software for signalized and two-way stop controlled intersections and Traffix 7.9 software for all-way stop controlled intersections. In this methodology, level of service (LOS) is defined by the average control delay experienced by vehicles at an intersection, taking into account the effects of intersection characteristics such as lane geometry and signal phasing. Table 17 presents the delay associated with each LOS grade, as well as a qualitative description of intersection operations at that grade, for both signalized and unsignalized intersections.

Table 17: Intersection Level of Service Definitions

Level of Service	Description	Intersection Delay (seconds/vehicle)	
		Signalized	Unsignalized
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	< 10	< 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>10 and < 20	>10 and < 15
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and < 35	>15 and < 25
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>35 and < 55	>25 and < 35
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>55 and < 80	>35 and < 50
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 80	> 50

SOURCES: Highway Capacity Manual, Special Report 209 (Transportation Research Board, 2000)
Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Level of Service Standard. The City of San Bernardino's level of service standard is LOS D. Intersections operating at LOS E or F are considered unsatisfactory.

Existing Conditions

A level of service analysis using HCM 2000 methodologies was conducted to evaluate existing AM and PM peak hour traffic conditions at the study intersections. The results of the intersection level of service analysis are summarized in Table 18. An examination of the data in Table 18 indicates that, under 2009 conditions, all 22 study intersections were operating at LOS C or better. In the 2004 Pedestrian and Vehicular Detour Analysis study, the intersection of Foothill Boulevard and Rancho Avenue was operating at an unsatisfactory level of service due to the closure of the Mount Vernon Avenue Bridge and the resulting redistribution of traffic through Rancho Avenue. Under current conditions, that intersection has returned to a satisfactory LOS.

Year 2012 Conditions

This section analyzes traffic and circulation conditions in the study area during the project's construction year (2012), with and without the construction-related traffic diversion.

Table 18: Existing (2009) Peak Hour Intersection Level of Service

Intersection	Control	AM Peak Hour			PM Peak Hour		
		V/C	Delay	LOS	V/C	Delay	LOS
1. Foothill Boulevard and Rancho Avenue	TWSC	-	18.2	C	-	18.3	C
2. 5th Street and Medical Center Drive	Signal	0.30	8.1	A	0.36	9.3	A
3. 5th Street and Cabrera Avenue	Signal	0.23	1.8	A	0.21	2.7	A
4. 5th Street and Mount Vernon Avenue	Signal	0.49	10.8	B	0.45	11.6	B
5. 5th Street and L Street	Signal	0.28	2.9	A	0.27	4.1	A
6. 5th Street (Foothill Boulevard) and 4th Street	Signal	0.34	3.4	A	0.28	3.3	A
7. 5th Street and H Street	Signal	0.33	13.0	B	0.45	17.3	B
8. 4th Street (I-215 On Ramps) and H Street	Signal	0.24	4.0	A	0.54	8.1	A
9. 3rd Street and I Street	Signal	0.18	4.3	A	0.16	5.4	A
10. 3rd Street and H Street	Signal	0.18	8.0	A	0.22	9.0	A
11. 2nd Street and Mount Vernon Avenue	Signal	0.42	14.7	B	0.54	18.7	B
12. 2nd Street and K Street	AWSC	0.20	8.5	A	0.24	9.3	A
13. 2nd Street and I Street	Signal	0.29	5.0	A	0.23	4.6	A
14. 2nd Street and I-215 SB On Ramp	Signal	0.29	3.9	A	0.48	5.9	A
15. 2nd Street and I-215 NB On Ramp	Signal	0.52	13.1	B	0.48	13.5	B
16. 2nd Street and G Street	Signal	0.43	14.4	B	0.51	18.1	B
17. Rialto Avenue and Rancho Avenue	Signal	0.25	6.3	A	0.31	6.3	A
18. Rialto Avenue and Santa Fe Way	Signal	0.21	2.8	A	0.19	2.4	A
19. Rialto Avenue and Mount Vernon Avenue	Signal	0.39	6.0	A	0.36	5.8	A
20. Rialto Avenue and K Street	Signal	0.29	8.1	A	0.39	9.3	A
21. Rialto Avenue and I Street	Signal	0.36	5.5	A	0.31	4.7	A
22. Rialto Avenue and G Street	Signal	0.30	5.6	A	0.31	5.0	A

Notes: HCM 2000 Operations Methodology. LOS = Level of Service
V/C = Volume-to-Capacity Ratio Delay = Average Vehicle Delay (Seconds).
AWSC = All-way Stop Control TWSC = Two-way Stop Control
At TWSC intersections, worst-case approach is reported

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Year 2012 Without Detour Conditions

Year 2012 traffic volumes were developed as described in the "Traffic Forecasts" section. Year 2012 without detour conditions include the change in traffic patterns due to the ongoing detour from the closure of the 4th Street ramps. A level of service analysis using HCM 2000 methodologies was conducted to evaluate year 2012 without detour conditions at the study intersections. The results of the intersection level of service analysis are summarized in Table 19.

Table 19 indicates that all 22 study intersections are expected to operate at LOS C or better during year 2012 without construction conditions.

Table 19: Year 2012 Without Detour Peak Hour Levels of Service

Intersection	Control	AM Peak Hour			PM Peak Hour		
		V/C	Delay	LOS	V/C	Delay	LOS
1. Foothill Boulevard and Rancho Avenue	TWSC	-	18.8	C	-	19.1	C
2. 5th Street and Medical Center Drive	Signal	0.31	8.1	A	0.38	9.4	A
3. 5th Street and Cabrera Avenue	Signal	0.24	2.1	A	0.22	2.7	A
4. 5th Street and Mount Vernon Avenue	Signal	0.50	11.0	B	0.47	11.8	B
5. 5th Street and L Street	Signal	0.28	2.9	A	0.28	4.1	A
6. 5th Street (Foothill Boulevard) and 4th Street	Signal	0.35	3.4	A	0.28	3.3	A
7. 5th Street and H Street	Signal	0.34	13.1	B	0.47	17.7	B
8. 4th Street (I-215 On Ramps) and H Street	Signal	0.24	4.3	A	0.33	5.3	A
9. 3rd Street and I Street	Signal	0.23	4.9	A	0.29	5.1	A
10. 3rd Street and H Street	Signal	0.37	8.4	A	0.41	9.3	A
11. 2nd Street and Mount Vernon Avenue	Signal	0.45	15.0	B	0.58	20.2	C
12. 2nd Street and K Street	AWSC	0.20	8.5	A	0.24	9.4	A
13. 2nd Street and I Street	Signal	0.35	5.4	A	0.36	5.4	A
14. 2nd Street and I-215 SB On Ramp	Signal	0.39	5.0	A	0.68	11.0	B
15. 2nd Street and I-215 NB On Ramp	Signal	0.55	16.0	B	0.64	16.7	B
16. 2nd Street and G Street	Signal	0.50	14.5	B	0.74	27.2	C
17. Rialto Avenue and Rancho Avenue	Signal	0.26	6.0	A	0.32	6.3	A
18. Rialto Avenue and Santa Fe Way	Signal	0.22	2.8	A	0.2	2.5	A
19. Rialto Avenue and Mount Vernon Avenue	Signal	0.40	6.1	A	0.37	6.0	A
20. Rialto Avenue and K Street	Signal	0.30	8.2	A	0.4	9.5	A
21. Rialto Avenue and I Street	Signal	0.38	5.6	A	0.32	4.7	A
22. Rialto Avenue and G Street	Signal	0.31	8.6	A	0.32	5.0	A

Notes: HCM 2000 Operations Methodology. LOS = Level of Service
V/C = Volume-to-Capacity Ratio Delay = Average Vehicle Delay (Seconds).
AWSC = All-way Stop Control TWSC = Two-way Stop Control
At TWSC intersections, worst-case approach is reported

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Year 2012 With Detour Conditions

Year 2012 with detour conditions include the closure of Mount Vernon Avenue between Kingman Street and 2nd Street, and the implementation of the detour as described above. Year 2012 detour traffic volumes were developed as described in the "Traffic Forecasts" section. A level of service analysis using HCM 2000 methodologies was conducted to evaluate year 2012 detour conditions at the study intersections. The results of the intersection level of service analysis are summarized in Table 20.

Table 20: Year 2012 With Detour Peak Hour Levels of Service

Intersection	Control	AM Peak Hour			PM Peak Hour		
		V/C	Delay	LOS	V/C	Delay	LOS
1. Foothill Boulevard and Rancho Avenue	TWSC	-	19.5	C	-	21.5	C
2. 5th Street and Medical Center Drive	Signal	0.31	8.1	A	0.38	9.4	A
3. 5th Street and Cabrera Avenue	Signal	0.24	2.1	A	0.22	2.7	A
4. 5th Street and Mount Vernon Avenue	Signal	0.74	18.9	B	0.82	23.0	C
5. 5th Street and L Street	Signal	0.44	2.5	A	0.49	4.0	A
6. 5th Street (Foothill Boulevard) and 4th Street	Signal	0.35	3.4	A	0.28	3.3	A
7. 5th Street and H Street	Signal	0.61	21.3	C	**0.99**	**75.9**	**E**
8. 4th Street (I-215 On Ramps) and H Street	Signal	0.40	3.5	A	0.53	6.8	A
9. 3rd Street and I Street	Signal	0.23	4.9	A	0.29	5.1	A
10. 3rd Street and H Street	Signal	0.54	9.8	A	0.60	9.4	A
11. 2nd Street and Mount Vernon Avenue	Closed	-	-	-	-	-	-
12. 2nd Street and K Street	AWSC	0.29	9.5	A	0.45	11.9	B
13. 2nd Street and I Street	Signal	0.38	5.7	A	0.43	6.3	A
14. 2nd Street and I-215 SB On Ramp	Signal	0.47	5.9	A	0.78	15.1	B
15. 2nd Street and I-215 NB On Ramp	Signal	0.63	19.8	B	0.71	17.2	B
16. 2nd Street and G Street	Signal	0.72	19.6	B	**1.12**	**85.2**	**F**
17. Rialto Avenue and Rancho Avenue	Signal	0.26	5.9	A	0.33	6.2	A
18. Rialto Avenue and Santa Fe Way	Signal	0.22	2.8	A	0.20	2.4	A
19. Rialto Avenue and Mount Vernon Avenue	Signal	0.77	11.7	B	0.89	22.8	C
20. Rialto Avenue and K Street	Signal	0.48	10.7	B	0.71	21.6	C
21. Rialto Avenue and I Street	Signal	0.54	7.0	A	0.52	5.5	A
22. Rialto Avenue and G Street	Signal	0.80	14.4	B	**1.52**	**97.4**	**F**

Notes: HCM 2000 Operations Methodology. LOS = Level of Service
V/C = Volume-to-Capacity Ratio Delay = Average Vehicle Delay (Seconds).
AWSC = All-way Stop Control TWSC = Two-way Stop Control
At TWSC intersections, worst-case approach is reported

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

All study intersections are projected to operate at acceptable levels of service during construction, with the exception of the following:

- 5th Street / H Street
- 2nd Street / G Street
- Rialto Avenue / G Street

Temporary Intersection Improvements

During the anticipated period of construction (mid 2012 through mid 2014), the 5th Street / H Street, 2nd Street / G Street, and Rialto Avenue / G Street intersections are projected to operate at unsatisfactory levels of service. The following temporary circulation improvements are recommended to improve operations at these locations:

Location #7. 5th Street / H Street

- Restripe the northbound approach as one exclusive left-turn lane, one shared left/through lane and a shared through/right-turn lane.
- Change the phasing on the northbound and southbound approaches to split phase.

Location #16. 2nd Street / G Street

- Restripe the northbound approach to add an additional left-turn lane by narrowing the lanes.
- Change the northbound left-turn phasing from permitted + protected to protected.
- Restripe the southbound approach as one left-turn lane, one through lane and one exclusive right-turn lane.
- Add a southbound right-turn overlap phase.

Location #22. Rialto Avenue / G Street

- Restripe the eastbound approach as one exclusive left-turn lane, one shared left/through lane and a shared through/right-turn lane.
- Change the phasing on the eastbound and westbound approaches to split phase.

The above temporary improvements should be implemented prior to closure of the existing bridge and remain in place until the new bridge is opened to traffic. They should be removed and the intersections returned to their existing configurations after the new bridge is opened to traffic.

A level of service analysis using HCM 2000 methodologies was conducted to evaluate year 2012 detour conditions with the temporary improvements at the study intersections. The results of the intersection level of service analysis are summarized in Table 21.

With the temporary improvements, all study intersections are projected to operate at satisfactory levels of service.

Table 21: Year 2012 Detour with Temporary Improvements Peak Hour Levels of Service

Intersection	Control	AM Peak Hour			PM Peak Hour		
		V/C	Delay	LOS	V/C	Delay	LOS
7. 5th Street and H Street	Signal	0.60	21.5	C	0.90	50.5	D
16. 2nd Street and G Street	Signal	0.71	19.6	B	1.00	52.9	D
22. Rialto Avenue and G Street	Signal	0.52	15.7	B	0.67	20.1	C

Notes: HCM 2000 Operations Methodology. LOS = Level of Service
V/C = Volume-to-Capacity Ratio Delay = Average Vehicle Delay (Seconds).
AWSC = All-way Stop Control TWSC = Two-way Stop Control
At TWSC intersections, worst-case approach is reported

SOURCE: Pedestrian and Vehicular Detour Analysis (Iteris, 2010).

Summary and Conclusions

The Mount Vernon Avenue Bridge has been determined to be structurally deficient, and Mount Vernon Avenue will be closed between 2nd Street and Kingman Street while the bridge is being replaced. This report presents the results of the analyses performed to evaluate potential traffic and circulation impacts caused by traffic detour during the reconstruction of the bridge.

Existing Conditions. Under existing conditions, all study intersections are operating at satisfactory levels of service (LOS C or better).

Year 2012 Without Detour Conditions. Under 2012 without detour conditions, all study intersections are projected to continue operating at satisfactory levels of service (LOS C or better).

Year 2012 With Detour Conditions. During year 2012 with detour, all study intersections are projected to operate at satisfactory levels of service, with the exception of the following:

- 5th Street / H Street (PM peak hour)
- 2nd Street / G Street (PM peak hour)
- Rialto Avenue / G Street (PM peak hour)

Year 2012 With Temporary Improvements. During year 2012 with detour conditions, with the recommended temporary circulation improvements, all study intersections are projected to operate at satisfactory levels of service (LOS D or better). The temporary improvements should be implemented prior to closure of the existing bridge and remain in place until the new bridge is opened to traffic. They should be removed and the intersections returned to their existing configurations after the new bridge is opened to traffic.

c. Locally Preferred Replacement Alternative

The access and circulation effects associated with this alternative would be essentially the same as those described above for the Retrofit/Rehabilitation Alternative except that this alternative would construct a bridge with a normal useful lifespan, and no additional disruption to community access and circulation would be necessary in the near future.

Alternative 3 also includes the closure of the Mount Vernon Avenue service road at the southwest end of the project area. The closure of the Mount Vernon Avenue service road and it's relocation to the western side of adjacent partials at the southwestern side of the project area, would not result in any physical division of the community. However, access to the four adjacent residential parcels and adjacent Self Car Wash was examined.

Mount Vernon Avenue service road is immediately east of four residential parcels and provides access to those parcels. Since the service road would be closed as part of Locally Preferred/Replacement Alternative, access to the four residential parcels would be provided on the western side of parcels. There is an existing alleyway where the new access would be

provided; therefore, this alternative would not result in any physical division of the community. Additionally, closure of the Mount Vernon Avenue service road would not result in any physical division of the community because the road does not provide a connection to any additional parts of the community besides the four residential parcels, and terminates immediately north of the northernmost residential parcel at the BNSF rail yard.

Access to the Self Car Wash currently exists via three separate driveways off of (1) Mount Vernon Avenue service road, (2) West 2nd Street, and (3) the alleyway to the west of the parcels along the service road. The driveway off of the Mount Vernon Avenue service road that is not accessible to vehicles traveling southbound on the Mount Vernon Avenue mainline; therefore, closure of the service road would not impact access to vehicles traveling southbound on the Mount Vernon Avenue (mainline). However, the driveway off of the Mount Vernon Avenue service road is accessible to vehicles traveling northbound on Mount Vernon Avenue which take the following steps to access the Self Car Wash (1) turn left from Mount Vernon Avenue onto West 2nd Street, and (2) turn immediately right onto the service road and (3) turn immediately left to access the Self Car Wash driveway to the immediate left. These northbound vehicles also have the option of utilizing the driveway located on West 2nd Street, approximately 10 feet away from the Mount Vernon Avenue service road driveway, which can be accessed with less effort in two steps by (1) turning left from Mount Vernon Avenue onto West 2nd Street and (2) right to access the Self Car Wash driveway on West 2nd Street to the immediate right (after bypassing the service road). Because access via the West 2nd Street driveway is the less circuitous route to the Self Car Wash, it is anticipated that drivers would have a tendency to avoid the driveway off of the service road. Therefore, closure of the driveway off of the service road is not anticipated to impact entrance to the Self Car Wash.

Traffic from the Self Car Wash currently exists via the same three separate driveways off of (1) Mount Vernon Avenue service road, (2) West 2nd Street, and (3) the alleyway to the west of the parcels along the service road. Traffic utilizing the Mount Vernon Avenue service road driveway cannot access north or southbound Mount Vernon Avenue (mainline), nor eastbound West 2nd Street. The two remaining driveways off of West 2nd Street and the alleyway, however, do not have limitations to either north/southbound Mount Vernon Avenue (mainline) or east/westbound West 2nd Street. Because traffic utilizing the Mount Vernon Avenue service road driveway from the Self Car Wash can only turn right to proceed westbound onto West 2nd Street, it is anticipated that this is the least likely exit route that vehicles would utilize; therefore, closure of the driveway off of the service road is not anticipated to impact traffic flow coming from the Self Car Wash.

5-2.3 Community Cohesion

a. No-Build Alternative

No new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be

closed. Elimination of the bridge crossing would severely disrupt the regional and local circulation system and would divide the West San Bernardino community.

b. Retrofit/Rehabilitation Alternative

Certain characteristics of the residential neighborhoods and commercial centers located near the proposed project site, including their apparent longevity, physical and spatial attributes, and demographic profile, are indicative of an established cohesive community. Most homes in this area are more than 30 years old, which suggests that some aspects of cohesiveness and neighborhood character have developed over time among long-term residents. In addition, the residential areas are relatively dense and are surrounded by commercial properties or roadways, thereby contributing to a sense of community through spatial proximity. Finally, the demographic data for the area in which the project is located show substantial proportions of minority and low-income persons. It can reasonably be assumed that many residents of this area fall within one or both of these groups. To the extent that demographic and physical characteristics have enabled a shared sense of stability to develop, some degree of community cohesion likely exists in this neighborhood.

The assessment of whether, and to what extent, the proposed project would affect the cohesiveness of the adjacent community depends largely on whether an alternative would be likely to physically divide the community. Because this alternative would remain mostly within existing rights-of-way adjacent to, but not through, the nearby residential portions of the community, no physical division would be created. The community surrounding the proposed project, therefore, would be anticipated to remain intact. During construction, the bridge will be closed to pedestrian and vehicular traffic for periods of time between mid 2012 and mid 2014; however, to prevent division of the community due to the closed access, free bus passes (provided by the City) for travel on existing Omnitrans routes will provide mobility to area residents affected by the bridge closure.

The project does not require full acquisition nor encourage growth; therefore, it would not result in redistribution of the population or an influx or loss of population. Additionally, because only one of the four residential properties adjacent to the service road is currently occupied:

- community cohesion would not be present,
- interaction among persons and/or groups within a community would not be affected,
- social values of a community would not change,
- landmarks and social gathering places shared by a community do not exist, and
- people would not be separated or set apart from others.

It is unlikely that the project would have an effect to any of these social considerations.

Although the bridge would shift to the west, and closer to these residential properties, quality of life may be improved due to a combination of the following factors:

- the closure of the service road,

- potential for the project to utilize only ½ of the approximate 25 foot width of the service road, and
- potential for property owners gain, utilize and develop the remaining ½ of the width of the service road as private property.

Shadows resulting from the project were also considered in assessing the project's effect on the quality of life for the residential occupants. Shadows from the bridge are the most prominent at points where the bridge is at its highest elevation. Near these four residential properties and adjacent to the service road, the height of the bridge substantially decreases to join existing Mount Vernon Avenue to the south. Due to the decrease in bridge elevation at this location, it is unlikely that shadows created from the westerly shift in the bridge alignment would extend beyond the existing service road's edge of pavement.

Assuming future/continued residential occupancy of properties along the service road, an alleyway in the southwest portion of the project area will also be improved. The alleyway would be upgraded to "Access Roadway" standards, providing a travelled way of 26 feet (curb-to-curb) consisting of two un-striped 13-foot wide lanes (beyond 10-foot standard lanes). The road will be located on right-of-way owned and maintained by the City of San Bernardino; therefore, the road would be open for public access and residents who live adjacent to the road would be primary users of the road. An additional two-foot easement beyond both westerly and easterly curbs will provide room for placement of future utilities, and maintenance of the roadway itself; however, this area does not provide room for new parking spaces for vehicles nor new sidewalks. Although the road will not include formal sidewalks, pedestrian use of this road would not be prohibited.

The "alleyway" would be designed to roadway standards and all existing and future structures along this existing roadway should be designed to meet roadway setback requirements. Vehicular access is currently provided from both the front (east/service road) and rear (west/alleyway) sides of the properties. Vehicular access to the properties would be formally moved from the front to the rear of the properties only; however, in the rear yards, there are two potential vehicle garages (in construction), along with one additional (currently existing) vehicle storage area. As evidenced by these vehicular storage structures located in the rear yards of the residential properties, it is apparent that the rear yard currently serves as the primary vehicular access point for these properties. Closing the service road to the front yard is therefore not anticipated to substantially affect access to the residential structure. In addition to the vehicular structures located in the rear yards, the front yards of the residential properties do not have existing driveways for which vehicles can access the vehicular structures located on the opposite side of the property. Closure of the service road and improvement of the westerly alleyway would improve access to the vehicular structures of the residential properties and it is likely that neither the façade of the homes would have to be relocated to the west side of the residential structure, nor the physical movement (or realignment) of the residential structure would be warranted. Furthermore, although the existing service road would be closed, there is a potential for the project to use only half of the width of the existing service road. The remaining width and the sidewalk would likely be maintained for pedestrian access to the properties at this location, maintaining the property owner's ability to greet visitors or guests through the front of their

properties. It is likely that vehicular access will only be provided on the west side (alleyway) of the property instead of both the east (service road) and west sides.

c. Replacement Alternative

The effects of this alternative on community cohesion would be similar to those associated with the Retrofit/Rehabilitation Alternative (see above).

5-2.4 Changes in Demographic Characteristics/Growth

a. No-Build Alternative

Because no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative, and no property acquisitions and displacements would occur, there would be no effects on the pattern and/or rate of existing and planned population and housing growth in the project area.

b. Retrofit/Rehabilitation Alternative

Because this alternative would require no property acquisitions and displacements, there would be no effects on the pattern and/or rate of existing and planned population and housing growth in the project area.

c. Replacement Alternative

As noted above in the discussion of potential land use impacts, this alternative would require only four partial acquisitions from residential properties, with no displacement of any residents. Therefore, since the total number of housing units in the study area would not be affected by this alternative, no change in the demographic characteristics of the area could be reasonably expected to occur as a result of this alternative. The pattern and rate of population and housing growth would be expected to remain consistent with that which is contemplated in existing plans for the area. Furthermore, no new or expanded infrastructure, housing, or other similar permanent physical changes to the environment would be necessary as an indirect consequence of this alternative.

5-2.5 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, signed on February 11, 1994, directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse human health or environmental effects of federal projects and programs on minority and low-income populations to the greatest extent practicable and permitted by law. The term “minority” includes persons who identify themselves as Black/African-American, Asian, Native

Hawaiian/Pacific Islander, Native American/Native Alaskan, or of Hispanic/Latino origin. The term "low-income" includes persons whose household income is at or below the HHS poverty guidelines. A different threshold (e.g., U.S. Census Bureau poverty threshold) may be utilized as long as it is not selectively implemented and is inclusive of all persons at or below the HHS poverty guidelines. (*Note: The 1999 poverty threshold used for the 2000 U.S. data, as defined by the U.S. Census Bureau, was $8,501 for an individual and $17,029 for a family of four. For year 2006 and 2009, the poverty threshold was defined at a household income of $20,614 and $22,050, for a family of four, respectively.)*

The HHS poverty guidelines have not been used for this environmental justice evaluation because those guidelines are a simplified version of the poverty threshold data issued by the U.S. Census Bureau and are intended to be used only for administrative purposes (e.g., determining financial eligibility for certain federal programs). The HHS poverty statistics web site (http://aspe.hhs.gov/poverty/faq.shtml) indicates that the proper and preferred source of statistical data for calculating numbers of persons in poverty is the U.S. Census Bureau poverty threshold data.

The discussion of environmental justice that follows has been prepared in accordance with the applicable guidance for addressing environmental justice, including: U.S. DOT Order 5610.2 (April 15, 1997); FHWA Order 6640.23 (December 2, 1998); the FHWA Western Resource Center Interim Guidance (March 2, 1999); the FHWA, California Division, *Environmental Justice Environmental Documents Checklist*, and the Caltrans *Desk Guide – Environmental Justice in Transportation Planning and Investments* (January 2003). Consistent with this guidance, the environmental justice analysis describes (1) the existing study area population and the presence of minority and low-income population groups in the study area; (2) potential adverse effects and measures to avoid or minimize those effects for all study area population groups, including minority and low-income population groups; (3) potential disproportionately high and adverse effects on minority and low-income population groups; and (4) community outreach and public involvement efforts.

a. Study Area Population Characteristics

As noted above, the population of the project study area is characterized by substantial proportions of both minority and low-income persons (i.e., 91.5 percent minority, 31.1 percent below federal poverty threshold, and per capita incomes 40 to 50 percent lower than in the surrounding city and county). Other indicators of a disadvantaged community also appear in the data (e.g., more renter-occupied housing and greater housing density as measured by persons per household). In addition, given the relatively large proportions of minority and low-income persons reported in the demographic data for all three census tracts in the project study area, these populations are in readily identifiable groups rather than dispersed in pockets throughout the greater area. In short, the community encompassing the project area clearly satisfies the criteria requiring that an environmental justice analysis be performed.

b. Adverse Effects to General Population

Technical studies have been conducted in order to determine whether the proposed project alternatives would have any adverse effects on all segments of the general population, including minority and low-income population groups. The technical studies addressing hazardous waste/materials and noise/vibration indicate that no significant adverse effects are expected as a result of the Retrofit/Rehabilitation Alternative and/or the Replacement Alternative. However, the technical studies addressing hazardous waste/materials and noise/vibration and indicate that some potential effects are expected. The technical studies addressing cultural resources indicate that an adverse effect is expected as a result of the Retrofit/Rehabilitation Alternative and/or the Replacement Alternative. The impacts identified in these technical reports and the measures to avoid or reduce them can be summarized as follows:

Noise and Vibration

- Construction of either the Retrofit/Rehabilitation Alternative or the Replacement Alternative would generate short-term noise at nearby sensitive receptors from the use of pile drivers. Minimization measures would be available (i.e., use of non-impact pile drivers and/or temporary sound barriers) to avoid or reduce this temporary construction noise. This effect is not considered a significant adverse effect.

Hazardous Materials

- Soil and groundwater in various portions of the BNSF railroad facility surrounding the project site have been identified as contaminated and have been the subject of remediation efforts. Although most affected areas are outside the immediate project area, standard practices could be employed to ensure that any materials that might be encountered during project construction would be handled and disposed without any residual effect from the proposed project. Due to these minimization measures, this effect is not considered a significant adverse effect.

- The existing bridge contains lead-based paint and may also have asbestos-containing materials. Treatment and disposal measures have been identified that would avoid any effects from exposure of these materials during construction of the proposed project. Due to these minimization measures, this effect is not considered a significant adverse effect.

Cultural Resources

- The two build alternatives would either substantially modify (Retrofit/Rehabilitation Alternative) or demolish (Replacement Alternative) the existing Mount Vernon Avenue Bridge, which has been determined to be eligible for listing on the National Register of Historic Places. The loss of this resource this would be considered an adverse effect that could not be fully mitigated.

c. Disproportionately High and Adverse Effects to Minority and Low-Income Populations

Taking into consideration the minimization measures that have been recommended in the technical studies, the impact avoidance and minimization efforts that have occurred during the project planning and development process, and the potential benefits that would accrue to the community, environmental justice considerations require an assessment of whether the effects of the project on minority and low-income groups could be considered disproportionately high and adverse.

Efficacy of Minimization Efforts – Unavoidable Adverse Effects

Of the effects identified thus far in the technical studies, only one (i.e., substantial modification or demolition of the historic bridge) could not be satisfactorily mitigated. All other effects could be avoided or substantially minimized.

Other Measures to Minimize Adverse Effects

As part of the project planning and development process that has occurred over a period of almost 10 years, efforts have been taken to avoid or minimize impacts to the surrounding community that could result from a bridge reconstruction project. Most notably, it was the likelihood of potentially severe community impacts (i.e., substantial property acquisitions and displacements) that led to the withdrawal of several alternative alignments from further consideration.

Project Benefits

Implementation of the proposed project unquestionably would have offsetting benefits that would accrue to the community. Residents, businesses, and visitors would be afforded a safer and more reliable bridge. A critical link in the local and regional circulation system would be restored and would potentially assist in stimulating social and economic redevelopment projects proposed for the community.

d. Potential Disproportionately High and Adverse Effects

The determination of whether or not the effects of the proposed project are disproportionately high and adverse depends on whether (1) the effects of the project are predominately borne by a minority or low-income population or (2) the effects of the project are appreciably more severe or greater in magnitude to minority or low-income populations compared to the effects on non-minority or non-low-income populations (see FHWA *Western Resource Center Interim Guidance – Addressing Environmental Justice in the EA/EIS* [1999]).

Although the effects of the project would occur within an area having a population that is both minority and low-income, these effects cannot reasonably be considered disproportionately high and adverse under the circumstances. All three census tracts in the project study area are composed of substantial proportions of minority and low-income populations. The proportion of

these groups, however, is not determinative of whether there is a disproportionately high and adverse effect. Instead, it is more appropriate to conclude that, even though these groups could potentially bear a large part of the burden associated with the proposed project, primarily due to their proximity to short-term construction activities, the community in general would be similarly affected. The bridge is an important part of both the local and regional circulation system. Consequently, local motorists and pedestrians from the immediate project area, as well as those traveling to and from the project area from elsewhere, would all be inconvenienced by traffic delays and other disruptions during the project construction period.

The potential effects resulting from the proposed project would not be appreciably more severe or greater in magnitude on minority or low-income populations than they would be on the population as a whole. As noted above, all but one of the potential effects identified in the technical studies could be satisfactorily avoided or minimized through the implementation of minimization measures. Because there has been no evidence to suggest that the efficacy of these measures would differ with respect to different population groups, the net result would be the same for all population groups for these resource areas. The adverse effect that has been identified as unavoidable even after implementation of minimization measures would also not be appreciably more severe or greater in magnitude on minority or low-income populations.

As is detailed more fully below, the City has instituted public involvement and community outreach efforts to ensure that issues of concern or controversy to minority and low-income populations are identified and addressed where practicable as part of the project planning and development process and the environmental process.

e. Community Outreach and Public Involvement

Efforts would continue to be made to ensure meaningful opportunities for public participation during the project planning and development process. This may include, but not necessarily be limited to, additional community meetings, informational mailings, a project web site, and news releases to local media. The community outreach and public involvement programs for the project would seek to actively and effectively engage the affected community and would include mechanisms to reduce cultural, language, and economic barriers to participation.

The proposed project should also comply with applicable federal requirements promulgated in accordance with Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency (August 11, 2000), which requires that federal programs and activities be accessible to persons with limited English language proficiency.

The proposed project would be developed in accordance with Title VI of the Civil Rights Act of 1964, which provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. In addition, the project would be developed in conformance with related statutes and regulations mandating that no person in the State of California shall, on grounds of race, color, sex, age, national origin, or disabling condition, be excluded from participation in, be denied the benefits of, or be

otherwise subjected to discrimination under any program or activity administered by or on the behalf of the California State Department of Transportation.

f. Environmental Justice Determination

The environmental justice determination considers the following questions:

Does the project area contain higher than average concentrations of traditionally under-served groups when compared to the area surrounding the project area or the city or county as a whole?

For purposes of environmental justice, under-served groups are considered minority and low-income groups; and minority is further defined as persons belonging to one or more of the following groups: (1) Black (2) Hispanic (3) Asian American (4) American Indian and Alaskan Native or (5) Native Hawaiian or Other Pacific Islander.

Table 1 (Existing Regional and Local Population Characteristics – Race/Ethnicity) compares County and City minority groups to project area census tracks. Census tracks within the study area have relatively large proportions of minority persons since the following census track percentages exceed County and City averages of 39% Hispanic/Latino (County), 8.8% Black/African American (County), 47.5% Hispanic/Latino (City):

- Tract 43: 62.6% Hispanic/Latino, 24.5% Black/African American
- Tract 48: 89.6% Hispanic/Latino
- Tract 49: 81.4% Hispanic/Latino

Low-income is defined based on the Department of Health and Human Services poverty guidelines. Table 6 (Existing Regional and Local Population Characteristics – Income/Poverty) shows percentages of persons below the poverty threshold and compares County and City averages with project area census track averages. Census tracks within the study area have relatively large proportions of low-income persons since the per capita income of the following census tracks exceed the County and City averages of 15.8% and 27.8%, respectively.

- Tract 43: 23.5% (exceeds County percentage)
- Tract 48: 36.7% (exceeds County and City percentages)
- Tract 49: 38.0% (exceeds County and City percentages)

Median income information also helps to show low-income populations. Table 6 (Existing Regional and Local Population Characteristics – Income/Poverty) also compares County and City per capita income to project area census track per capita income. Census tracks within the study area have relatively large proportions of low-income persons since the following per capita income of the following census tracks are below the County and City averages of $16,856 and $12,926, respectively.

- Tract 43: $11,765 (below County and City averages)

- Tract 48: $7,729 (below County and City averages)
- Tract 49: $8,344 (below County and City averages)

Minority and low-income groups are not dispersed throughout the greater area; thus, the project area contains higher than average concentrations of traditionally under-served groups when compared to the area surrounding the project area or the city or county as a whole.

Does the project area have a history of other projects or actions that may have had disproportionately high or adverse impacts on the local residents?

The following projects are planned, approved or recently implemented within the immediate vicinity of the project area:

1. La Placita, New 98,000 S.F. shopping center w/ market, 2 restaurants, 2 multi-tenant retail buildings located at 1184 W. 2nd Street.
2. Residential Tract, Subdivide 12.42-acre into 95 unit PRD w/ GPA located at San Marcos Street, 150 feet north of Walnut Street
3. Residential Tract, 48 unit gated small lot subdivision on 5,000 SF lots located at 1611 West Walnut Street.
4. Beauty Salon, Proposed new use by establishing a beauty salon located at 1317 East Rialto Avenue
5. ARCO, Gas station with convenience store located at 542 North Mount Vernon Avenue
6. Candle Shop, Candle shop, new parking lot, refuse enclosure, and other improvements located at 646 North Mount Vernon Avenue.
7. Office Building, Construct a 2-story office building with podium parking located at 1159 West 5th Street.
8. Mechanic Shop, Proposed mechanic shop located at 161 North J Street
9. Storm Drain, Viaduct Blvd Storm Drain Realignment
10. Park, La Plaza Park Fencing and Lighting
11. Sewer. 3rd Street Sewer Replacement from “G” to “H” Street
12. Sewer, G Street Sewer Replacement from 9th to 4th
13. Sewer, Rialto Avenue Sewer Replacement from K to H
14. Signal, Traffic Signal at Viaduct Blvd and 2nd Street
15. Signal, Upgrade Traffic Signal at Rialto Ave and I Street
16. Parking Structure, Construct new Metrolink Parking Structure to the northwest and adjacent to Mount Vernon Avenue Bridge

It is possible that a portion of these projects have had impacts on local residents; however, it is anticipated that the majority of these impacts would be temporary and occur during project construction only. A history of disproportionately high or adverse impacts on the local residents is therefore unlikely.

Are the areas in which these populations are located subject to disproportionate impacts?

Although the effects of the project would occur within an area having a population that is both minority and low-income, these effects cannot reasonably be considered disproportionately high and adverse under the circumstances. All three census tracts in the project study area are composed of substantial proportions of minority and low-income populations. The proportion of these groups, however, is not determinative of whether there is a disproportionately high and adverse effect. Instead, it is more appropriate to conclude that, even though these groups could potentially bear a large part of the burden associated with the proposed project, primarily due to their proximity to short-term construction activities, the community in general would be similarly affected. The bridge is an important part of both the local and regional circulation system. Consequently, local motorists and pedestrians from the immediate project area, as well as those traveling to and from the project area from elsewhere, would all be inconvenienced by traffic delays and other disruptions during the project construction period.

This analysis takes into consideration the minimization measures that have been recommended in the technical studies, the impact avoidance and minimization efforts that have occurred during the project planning and development process, and the potential benefits that would accrue to the community.

Will the proposed project increase traffic in low-income and minority neighborhoods? If so, will the increase be greater than in non-minority or non low-income neighborhoods?

The proposed project build alternatives do not include capacity enhancement for the bridge's travelled lanes; therefore, a permanent increase in traffic would not occur. During construction of either build alternative, with the recommended temporary circulation improvements identified in the Pedestrian and Vehicular Detour Analysis (Iteris, 2010), all study intersections are projected to operate at satisfactory levels of service (LOS D or better).

Without implementation of either build alternative, temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. The elimination of the bridge crossing would severely disrupt the regional and local circulation system.

Additionally, due the Mount Vernon Avenue "Major Arterial" general plan classification, regional traffic is anticipated to utilize Mount Vernon Avenue Bridge, in addition to local traffic. Therefore, the any temporary decrease in intersection LOS would be experienced by the general population and would not be greater in minority or low-income neighborhoods.

Will minority owned businesses that serve a minority or low-income population be impacted by the project?

Neither minority nor non-minority owned businesses will be directly impacted due to required full acquisition or demolition of commercial structures. Further, the proposed project is not anticipated to result in access impacts to businesses during project construction due to the following temporary traffic improvements (Iteris, 2010):

Location #7. 5th Street / H Street

- Restripe the northbound approach as one exclusive left-turn lane, one shared left/through lane and a shared through/right-turn lane.
- Change the phasing on the northbound and southbound approaches to split phase.

Location #16. 2nd Street / G Street

- Restripe the northbound approach to add an additional left-turn lane by narrowing the lanes.
- Change the northbound left-turn phasing from permitted + protected to protected.
- Restripe the southbound approach as one left-turn lane, one through lane and one exclusive right-turn lane.
- Add a southbound right-turn overlap phase.

Location #22. Rialto Avenue / G Street

- Restripe the eastbound approach as one exclusive left-turn lane, one shared left/through lane and a shared through/right-turn lane.
- Change the phasing on the eastbound and westbound approaches to split phase.

Although a portion of the parking area and part of a vacuum facility would be acquired from a car wash at the northwest corner of Mount Vernon Avenue and West 2nd Street. It is anticipated that the car wash could remain operable even with the loss of parking area and relocation of the vacuum facility.

Will access from minority or low-income neighborhoods to various services or cultural destinations (church, parks, community center) be affected by the proposed project?

Table 7 provides a list of "Study Area Community Facilities and Services." Without implementation of either build alternative, temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. The elimination of the bridge crossing would severely disrupt access to community facilities and services.

The project build alternatives involve a construction period (from mid 2012 to mid 2014) during which the bridge will be closed. Since there will be no pedestrian access across the BNSF rail yard at the bridge location during project construction, an alternative, motorized means for pedestrians to travel across the rail yard during that time would be implemented to replace the pedestrian access that will be eliminated by the closure of the bridge during construction. Free bus passes, provided by the City, for travel on existing Omnitrans routes will provide mobility to area residents affected by the bridge closure.

If large numbers of school children would need to travel from one side of the BNSF rail lines to the other during the bridge closure, then coordination would be required with the San Bernardino City Unified School District (SBCUSD) to ensure the appropriate transportation would be

provided. The SBCUSD was contacted to obtain information concerning the attendance areas of the District's schools in the area. No SBCUSD schools have an attendance area that crosses the rail lines in the vicinity of the bridge. Therefore, no additional coordination is required.

Access from minority or low-income neighborhoods to various services or cultural destinations will not be permanently or temporarily affected by the proposed project.

Will the project require displacement of any minority or low-income residences? If so, are they disproportionate?

The project does not require displacement of any minority or low-income residences.

Will the project result in proportional change of minority or low-income household in the area that will have access to transit services reduced?

Transit services will not be reduced, either permanently or temporarily. During project construction, enhanced service will be provided through the provision of free bus passes, provided by the City, for travel on existing Omnitrans routes will provide mobility to area residents affected by the bridge closure.

Are the benefits associated with the project equitable for all segments of society?

The purpose of the proposed project is to provide a bridge that is structurally safe and meets current seismic, design, and roadway standards. All segments of society receive this project benefit equally, either through continued regional circulation, or through continued local circulation and access to community facilities/services for minority and low-income persons within the project area,

Have all groups within the project area been involved in the decision-making or project information process through an effective and thorough public participation effort?

The Public Information Meeting / Open House for the Mount Vernon Avenue Bridge Project was held on Wednesday, July 21, 2004, from 6:00 p.m. to 9:00 p.m., in the Community Room at the historic Santa Fe Depot, 1170 West 3rd Street, San Bernardino, California. The meeting location is adjacent to the existing Mount Vernon Avenue Bridge. Facilities at the meeting location satisfy the accessibility requirements of the American with Disabilities Act (ADA) for persons with disabilities. Public bus and rail transit are available to and from the meeting location, along with parking facilities for private vehicles and bicycles.

Project team members prepared a bilingual English-Spanish "Notice of a Public Meeting" and "Comment Card" for distribution to the project area community. A mailing list of public agency representatives was compiled in coordination with City staff. For the general public mailing list, 2,249 residential and commercial mailing addresses were identified in an area encompassing about a ½-mile radius around the proposed project site. A commercial direct mail organization printed, collated, posted, and mailed the meeting notices on Tuesday, July 13, 2004. City staff placed notices of the meeting in local newspapers (San Bernardino Sun and La Opinion) for

publication on July 18 and 20, 2004. In addition to the mailings and newspaper notices, City staff coordinated with Mayor Judith Valles and City Councilmember Esther Estrada to inform local community members of the meeting. Councilmember Estrada personally contacted numerous persons and businesses in the vicinity of the proposed project site.

Determination

Given the results of technical studies concluded thus far, and taking into consideration the following: (1) the similarity of impacts to minority and low-income populations as compared to the general population, (2) the generally equivalent efficacy of proposed minimization measures and project enhancements, and (3) the off-setting benefits of the transportation facility, a disproportionately high and adverse effect on minority and/or low-income population groups would not result from either the Retrofit/Rehabilitation Alternative or the Replacement Alternative.

5-3 COMMUNITY FACILITIES AND SERVICES IMPACTS

The potential community facilities and services impacts that have been evaluated are related to (1) temporary construction effects, (2) access to facilities and services, (3) acquisitions and displacements, and (4) induced demand for new or expanded facilities and services.

Impact Criteria: A proposed project alternative would result in an effect if:

- the alternative would have indirect construction effects on community facilities and services that would be substantially greater in magnitude and/or longer in duration than is typical of similar construction projects and similar communities,
- the alternative would permanently impair access to and from community services and facilities through the placement of barriers or other impediments to the local circulation pattern,
- the alternative would require the acquisition and displacement of a community facility or service that could not be satisfactorily relocated or replaced, or
- the alternative would induce a demand for new or expanded community facilities and services beyond already planned levels.

5-3.1 Temporary Construction Effects

a. No-Build Alternative

Because no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative, there would be no effects on the local community facilities and services from construction activities.

b. Retrofit/Rehabilitation Alternative

Construction activities would result in temporary, localized, site-specific disruptions to the local community facilities and services in the proposed project area, primarily related to construction-related traffic changes from trucks and equipment in the area; partial and/or complete street and lane closures, with some requiring detours; increased noise and vibration; lights and glare; and changes in air emissions. Since the project construction activities would be temporary in duration and would not be likely to have effects substantially different from the same types of nuisance-like effects associated with typical construction activities in Southern California, no effect is expected to result. Additional information is provided below regarding the effects of construction activities on access and circulation.

c. Replacement Alternative

The temporary construction effects associated with this alternative would be essentially the same as those described above for the Retrofit/Rehabilitation Alternative. Demolition of the existing bridge would add some additional time to the construction period but would not make temporary construction effects substantially more disruptive. Additional information is provided below regarding the effects of construction activities on access and circulation.

5-3.2 Access/Circulation

a. No-Build Alternative

No new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. Because the elimination of the bridge crossing would severely disrupt the regional and local circulation system, this alternative would result in an effect on access and circulation for local community facilities and services.

b. Retrofit/Rehabilitation Alternative

This alternative would result in short-term access disruptions during the construction period that would be similar to those described below for the Replacement Alternative. Since this alternative would result in a bridge that would not have a normal useful lifespan, the local community facilities and services would be subject to a second period of access and circulation disruption in the relatively near future when a new bridge would have to be constructed.

c. Replacement Alternative

Emergency Services

The Mount Vernon Avenue Bridge is a key emergency route for the San Bernardino Police Department (SBPD), the San Bernardino Fire Department (SBFD), and the private ambulance company providing service to the City of San Bernardino. San Bernardino County Sheriff's Department personnel do not use the bridge as a response route or travel route to contract cities.

According to SBPD staff, police response times and access to areas north and south of the bridge were impaired due to the closure of the bridge in 2004. With the bridge open, SBPD maintains a response time of approximately 1 minute (on average). With the bridge closed, response times for areas in the vicinity of the bridge are approximately 6 to 8 minutes (unofficial estimate). The beat system (i.e., where specific patrol officers are assigned to certain geographical areas) is affected when an incident requiring immediate backup assistance occurs (e.g., car accident, shooting, etc.). Patrol cars in other beats taking detour routes respond in 6 to 8 minutes, whereas with the bridge open they are able to respond in 1 minute on average. Different detour routes are utilized based on time of day and traffic levels. When the bridge is eventually closed again for construction, detour routes would be implemented with similar temporary effects on response times expected to result during the construction period.

American Medical Response (AMR) provides ambulance transport services to the following area hospitals which encircle the project area at the following proximities:

- 2.2 miles northwest, Community Hospital of San Bernardino
- 4.0 miles northeast, Saint Bernardine Medical Center
- 6.4 miles northeast, Kaiser Permanente
- 6.9 miles southeast, Loma Linda University Medical Center
- 6.9 miles southeast; Loma Linda University Children's Hospital; and
- 7.4 miles southwest; County of San Bernardino Arrowhead Regional Hospital.

There are no hospitals in the immediate vicinity of the bridge which require frequent access by the outside community during bridge closure. However, in order to ensure that the community in the immediate vicinity of the bridge would not experience impeded access to the outer area hospitals, coordination with emergency services personnel to design an access management plan would ensure that hospitals within the area surrounding the project site remain accessible.

The SBFD operates 11 stations in the City of San Bernardino and provides fire protection services, paramedic, and EMT services. SBFD staff has indicated that the closure of the bridge in 2004 affected emergency response times. Stations affected by the bridge closure were Station 222 (formerly the primary responder), Station 221, Station 229, and Station 230. The nearest fire station (Station 222) is located 0.72 mile north of the bridge. On average, SBFD maintains a 4- to 6-minute response time within the City. With the bridge closed, fire vehicles must use alternate

routes. The area south of the bridge is left somewhat isolated from immediate service from Station 222, thereby increasing response times by an unofficial estimate of 1 to 2 minutes. SBFD has found that an out-of-district unit located further away responds more quickly to the area than a dispatch from Station 222 taking an alternate route around the closed bridge. However, this diverts personnel and equipment away from the out-of-district responding station and its intended service area. Detours and dispatching adjustments with similar temporary effects are anticipated once the bridge is closed again for construction.

Coordination with emergency services personnel to design an access management plan is expected to ensure that the communities within the project vicinity remain accessible during construction of the proposed project. Once construction is complete, emergency services access is expected to be at least as good as at present.

Schools

San Bernardino City Unified School District (SBCUSD) staff has reported that, under normal conditions, approximately 25 SBCUSD bus routes traverse the Mount Vernon Avenue Bridge. The buses travel on these designated routes between three and five times per day, picking up and dropping off students enrolled in three of the four different year-round enrollment tracks. One of the four tracks is always on hiatus. The SBCUSD staff has stated that, with the closure of the bridge in 2004, affected buses were re-routed to North Rancho Avenue. This resulted in slightly longer travel distances and travel times. It is anticipated that this same re-routing would occur during construction of the proposed project, resulting in similar effects on travel times.

The SBCUSD staff has also confirmed that the Mount Vernon Avenue Bridge is not a designated walk route for any of its schools. The district has always regarded the bridge as unsafe and unsuitable as a walk route due to its narrow sidewalks, heavy traffic, and dilapidated condition. For this reason, bus transportation is provided from neighborhoods north and south of the bridge. Future use of the bridge as a school walk route by district students is deemed unlikely.

Project staff would consult with local school personnel in order to maintain safe access to schools in the project vicinity during construction of the proposed project. These efforts would comply with all applicable requirements of the ADA. Once construction is complete, school access is expected to be at least as good as at present.

5-3.3 Acquisitions and Displacements

a. No-Build Alternative

No community facilities or services would be acquired and displaced as a result of this alternative.

b. Retrofit/Rehabilitation Alternative

No community facilities or services would be acquired and displaced as a result of this alternative.

c. Replacement Alternative

No community facilities or services would be acquired and displaced as a result of this alternative.

5-3.4 Demand for New or Expanded Facilities and Services

a. No-Build Alternative

No new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative. Temporary shoring would be removed in accordance with an agreement between the City and BNSF, and the bridge would be closed. Elimination of the bridge crossing would severely disrupt the regional and local circulation system and would require detours for emergency service providers (see discussion above). It is reasonably conceivable that if detours could not ensure appropriate emergency response times, then additional facilities could become necessary to meet the emergency services needs on either side of the existing bridge.

b. Retrofit/Rehabilitation Alternative

Because this alternative would result in a rehabilitated bridge with the same traffic capacity as currently exists for the existing Mount Vernon Avenue Bridge, it would not directly or indirectly induce growth beyond that which is anticipated in the applicable regional and local plans. No new or expanded community facilities and services would be required.

c. Replacement Alternative

Because this alternative would replace the existing Mount Vernon Avenue Bridge with a new bridge with the same traffic capacity as currently exists, it would not directly or indirectly induce growth beyond that which is anticipated in the applicable regional and local plans. No new or expanded community facilities and services would be required.

5-4 BUSINESS, EMPLOYMENT, AND ECONOMIC IMPACTS

The potential business, employment, and economic impacts that have been evaluated are related to (1) disruption and displacement of businesses and employment and (2) loss of tax revenue.

Impact Criteria: A proposed project alternative would result in an effect if:

- the alternative would entail construction-related disruptions to businesses and employment that would be substantially greater in magnitude and/or longer in duration than is typical of similar construction projects and similar communities,
- the alternative would require the acquisition and displacement of businesses and employment that could not be satisfactorily relocated or replaced, or
- the alternative would result in a substantial loss of tax revenue.

5-4.1 Temporary Construction Effects

a. No-Build Alternative

Because no new or modified bridge improvements would be constructed on Mount Vernon Avenue between West 2nd and West 5th Streets under this alternative, there would be no effects on the local businesses and employment from construction activities.

b. Retrofit/Rehabilitation Alternative

Construction activities would result in temporary, localized, site-specific disruptions to the local businesses in the proposed project area, primarily related to construction-related traffic changes from trucks and equipment in the area; partial and/or complete street and lane closures, with some requiring detours; increased noise and vibration; lights and glare; and changes in air emissions. Since the project construction activities would be temporary in duration and would not be likely to have effects substantially different from the same types of nuisance-like effects associated with typical construction activities in Southern California, no effect is expected to result.

The effects of construction activities on business access and circulation would be similar to those discussed above for the local population and housing (Section 5.2-2) and local community facilities and services (Section 5.3-2). Implementation of a construction management plan that informs the community about project construction activities and maintains access to and from the project area during construction is expected to satisfactorily avoid or minimize potential effects on access to and from local businesses and employment.

c. Replacement Alternative

The temporary construction effects associated with this alternative would be essentially the same as those described above for the Retrofit/Rehabilitation Alternative. Demolition of the existing bridge would add some additional time to the construction period but would not make temporary construction effects substantially more disruptive.

The effects of construction activities on business access and circulation would be the same as those discussed above for the local population and housing (Section 5.2-2) and local community facilities and services (Section 5.3-2). Implementation of a construction management plan that

informs the community about project construction activities and maintains access to and from the project area during construction is expected to satisfactorily avoid or minimize potential effects on access to and from local businesses and employment.

5-4.2 Acquisitions and Displacements

a. No-Build Alternative

No businesses would be acquired and displaced as a result of this alternative.

b. Retrofit/Rehabilitation Alternative

No businesses would be acquired and displaced as a result of this alternative.

c. Replacement Alternative

This alternative would require no permanent full acquisitions of businesses. However, one partial property acquisition would be necessary. A portion of the parking area and part of a vacuum facility would be acquired from a car wash at the northwest corner of Mount Vernon Avenue and West 2nd Street. It is anticipated that the car wash could remain operable even with the loss of parking area and relocation of the vacuum facility.

Given the absence of any full acquisitions of businesses, and the very minor partial acquisition from one business, no substantial change in business and employment activity is expected in the study area. Thus, no effect would result.

In accordance with the Uniform Act, compensation for partial acquisitions would be provided to eligible recipients. The Uniform Act provides for fair and equitable treatment of persons whose property would be acquired as a result of federally funded projects. The programs and assistance provided under the Uniform Act shall be available to all eligible recipients without discrimination. For partial acquisitions, compensation would be provided to eligible recipients for the portion of the property acquired. Additional compensation may be provided for any demonstrated damage to the remainder property. If it is determined that the remainder property would have little or no value or utility (i.e., an uneconomic remnant), then the property owner would have the option of either accepting full purchase of the remnant or keeping it.

5-4.3 Tax Revenue

a. No-Build Alternative

Since no businesses would be acquired and displaced as a result of this alternative, there would be no effect on tax revenues.

b. Retrofit/Rehabilitation Alternative

Since no businesses would be acquired and displaced as a result of this alternative, there would be no effect on tax revenues.

c. Replacement Alternative

Since there would be only a minor partial acquisition of property from one business as a result of this alternative, there would be no effect on tax revenues.

6 AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

The following measures would avoid or minimize certain community impacts described in the preceding sections:

Land Use – Acquisition/Displacement:

- In accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970 as amended (42 USC Secs. 4601-4655), provide compensation to eligible recipients for partial property acquisitions.

Population and Housing – Temporary Construction Impacts:

- Develop and implement a community outreach and public involvement program to inform the community about project construction activities.
- Develop and implement a construction management program that maintains access to and from the project area community through signage, detours, flagmen, etc.

Population and Housing – Access/Circulation:

- The City of San Bernardino will make arrangements to provide bus passes to residents of the area surrounding the bridge. These passes would be valid for travel on Omnitrans buses that serve the area.

Population and Housing – Environmental Justice:

- Actively and effectively engage all segments of the affected community with mechanisms to reduce cultural, language, and economic barriers to participation.

Community Facilities and Services – Temporary Construction Impacts:

- Implement a construction management program that maintains access to and from the project area community through signage, detours, flagmen, etc.
- Coordinate with emergency services providers to ensure that alternative response routes to and from the project area community are in place during construction of the proposed project.

- Consult with local school officials to identify safe pedestrian and vehicular routes for students traveling to and from schools in the project area community during construction of the proposed project.

Businesses and Employment – Temporary Construction Impacts:

- Develop and implement a community outreach and public involvement program to inform the community about project construction activities.
- Develop and implement a construction management program that maintains access to and from the project area community through signage, detours, flagmen, etc.

APPENDIX A: LIST OF PREPARERS

Jean Lafontaine, Senior Manager, Transportation Group Senior Environmental Planner – ICF International; B.A Environmental Analysis and Design, University of California, Irvine.

Jack Ottaway, Project Manager/Senior Environmental Planner – Jones & Stokes Associates; A.B. American Studies, Stanford University. M.C.P. (Candidate) City and Regional Planning, University of California at Berkeley. J.D. (Candidate) University of California, Hastings College of the Law.

This page intentionally left blank.

APPENDIX B: PERSONS AND AGENCIES CONSULTED

Howard Bennett, battalion chief. San Bernardino Fire Department. July 2004.

Santos Rodriguez, transportation manager. San Bernardino City Unified School District. July – October 2004.

Sergeant Waldo, field supervisor and watch manager. San Bernardino Police Department. July 2004.

This page intentionally left blank.

APPENDIX C: REFERENCES

City of San Bernardino. 1989. *General Plan*.

City of San Bernardino Redevelopment Agency. 2004. *Draft Environmental Impact Report – Uptown/Central City North Redevelopment Project Area*.

Iteris. 2010. *Pedestrian and Vehicular Detour Analysis*.

LSA Associates. 2004. *Pedestrian and Vehicular Detour Analysis.*

This page intentionally left blank.