

# BASE LINE CORRIDOR FROM VMT TO BRT A VISION FOR SUSTAINABILITY



JUNE 2012





# BASE LINE CORRIDOR FROM VMT TO BRT A VISION FOR SUSTAINABILITY

## COMPASS BLUEPRINT PROGRAM

This is a project of the City of Highland with funding provided by the Southern California Association of Governments' (SCAG) Compass Blueprint Program. Compass Blueprint assists Southern California cities and other organizations in evaluating planning options and stimulating development consistent with the region's goals. Compass Blueprint tools support visioning efforts, infill analyses, economic and policy analyses, and marketing and communication programs.

The preparation of this report was financed in part through grants from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) through the U.S. Department of Transportation (DOT) in accordance with the provisions under the Metropolitan Planning Program as set forth in Section 104(f) of Title 23 of the U.S. Code. Additional assistance was provided by the State of California Business, Transportation and Housing Agency through a California Regional Blueprint Planning Grant.

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## ACKNOWLEDGEMENTS

This project was a collaborative effort between the Southern California Association of Governments, City of Highland, and the consulting team. Representatives from several organizations provided valuable insight for the development of this demonstration project. This report is the product of our shared desire to continue to make Highland a great place for residents, employers, and visitors alike.

- Highland City Council
- Highland Planning Commission
- Highland Area Chamber of Commerce
- San Bernardino Unified School District
- First United Methodist Church
- Several Base Line corridor property owners

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# INTRODUCTION





## DEMONSTRATION PROJECT

This effort is a Southern California Association of Governments (SCAG) Compass Blueprint demonstration project. SCAG is a regional organization serving 187 member cities in San Bernardino, Riverside, Orange, Los Angeles, Ventura, and Imperial counties. SCAG is responsible for initiating regional planning efforts and facilitating dialog among its member agencies to address the challenges facing the region. To further this objective, SCAG developed the Compass Blueprint Growth Vision. The Growth Vision includes four key principles:

- Mobility—Getting where we want to go
- Livability—Creating positive communities
- Prosperity—Long-term health for the region
- Sustainability—Promoting efficient use of natural resources

The Growth Vision encourages:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable communities
- Targeting growth around existing and planned transit stations
- Preserving existing open space and stable residential areas

To achieve these ends, SCAG supports planning efforts called “demonstration projects” that advance the key principles underpinning the Blueprint Growth Vision. The goal of this particular demonstration project is to encourage the revitalization of the Base Line corridor by capitalizing on the forthcoming bus rapid transit (BRT) service, stimulating new private investment, and creating a destination envisioned in Highland’s General Plan.

## PROJECT OBJECTIVE

This demonstration project seeks to identify opportunities to create a more vibrant, attractive, environmentally sustainable, and economically strong Base Line corridor that supports multi-modal transportation choices and a Town Center where the Highland community can gather and celebrate local pride.

## PROJECT APPROACH

The following approach has guided the development of this report and other final products for the Base Line Corridor VMT to BRT project.

- Provide a comprehensive set of existing conditions for greater project context
- Identify new opportunities and critical challenges based on existing conditions
- Collect and interpret input from public, stakeholders, and civic leaders
- Learn from successful and up-and-coming multi-modal communities
- Develop a series of principles, actions, and implementation strategies
- Provide direction for several types of improvements including:
  - Decrease dependence on motorized vehicles
  - Pedestrian safety and connectivity
  - Cyclist safety and connectivity
  - Public transportation ridership and accessibility
  - Economic vitality
  - Maintenance of existing structures and neighborhoods
  - High quality design and architecture
  - New public gathering spaces and open space
  - Cohesive sense of place and civic pride
- Create a visual tool to assist the City in communicating their vision for the future of Base Line



## HISTORY OF HIGHLAND

The base line for which the road is named was created shortly after California became a state in 1850. Congress then appointed a board of land commissioners to distinguish public lands from private lands granted by Mexico. The commissioners appointed individuals to mark the land for a rectangular coordinate system based on north–south median lines and east–west base lines. The intersection of the meridian and the base lines was the point from which townships were then measured.

In 1852 Colonel Henry Washington and his crew established a meridian and baseline intersection at the summit of Mount San Bernardino. This is the point from which southern California was surveyed. Present day Base Line follows the base line established in 1852. Base Line is a piece of living history dating back to the foundation of the State of California. More than 150 years later, Base Line is the focus of this SCAG demonstration project.

The original townsite for Highland was founded in 1891. Soon after, the community became an important supplier for the citrus industry. In 1942 Norton Air Force Base opened in San Bernardino County, immediately south of Highland. The activities at Norton Air Force Base created greater demand for new businesses and housing in the unincorporated community of Highland.

In 1987, Highland incorporated with a population of approximately 29,500. Twenty–five years later, Highland’s population has grown 83 percent to 54,000, predominately due to master planned communities with an emphasis on residential development. Large vacant and agricultural lands in the far east side of the City of Highland represent opportunities for the greatest amount of growth and are expected to develop as master planned communities.

However, west Highland presents a different challenge for the community. West Highland developed long before the City incorporated and has aging infrastructure, small underutilized lots, and a relatively depressed economic market. The City has long identified the Base Line corridor as a key to west side revitalization. With the planned BRT service along Base Line, civic leaders see an opportunity to leverage enhanced transit to stimulate the long-desired revitalization consistent with the community’s vision.

## REGIONAL CONTEXT

Today, the Base Line corridor is a major east–west thoroughfare connecting the cities of San Dimas, Claremont, Upland, Rancho Cucamonga, Fontana, Rialto, and San Bernardino and pockets of unincorporated San Bernardino County to the City of Highland. The Base Line corridor is a frequently traveled route for residents and the workforce. It serves as a local and regionally significant truck route as well as an alternative to State Route 210 (SR-210). Base Line has emerged as an important local and regional route for transit service. Figure 1 on the following page shows the City of Highland and Base Line in the context of the larger region.

## PROJECT BOUNDARIES

Base Line bisects the City of Highland and is a primary connection between the older west side and the newer east side of the community. The primary focus of the study is Base Line and the parcels along a two-mile stretch between Victoria Avenue and Boulder Avenue. However, the neighborhoods north and south of Base Line, adjacent to the corridor, are also important parts of the project context.

For the purposes of this exploratory project, the term “Base Line corridor” only refers to Base Line and the parcels along it. The term “Study Area” refers to the parcels along both sides of Victoria Avenue and Boulder Avenue and Pacific Street and 9th Street, and all of the parcels in between. The Study Area captures both the stretch of Base Line to be evaluated and its adjacent neighborhoods. The broader project context includes most of the west side of Highland and approximately 50 acres in the City of San Bernardino to the north. Figure 2 provides an aerial view of the Base Line corridor and Study Area.

CITY OF HIGHLAND  
Base Line



FIGURE 1. REGIONAL CONTEXT

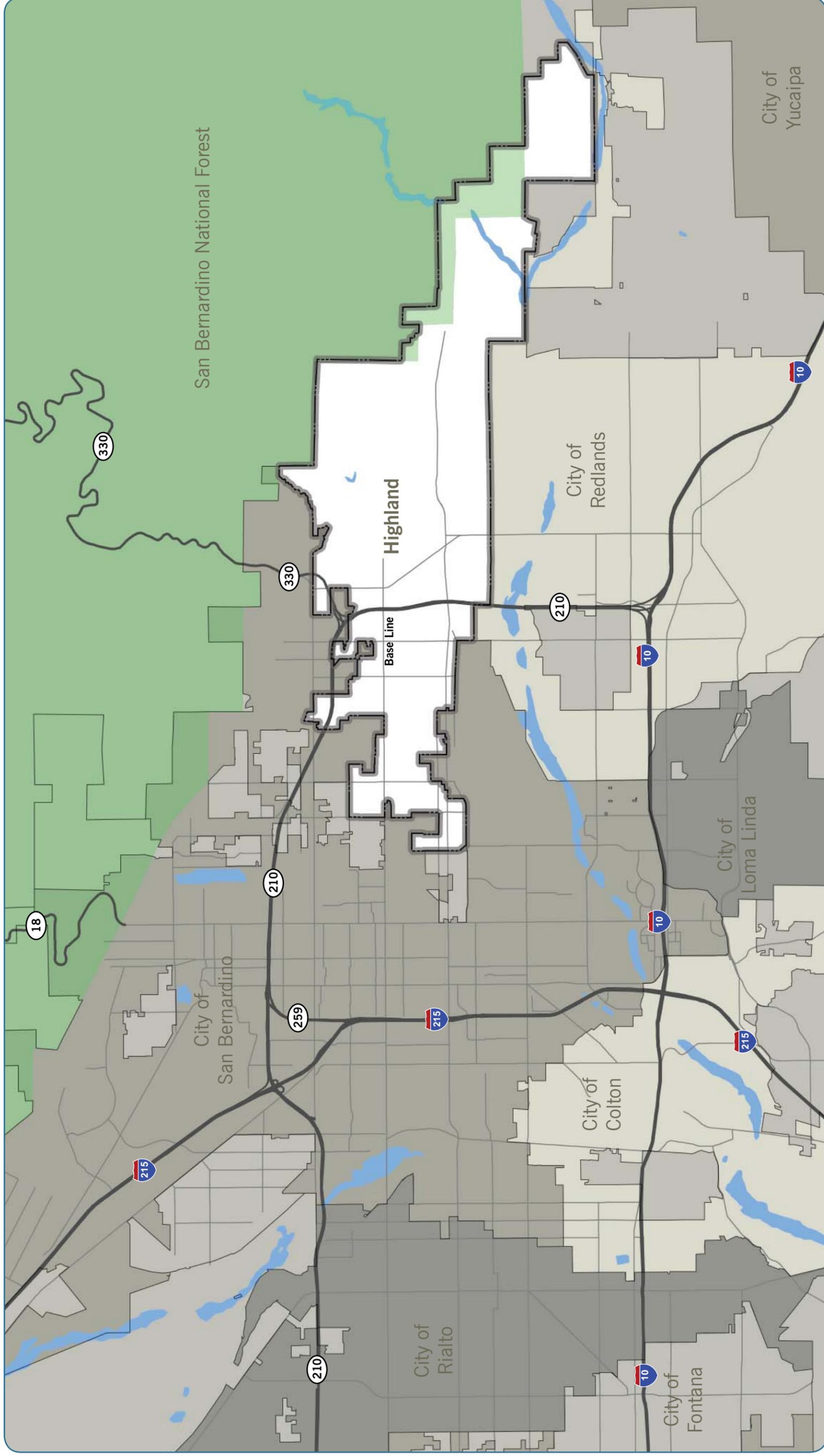
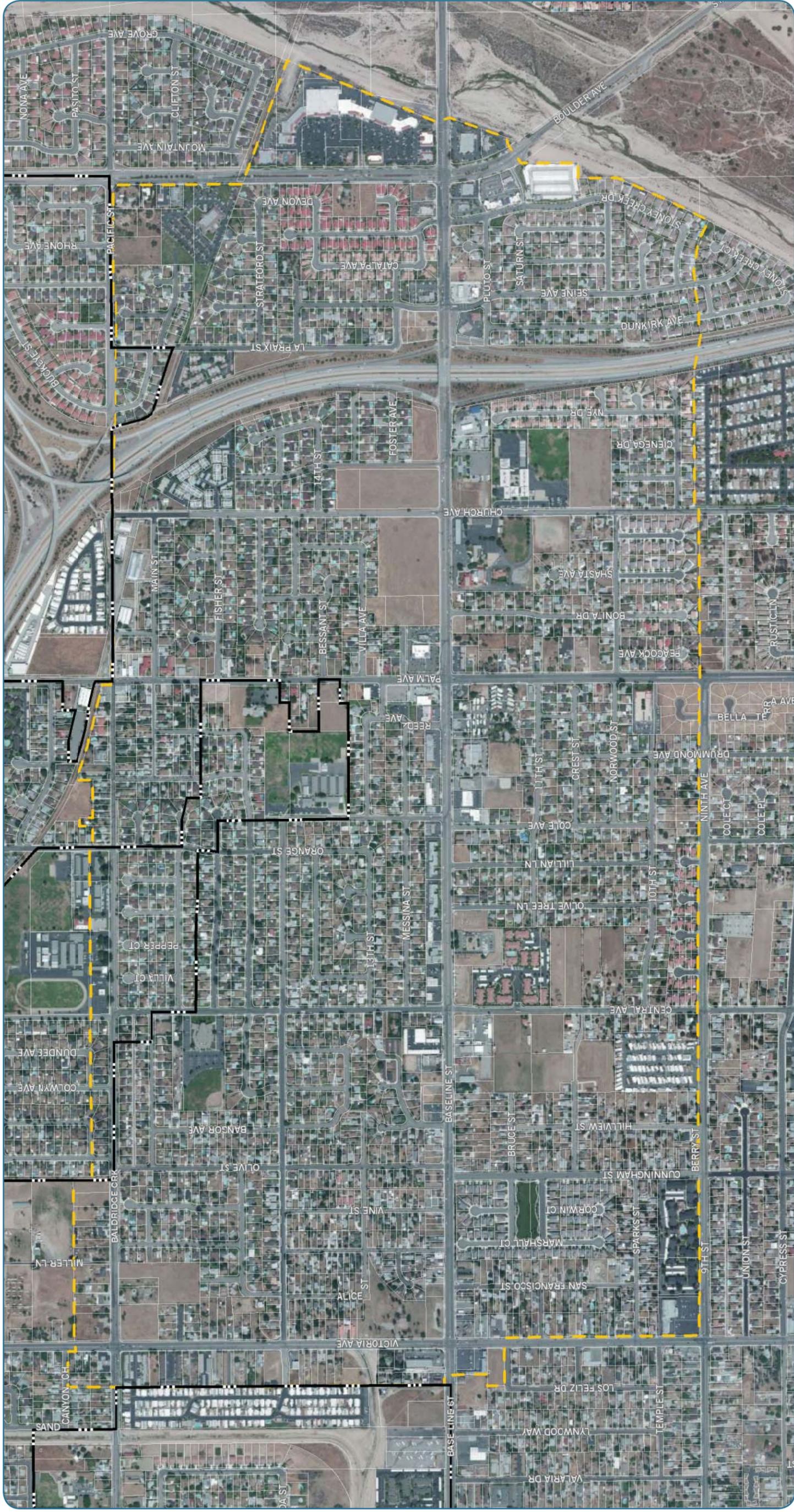




FIGURE 2. STUDY AREA AERIAL





**EXISTING  
CONDITIONS**

**2**



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### EXISTING CONDITIONS

A comprehensive understanding of the Base Line corridor is essential to creating plans and strategies that will lead to meaningful and sustainable improvements that further Highland's vision. This chapter contains a description of existing conditions along the Base Line corridor. The analysis is presented in the following categories:

- Development Pattern
- Community Structure
- Development Opportunities
- Regulatory Setting
- Mobility and Circulation
- Public and Social Infrastructure
- Economics and the Market

#### DEVELOPMENT PATTERN

The Base Line corridor is a dynamic place with a mixture of uses, architectural styles, and intensities. Much of the development along Base Line occurred in a piecemeal fashion on small lots and close to the maximum building potential allowed at the time. There are over 197 parcels along Base Line within the approximately two miles between Victoria and Boulder Avenues.

Over time, this pattern of small-lot and individual owners results in each lot being developed as a stand-alone use, with its own curb cuts and parking lots, and without considering potential connections to adjacent businesses or efficiencies that could be created through shared parking. When parcels develop in this manner, focus is on visual exposure and direct access to the one site only, and less on how the project fits in with adjacent structures.

#### Existing Land Uses

Most of the development along this stretch of Base Line is one- or two-story strip commercial centers that include retail, services, and office uses. Automotive services are concentrated on the west side near Victoria Avenue. Several small areas of midblock housing are located along Base Line, often in the form of two-story multifamily structures. One-story social, educational, and civic uses are concentrated on the south side of Base Line between Central and Church Avenues. As vacant and underutilized sites develop, the intensity

in select areas along Base Line would be expected to increase to some extent.

#### Building Conditions

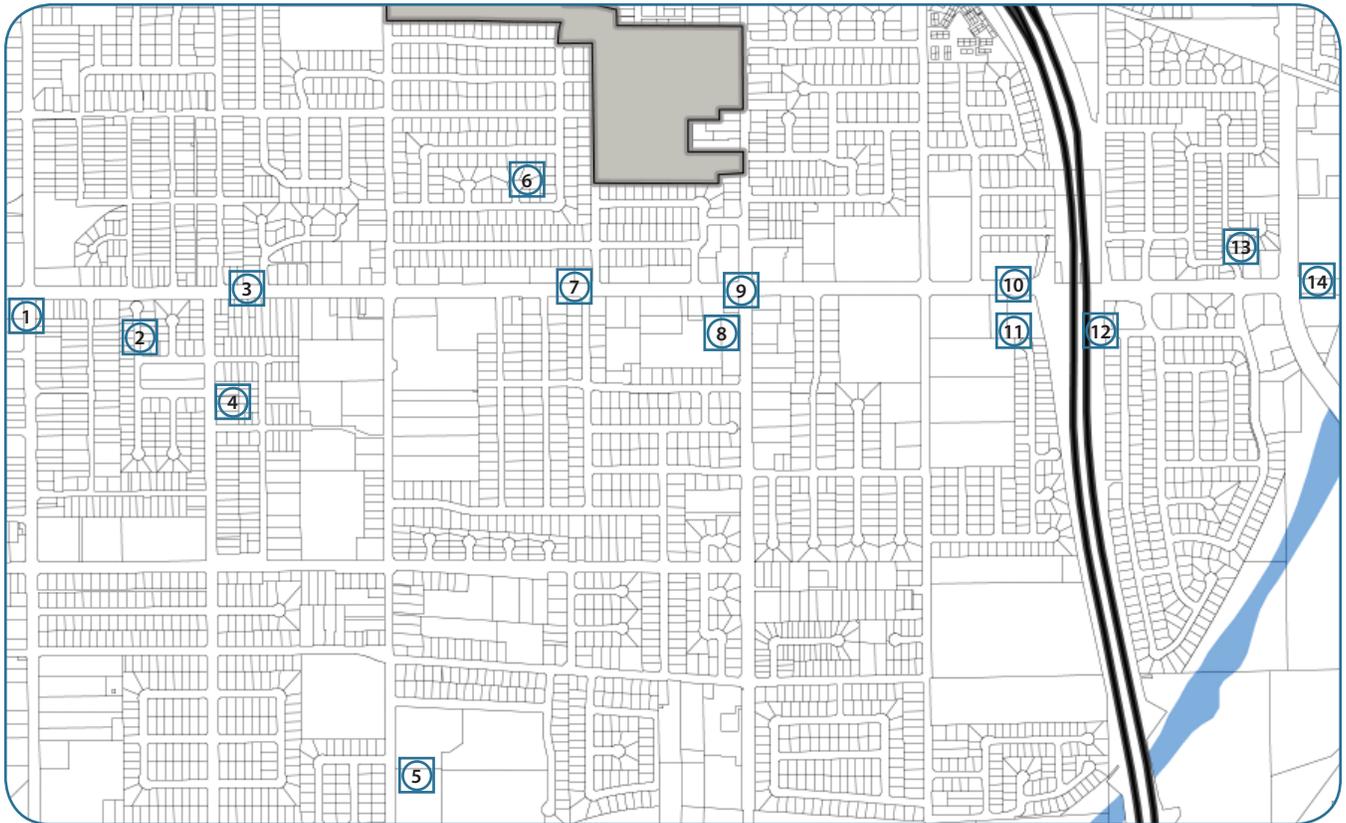
Much of the development along the Base Line corridor occurred in the 1970s and 1980s. Development on the west side of the corridor is generally older than the east side. Relatively new shopping centers and stand-alone structures like Highland Village Plaza and CVS are in excellent condition. In contrast, some of the older auto repair businesses, commercial strip centers, and homes on Base Line show signs of aging and deferred maintenance.

Buildings with the greatest need for improvement on Base Line are typically on small, individually owned parcels. These property owners may be less able to remodel because there may not be an adequate return on investment, or the property will not be able to meet current parking and other code requirements in order to get a permit. An incentives-based approach, such as assistance from the City or other organizations, may be beneficial for encouraging reinvestment.

Residential structures along the corridor range in quality from excellent to marginal. Single-family homes in older neighborhoods are in good condition; the most obvious sign of deferred maintenance is a lack of landscaping. Recently constructed subdivisions are in excellent condition and will continue to be with proper maintenance. The townhomes adjacent to the corridor are in good condition; however, several older single-family homes and multifamily structures fronting Base Line need substantial rehabilitation.

Figure 3 on the following page provides a visual overview of the existing building conditions in the Study Area.

FIGURE 3. EXISTING BUILDING CONDITIONS





## STUDY AREA STRUCTURE

Base Line corridor has several features that define its form, function, aesthetics, and overall cohesiveness. From an urban design perspective, these features are referred to as districts, connections (or paths), activity nodes, and landmarks. Achieving the General Plan vision for a mixed-use community core that is well-served by bus rapid transit requires careful attention to each of these elements.

The Base Line corridor's structure is described below. Figure 4, Study Area Structure Diagram (see following page), illustrates the general location of these features.

### DISTRICTS

The General Plan identifies three policy areas within the Base Line corridor—Victoria, Base Line, and Town Center. As discussed earlier, each area has plans for a distinct land use pattern, highly unique character, and function. Base Line connects these policy areas.

- Victoria—this district is the crossroads to San Bernardino and Highland, the San Manuel Band of Indians, and the San Bernardino International Airport. It is intended for primarily commercial uses.
- Town Center—the Town Center is envisioned as a distinct mixed residential and commercial environment that serves as a shopping, entertainment, and community gathering place.
- Civic Row—this district includes a range of civic uses east of the future Town Center. It contains the City Hall, existing fire station, proposed new fire station, new police station, and surrounding residential uses. This area is referred to as the Base Line Corridor Policy Area in the General Plan.

### PATHS AND CONNECTIONS

The three policy areas are connected by a series of paths. These features include defined or informal bicycle routes, pedestrian walkways, and other informal routes that move residents, workforce, and visitors east and west along Base Line from one district to another.

Sidewalks and paths also extend to the adjoining neighborhoods. These include north and south routes that allow residents to walk, bicycle, or drive to the Base Line corridor to purchase goods and services, attend community events, or conduct business.

## GATEWAYS

Gateways are strategic points along the Base Line corridor where one can enter the corridor or gather. Gateways are typically located where major streets cross, at freeway ramps, and other key intersections. District gateways are often seen at the entrance of especially recognizable districts or subdistricts.

The corridor's two major gateways are the intersection of Victoria/Base Line and SR-210/Base Line. The former is a major crossroads for the City of San Bernardino to the west, the City of Highland to the east, the San Manuel Indian Bingo and Casino to the north, and the San Bernardino International Airport to the south.

### ACTIVITY NODES

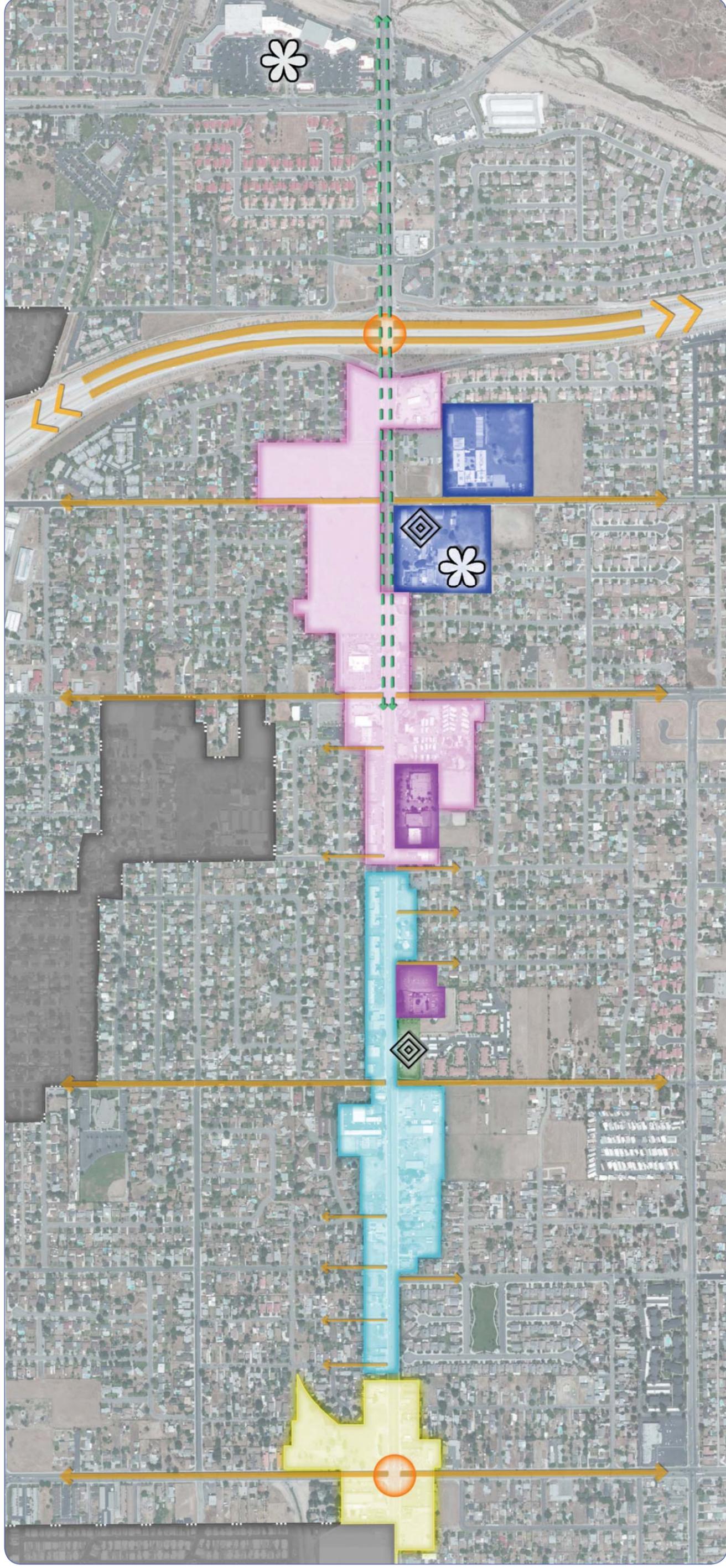
Activity nodes refer to where people tend to gather. Activity nodes are often located where there is a concentration of shopping, entertainment, or employment. However, activity nodes can also be key institutions, such as schools and churches, civic uses, and park and recreational facilities.

Although the corridor is significantly underutilized, it has several small nodes of activity. On the east side, activity nodes include St. Adelaide and the Highland Village Plaza shopping center near Boulder Avenue. In the middle of the corridor, the main activity center is city hall. There are no activity nodes on the west side of the corridor.

### LANDMARKS

Landmarks are highly recognizable buildings, structures, public squares, or even landscaped features. Landmarks function as a point of reference, but not necessarily at places where one enters a district. Landmarks are unique visual points of reference or interest. Optimally, landmarks can be powerful orienting devices that define district. The Base Line corridor generally lacks defining landmark features, although Memorial Park and St. Adelaide Catholic Church may be the most visually prominent places to date.

FIGURE 4. STUDY AREA STRUCTURE DIAGRAM





### DEVELOPMENT OPPORTUNITIES

The west side of Highland developed long before the east side, making the Study Area practically built out. Fortunately, there are several large vacant opportunity sites along the Base Line corridor that could accommodate new, high quality development at higher intensities and densities allowed in the City’s General Plan and Land Use and Development Code.

Two large clusters of major sites frame the corridor. On the western edge, around the intersection of Victoria Avenue and Base Line, are 6 acres of vacant land adjacent to underutilized properties. All or some of these properties could be developed as a west Highland gateway. On the east side, around the intersection of Church Avenue and Base Line, approximately 15 acres of vacant sites could be developed as gateway into the City from SR-210. This area is known as the Town Center.

These concentrations of vacant sites offer opportunities to establish vibrant districts that will highlight both ends of the corridor. Investment in these areas will set a new tone for west Highland and attract more patronage and investment throughout the corridor. As values increase due to the success of businesses and home sales in these areas, there will be greater financial incentives for building on more challenging sites in the middle of the corridor.

The more challenging sites include small vacant parcels of less than one acre. The small size and lack of depth of these parcels limits their development potential in part because accommodating on-site parking requirements can be difficult. Consolidation of minor sites into larger parcels would make it more feasible to develop the sites into cohesive projects.

In addition to development opportunities on vacant land, the corridor has a significant number and acreage of underutilized sites with aging buildings. With the appropriate market or financial incentives, these sites have the potential to be remodeled or completely redeveloped over time. Lot consolidation with adjacent underutilized or vacant sites prior could help maximize the potential of minor vacant sites.

Figure 5 on the following page highlights vacant sites in the Study Area and beyond.

TABLE 1. VACANT SITES ALONG BASE LINE

Location on Base Line	Acres
<b>Major Sites</b>	
Victoria Avenue (NE corner)	1.1, 4.6
Central Avenue (SE corner)	1.0
Church Avenue (NW corner)	6.9
Church Avenue (NE corner)	1.4, 4.5
Buckeye Street (NE corner)	0.2, 1.9
Seine Avenue (NE corner)	0.3, 0.7
<i>Subtotal</i>	22.6
<b>Minor Sites</b>	
San Francisco and Vine Streets (N)	0.3, 0.1, 0.1
Olive Street (NE corner)	0.2, 0.2, 0.2
Hillview Street and Central Avenue (N)	0.3
Central Avenue (SW corner)	0.4
<i>Subtotal</i>	1.8
<b>Total</b>	<b>24.4</b>

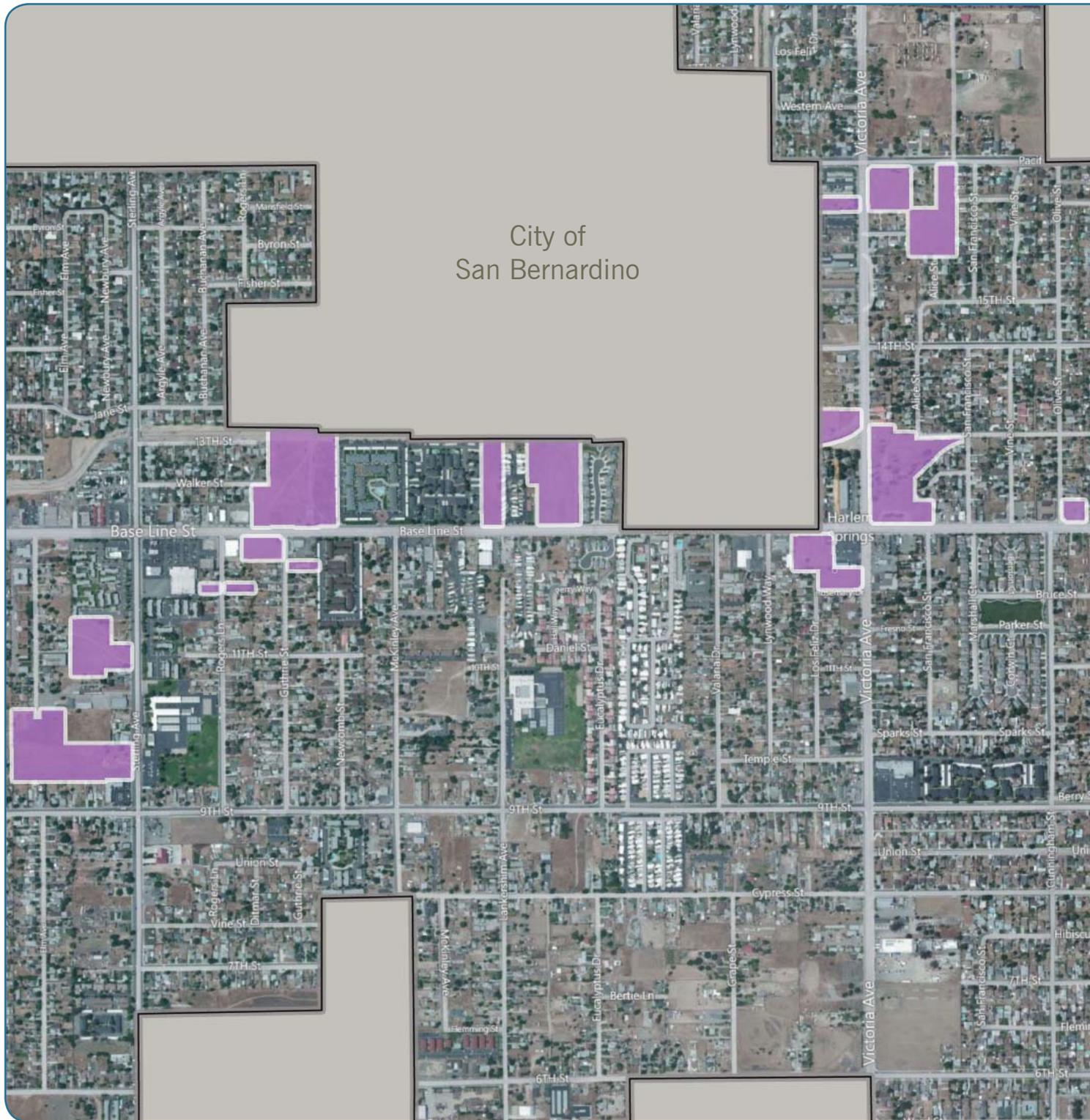


Northeast corner of Base Line and Victoria Avenue

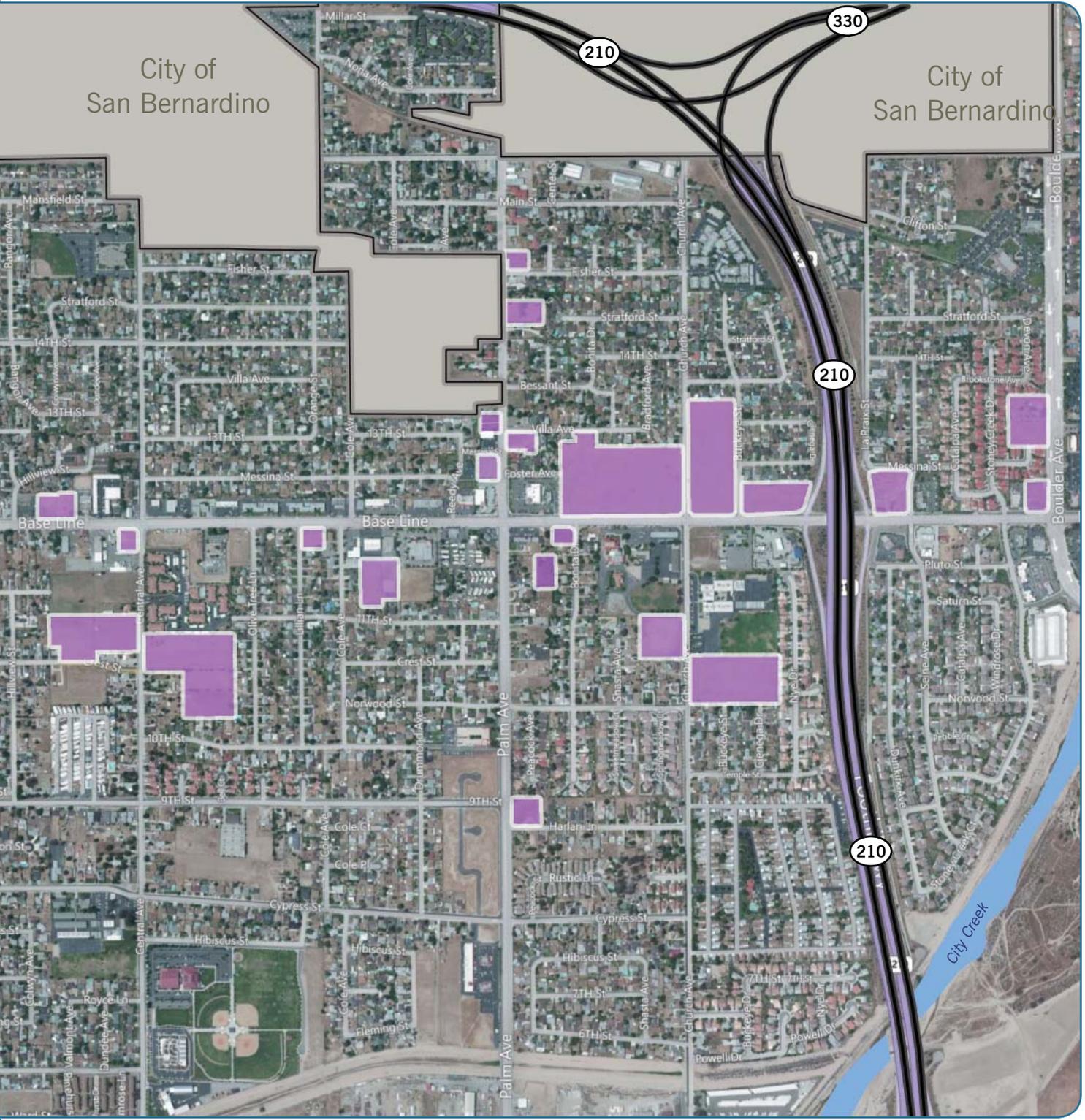


Northwest corner of Base Line and Church Avenue

FIGURE 5. VACANT SITES



 Vacant Parcels



City of  
San Bernardino

City of  
San Bernardino

## ZONING

The City's Land Use and Development Code establishes specific use regulations and development standards for each parcel of land in the City by zoning district. There are several different zoning districts within the Study Area, dominated by single-family residential. The zoning districts along Base Line are primarily commercial and mixed use. The surrounding neighborhoods support the concentration of businesses on the corridor. The current zoning districts in the Study Area are shown in Figure 6.

### ZONING DISTRICTS:

#### INSTITUTIONAL

##### CC Civic Center

Allows public, quasi public, and institutional facilities, uses, and activities to benefit the public around the existing city hall facility. There are 5.1 acres of CC land along the Base Line corridor.

##### Q/P Public/Quasi Public

Provides for public and institutional activities for local, state, and federal agencies, special districts, utilities, schools, parks, hospitals, public safety facilities, libraries, and post offices, among others. A total of 21.7 acres of Q/P land is along Base Line.

	CC	Civic Center
	Q/P	Public/Quasi Public

### ZONING DISTRICTS:

#### COMMERCIAL AND MIXED USE

##### CG General Commercial

Permits commercial uses that serve a large segment of the population with a wide variety of retail, wholesale, service, and office uses.

##### CN Neighborhood Commercial

Encourages the construction of conveniently located neighborhood centers that provide limited retail and service commercial uses in a manner that is compatible with the surrounding residential neighborhood.

##### MU Mixed Use

Provides opportunities for an integrated mix of residential, retail, service, civic, entertainment, and office opportunities in attached or detached structures, developed as a single project or multiple related projects.

##### OP Office Professional

Allows office-based working environments for general, professional, and administration offices, as well as necessary support uses.

##### VC Village Commercial

Allows uses that implement goals, objectives, and policies that assure the preservation of the character and vitality of the original Highland townsite around Pacific Street.

	CG	General Commercial
	CN	Neighborhood Commercial
	MU	Mixed Use
	OP	Office Professional
	VC	Village Commercial

### ZONING DISTRICTS:

#### RESIDENTIAL

##### R-1 Single-Family Residential

Allows single-family detached homes and mobile homes at a maximum allowable density of six units per gross acre. Within the Study Area, 456.1 acres are R-1, 5.2 of which are along Base Line.

##### R-2 Two-Family Residential

Permits small lot single-family detached, single-family attached, and multi-family residential uses and mobile homes at a maximum density of 12 units per gross acre. Within the Study Area, 40.3 acres are R-2; none are along Base Line.

##### R-2C Corridor Residential

Permits small lot single-family detached, single-family attached, and multi-family residential uses at a maximum density of nine units per gross acre. A total of 1.6 acres of R-2C land is along Base Line.

##### R-3 Multi-Family

Allows the development of multi-family and attached units with enhanced amenities at a maximum allowable density of 18 units per gross acre. Within the Study Area 1.9 acres are R-3; none are along Base Line.

##### R-4 Multi-Family

Permits the development of multi-family attached homes with enhanced amenities between 20 and 30 units per gross acre. Within the Study Area, 12.8 acres are R-4; none are along Base Line.

	R-1	Single-Family
	R-2	Two-Family
	R-2C	Corridor Residential
	R-3	Multi-Family
	R-4	Multi-Family

### ZONING DISTRICTS:

#### RESIDENTIAL OTHER

##### PD Planned Development

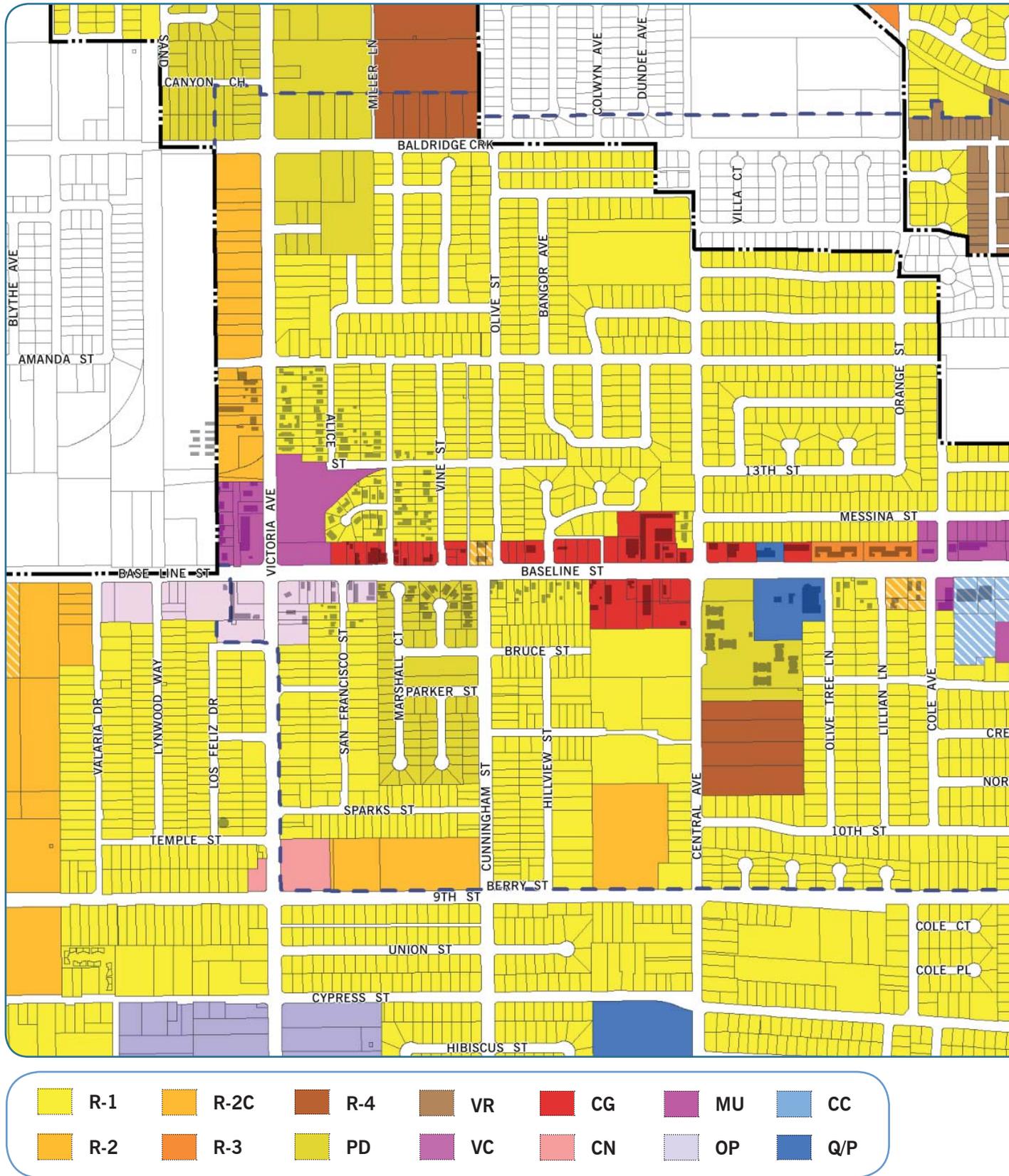
Allows a wide variety of uses. All residential land uses are considered appropriate, as are supportive uses. Development projects in the Planned Development District are processed through the use of a specific plan, planned unit development, conditional use permit, or similar device. Projects must provide a high level of community amenities and design. Within the Study Area, 61.2 acres are PD, including 1 acre on Base Line.

##### VR Village Residential

Permits development that is consistent and compatible with the existing historical environment of the original townsite. Maximum allowable density is six units per gross acre. There are 18.3 acres of VR in the far northern part of the Study Area.

	PD	Planned Development
	VR	Village Residential

FIGURE 6. ZONING DISTRICTS





## GENERAL PLAN

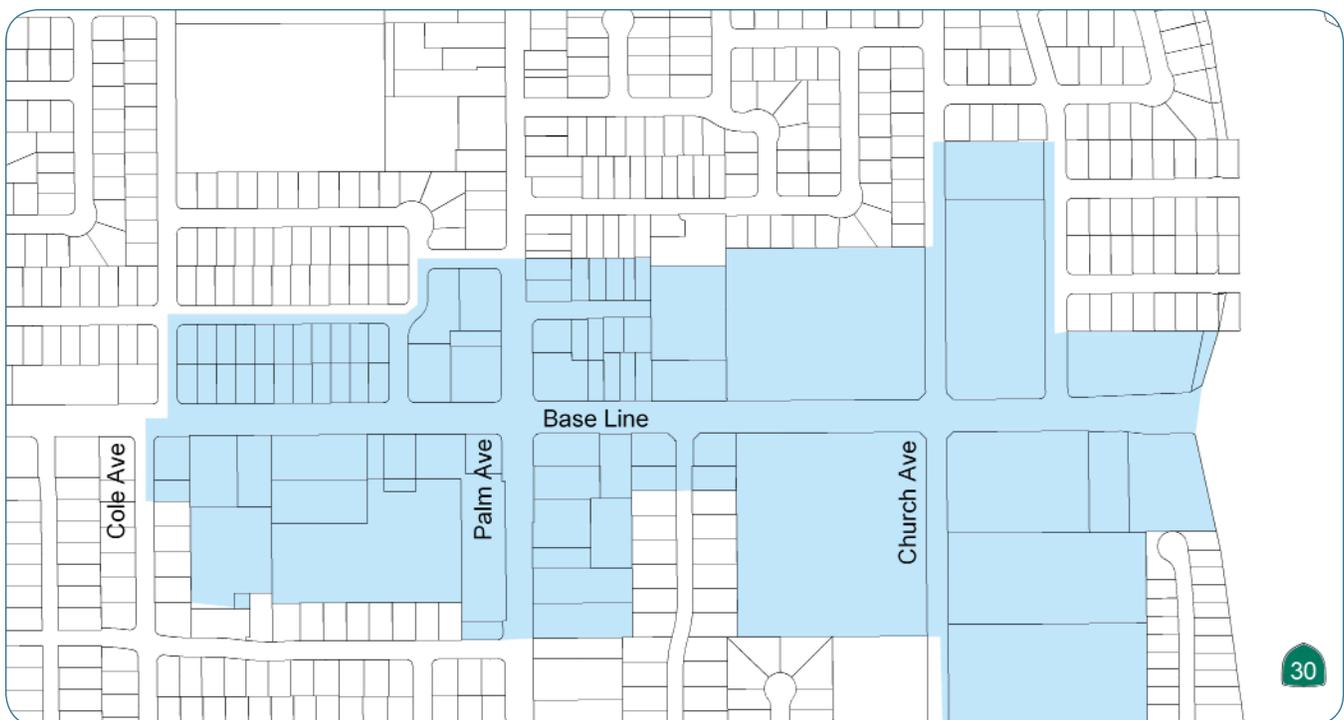
Land in the City of Highland is governed by a General Plan, which provides a comprehensive set of goals and policies to guide the development and operation of the City. The Study Area must adhere to the goals, policies, and overall land use plan in the General Plan. Some of the most relevant goals and policies found in the 2006 General Plan are listed here. The land use designations in the Study Area are shown in Figure 7.

The General Plan established several policy areas, strategic areas of potential growth with unique visions for their future development. Three of those policy areas have land within this Study Area: Town Center, Base Line Corridor, and Victoria Avenue Corridor.

The General Plan established a vision for the entire community as well as distinct visions for each policy area. The community's vision is a statement of what Highland will be like in the future.

*Highland has the benefits and amenities of a suburban community while maintaining our small town quality. Development here is designed for our families to pursue and enjoy a high quality of life. We are proud to be a part of Highland and call it our home. Our City is economically secure. We work with adjacent communities to maintain an overall balance of housing, commerce and industry in our community and the surrounding areas. We have attained equilibrium between urban and suburban settings, offering a variety of living environments for our diverse population. That even includes occasional enclaves with a rural character. Highland enjoys a distinct and separate identity and we are recognized throughout the region as a community that provides for the unique needs of its citizens. We maintain a sensitive balance between competing needs in helping our citizens prosper in the home they have chosen for themselves and their families.*

## TOWN CENTER POLICY AREA



### ELEMENT: LAND USE

#### TOWN CENTER POLICY AREA

The Town Center Policy Area encompasses 66 acres to the north and south of Base Line, immediately west of SR-30. All of the Town Center Policy Area sites are within the Study Area. This freeway-adjacent gateway is the primary entrance to the Study Area and the community as a whole. This area includes several vacant parcels, representing significant infill development opportunity.

Goal 2.10: Create a new Town Center where Highland residents, employees and visitors can live, shop, work, recreate and socialize in a vibrant, safe and pedestrian-friendly environment.

Policy 1: Ensure quality design through adherence to the Town Center design guidelines and policies in the Community Design Element.

Policy 2: Ensure that the Town Center maintains a mix of uses attractive to broad segments of Highland's population and that stimulate activity during the day and evening hours, every day of the week.

Policy 3: Provide access to multiple modes of travel, including pedestrian, bicycle, transit and automobile.

### ELEMENT: LAND USE

#### TOWN CENTER POLICY AREA

Policy 4: Work with property owners to implement the Town Center Vision.

Policy 5: Protect surrounding single-family neighborhoods from incompatible uses.

Policy 6: Provide transition areas/buffers between land uses within the Town Center and with surrounding neighborhoods.

Policy 7: Connect the Town Center physically and visually with the Historic Village District with pedestrian connections, historically compatible architecture, signage, landscaping and other streetscape elements.

Policy 8: Explore opportunities to relocate historic structures onto the Town Center site in prominent locations.

Policy 9: Require new development to provide for public plazas and other gathering places.

Policy 10: Prohibit freestanding drive-through commercial structures and convenience commercial uses, except at the major intersection of Palm Avenue and Base Line.

**ELEMENT: LAND USE**

**BASE LINE CORRIDOR POLICY AREA**

The Base Line Corridor Policy Area extends along Base Line from Del Rosa Drive on the west and Cole Avenue on the East, and begins again from SR-30 to the west to Boulder Avenue to the East. Approximately 87 acres within the Study Area are also within the Base Line Corridor Policy Area. The Town Center and Base Line Policy Areas combined include all of the Study Area. The General Plan recognizes that shallow parcels in this area are a barrier to viable commercial development; therefore the Land Use Plan redesignates many of the midblock commercial parcels to mixed use to allow residential uses.

Goal 2.1: Revitalize the Base Line Corridor by concentrating commercial uses at strategic intersections and by redeveloping aging, midblock commercial areas with new residential development.

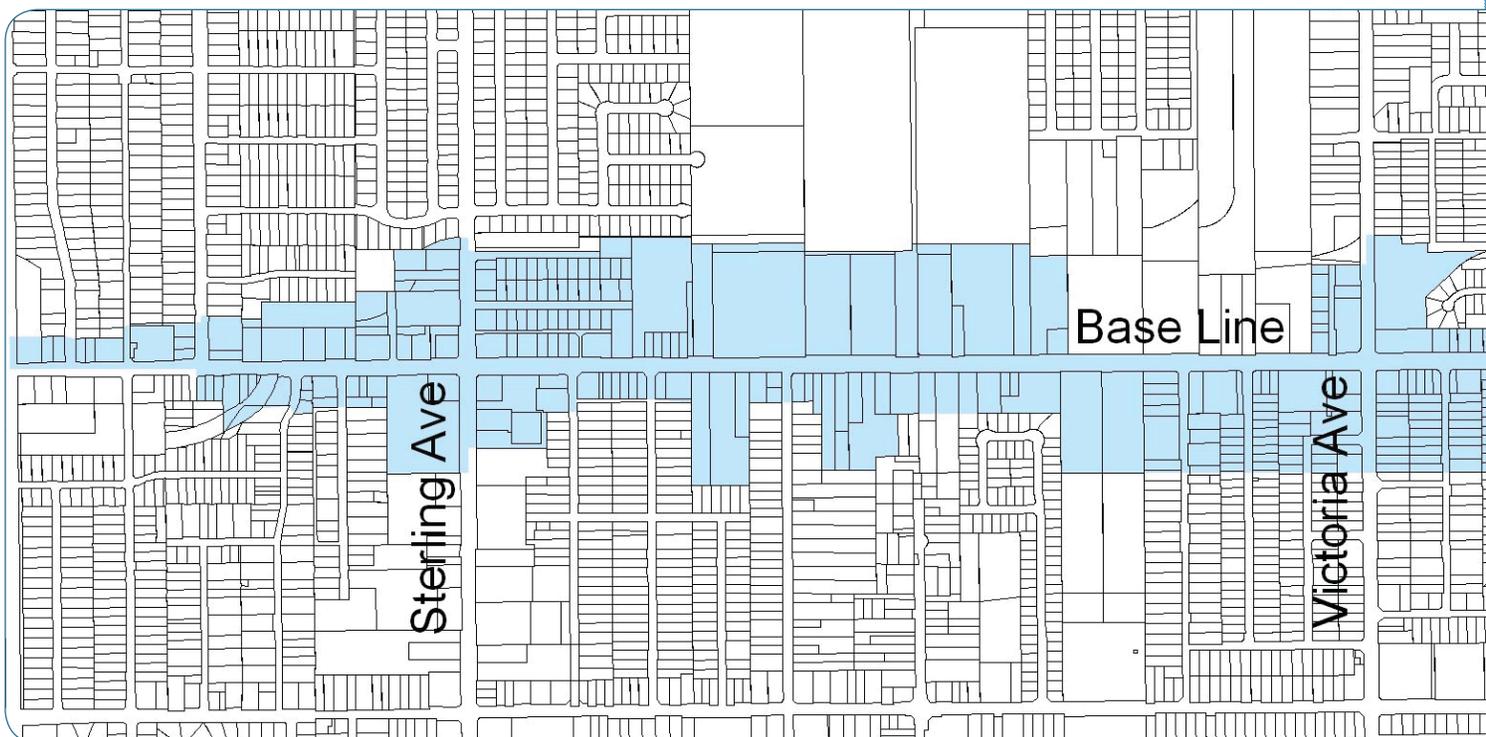
**ELEMENT: LAND USE**

**BASE LINE CORRIDOR POLICY AREA**

Policy 1: Revitalize the Base Line Corridor with infill development of vacant land and redevelopment of aging commercial areas with residential development, consistent with the Land Use Plan.

Policy 2: Specifically encourage the consolidation of individual parcels along Base Line to provide a sufficient land area for vibrant commercial uses.

Policy 3: Prohibit the development of parcels not fronting on Base Line for commercial use except as a part of an integrated commercial project that will take its access from, and focus on Base Line.



## 2 EXISTING CONDITIONS

### ELEMENT: LAND USE

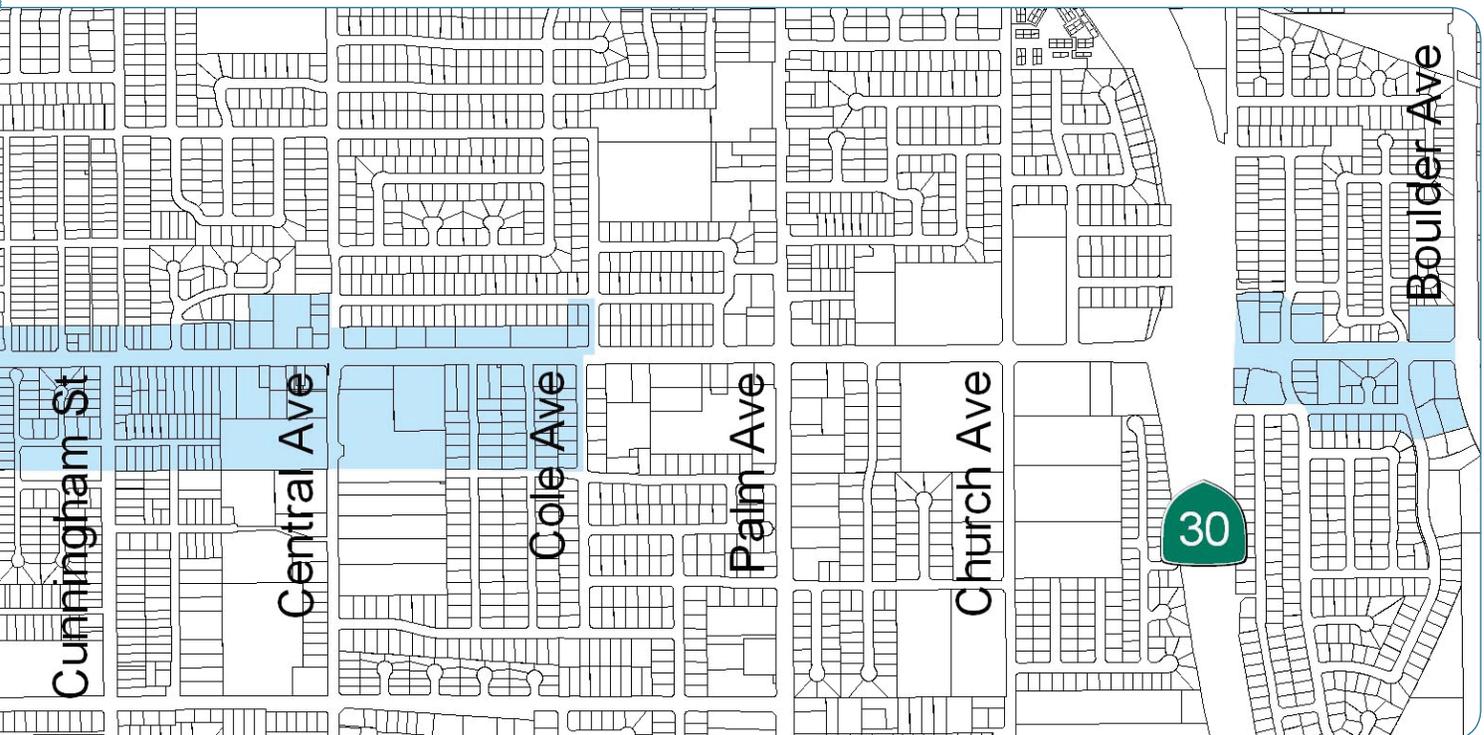
#### BASE LINE CORRIDOR POLICY AREA

Policy 4: Limit new access for commercial uses to Base Line, Del Rosa Drive, Sterling Avenue, Victoria Avenue, Central Avenue, Stoney Creek and Boulder Avenue.

Policy 5: Consolidate existing access to accommodate future medians.

Policy 6: Facilitate conversion of existing residential parcels along the rear of commercially designated areas along Base Line on a block-by-block, rather than on a parcel-by-parcel basis.

Policy 8: Ensure quality commercial and residential development through adherence to the Community Design Element policies and guidelines and Development Code standards.



## ELEMENT: LAND USE

### VICTORIA AVENUE CORRIDOR POLICY AREA

A small portion of the Victoria Avenue Corridor Policy Area overlaps with the Study Area at the intersection of Base Line and Victoria Avenue. Approximately 67 acres are within the Study Area. Victoria Avenue is the primary entryway into the San Bernardino International Airport from SR-210.

Goal 2.14: Establish Victoria Avenue Corridor as the major entryway into the San Bernardino International Airport.

Policy 1: Concentrate commercial uses along Victoria Avenue at Base Line, Pacific Street and Highland Avenue.

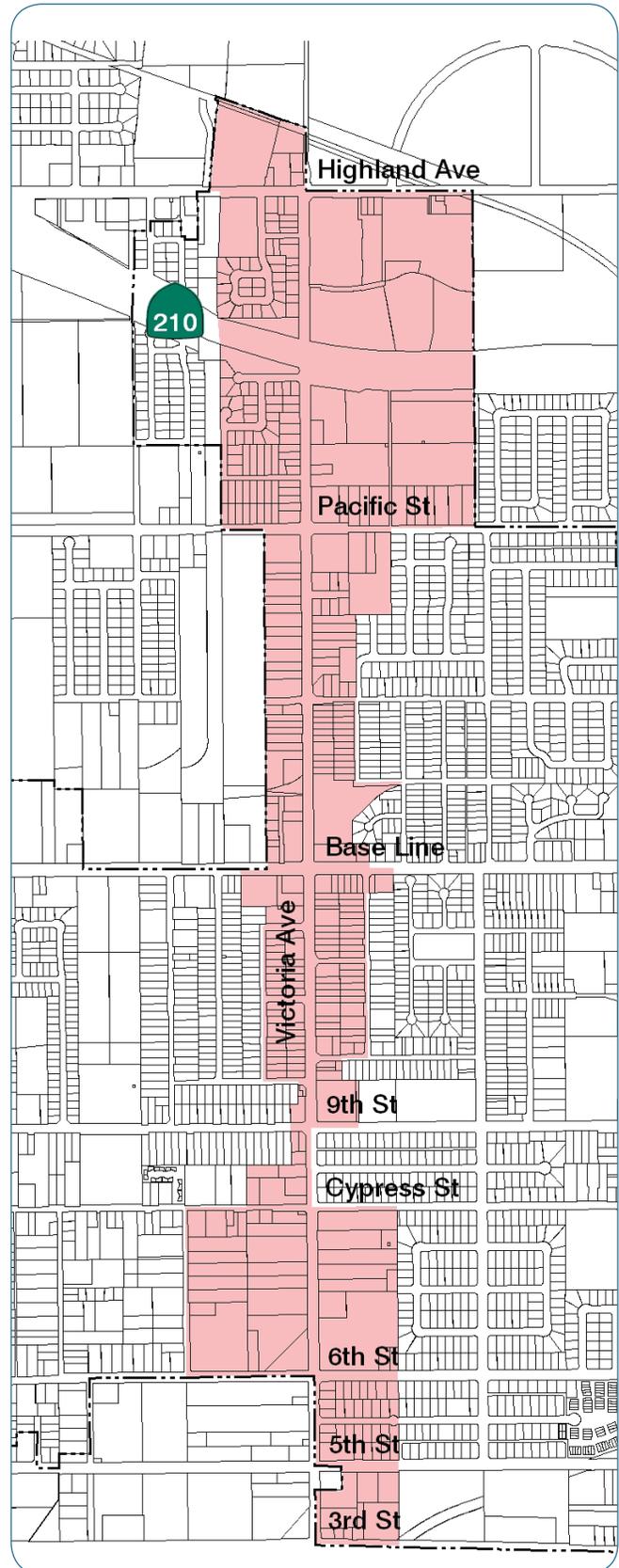
Policy 2: Allow for a mix of commercial and residential uses in appropriate areas through the Planned Development land use designation.

Policy 3: Provide residential opportunities in midblock areas between 9th Street and Pacific Avenue.

Policy 4: Encourage the consolidation of parcels to promote quality, planned development.

Policy 5: Consolidate access points along Victoria Avenue to improve traffic flows.

Policy 6: Create a major business park node at the southern terminus of Victoria Avenue to maximize employment opportunities adjacent to the airport.



## 2 EXISTING CONDITIONS

### ELEMENT: LAND USE

Goal 2.1: Create opportunities for a diverse population to interact, exchange ideas, and establish and realize common goals as a unified community.

Policy 1: Actively plan and promote the development of the Town Center, Golden Triangle and other designated mixed-use areas.

Policy 2: Ensure that the Town Center and Golden Triangle promote safe and convenient pedestrian environments for residents, employees and visitors through the implementation of Land Use and Community Design Element policies and guidelines and Development Code standards.

Policy 3: Retain and provide a hierarchy of community gathering places, including the Town Center, park lands, a community center and plaza areas within new commercial, office and industrial complexes.

Policy 4: Encourage future development to provide functional public spaces that foster social interaction.

Goal 2.2: Preserve and enhance the quality and character of Highland's existing residential neighborhoods.

Policy 1: Maintain the integrity of existing residential neighborhoods by preventing through traffic wherever possible, prohibiting encroachment by incompatible uses, and providing appropriate buffers between residential and nonresidential uses, as well as between single- and multiple-family areas.

Goal 2.4: Provide lands for retail and service commercial uses in sufficient quantity to meet the needs of Highland residents.

### ELEMENT: LAND USE

Policy 1: Maximize sales-tax-generating uses through the strategic location of commercial areas, particularly at freeway interchanges, at major intersections, and within the Town Center and Golden Triangle.

Policy 5: Specifically encourage the consolidation of individual parcels along Base Line to provide a sufficient land area for vibrant commercial uses.

### ELEMENT: ECONOMIC DEVELOPMENT

Goal 9.2: Consolidate and revitalize commercial development that provides attractive and convenient shopping, service and professional uses, and entertainment opportunities for residents.

Policy 2: Develop implementation plans for a new Highland Town Center which includes: a phased development approach; a conceptual design plan and design guidelines to ensure quality development; and a marketing and business assistance program.

Policy 4: Create physical and visual linkages between Highland's historic district and the emerging Town Center.

## ELEMENT: COMMUNITY DESIGN

Goal 10.3: Create a Town Center that is visually distinctive and vibrant and combines retail, residential, civic, cultural and recreational uses.

Policy 1: Heighten the sense of arrival to the Town Center through differentiated edge treatment including entry signs, specialized landscaping, street furniture and differentiated paving.

Policy 3: Encourage compactness. Successful town centers stimulate energy and pedestrian activity by concentrating uses.

Policy 4: Provide convenient and consolidated parking where cars are screened from view, wherever possible.

Policy 5: Provide comfortable pedestrian amenities—quality sitting areas, wide paths and share—along with specialized and engaging design features, such as interesting fountains or public art, which draw and maintain people’s attention.

Goal 10.4: Encourage mixed and multi-use development that is attractively designed, convenient, and contains the desired mix of retail, office and residential uses.

Goal 10.5 Encourage the development of attractive, vibrant and convenient commercial centers through careful application of design policies and development standards.

Goal 10.7: Improve the visual quality of Base Line with midblock corridor residential developments that are compatible with adjoining residential uses.

Goal 10.10: Guide the development of a variety of attractive, engaging and convenient public spaces, including plazas, pedestrian areas and recreational open space.

## ELEMENT: CIRCULATION

Goal 3.1: Provide a comprehensive transportation system that facilitates current and long term circulation in and through the City.

Policy 1: Require new development proposals to ensure that all midblock street segments operate at level of service “D” or better during the peak hours of traffic.

Policy 2: Ensure that all intersections operate at level of service “D” or better during the peak hours of traffic.

Policy 9: Restrict the number of access points and intersections along arterials to preserve midblock and intersection capacities and to maintain public safety.

Goal 3.4: Provide a safe circulation system.

Policy 4: Require new development to provide pedestrian paths and linkages through projects, locating linkages to avoid conflicts with motorized traffic.

Policy 8: Implement street design features such as the use of medians, bus turnouts and consolidated driveways to minimize midblock traffic congestion.

Policy 13: Support the planning of sidewalks of appropriate width to allow the provision of buffers to shield nonmotorized traffic from vehicles.

Policy 4: Add raised, landscaped medians and bulb-outs, where appropriate, to reduce exposure to cross traffic at street crossings.

Policy 15: When feasible, walkways should include pedestrian amenities such as shade trees and/or plantings, trash bins, benches and shelters.

## 2 EXISTING CONDITIONS

### ELEMENT: CIRCULATION

Goal 3.5: Promote bus service and paratransit improvements.

Policy 1: Continue to support the regional bus system to provide intracity service, intercity service to major employment centers, and connection to regional transportation transfer points.

Policy 2: Plan for the provision of areas within the City to be used as park-and-ride regional bus and car pool facilities.

Goal 3.6: Provide a circulation system that reduces conflicts between commercial trucking, private/public transportation and land use.

Policy 3: Develop berms and barriers where feasible along truck routes to minimize noise impacts to sensitive land uses.

Goal 3.7: Protect and encourage bicycle travel.

Policy 1: Develop a system of continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.

Policy 2: Encourage new development to provide reasonable and secure space for bicycle storage.

Policy 3: Provide bicycle racks at all public facilities and along major public streets.

Goal 3.8: Incorporate consideration of regional transportation implications into decisions made by the City of Highland and, conversely, incorporate consideration of the local transportation implications on the City of Highland into decisions made by other local agencies, as well as into decisions made by state and federal agencies.

### ELEMENT: CIRCULATION

Policy 1: Participate in a wide range of regional transportation planning and programs to improve the capacity, efficiency and safety of the shared circulation system.

Policy 5: Coordinate transit planning with SCAG, SANBAG, Omnitrans and adjacent communities.

Goal 3.9 Ensure parking is made available to City residents, visitors, and businesses.

Policy 2: Investigate the implementation of Variable Parking District Overlays along Base Line, Highland Historic District and other areas where appropriate, to encourage the enhancement of existing parking-deficient development.

Policy 5: Develop strategies for the control of parking demand such as improved transit service, amenities for bicyclists and rideshare vehicles.

Policy 6: Develop strategies for shared parking opportunities in mixed-use and multiple-use development.

Policy 7: Encourage the use of well-designed, aesthetically enhanced parking structures as an alternative to large, expansive surface parking lots in retail and employment centers.

## GENERAL PLAN LAND USES:

### RESIDENTIAL AND PUBLIC

#### Low Density (LD)

Housing between 2.1 and 6.0 units per acre. There are 6.5 acres of LD along Base Line. The entire Study Area includes 478 acres of this use.

#### Medium Density (MD)

Housing between 6.1 and 12.0 units per acre. There are 1.3 acres of MD along Base Line and 41.5 total in the Study Area.

#### High Density (HD)

Housing between 12.1 and 18.0 units per acre. Approximately 2 acres of HD are along Base Line.

#### High Density Special (HDS)

Multi-family housing between 20.0 and 30.0 units per acre. Approximately 13 acres of HDS are within the Study Area.

#### Planned Development (PD)

All residential land uses are appropriate, as are supportive non-residential uses. There are 37.5 acres total within the Study Area, one on Base Line.

#### Parks (P)

Allows active and passive recreational facilities. There are 2 acres of park land in the Study Area.

#### Public/Institutional (P/I)

Permits local, state, and federal public and some private institutional uses. There are 22 acres of P/I land along Base Line.

	Low Density
	Medium Density
	High Density
	High Density Special
	Planned Development
	Parks
	Public/Institutional

## GENERAL PLAN LAND USES:

### COMMERCIAL AND MIXED USE

#### General Commercial (GC)

General retail and service uses at a maximum FAR of 0.50. Includes shopping centers of 6 acres or more. There is a total of 39 acres of GC in the Study Area, 26 of which are along Base Line.

#### Historic Village District (HVD)

Residential and commercial development at a maximum of 6 units per acre and 0.50 FAR in the historic townsite area. There are 28 acres of HVD in the northern part of the Study Area.

#### Mixed-Use (MU)

Residential, retail, service, civic, entertainment, and office opportunities in a pedestrian-friendly, multi-modal environment. The maximum density and intensity is 18 units per acre and 1.0 FAR. There are 58 acres of MU along Base Line.

#### Neighborhood Commercial (NC)

General retail and service uses at a maximum FAR of 0.50. Includes shopping centers between 3 and 6 acres. There are 2.3 acres of NC in the Study Area.

#### Planned Commercial (PC)

This designation is for commercial and office development on constrained parcels. There are 17 acres of PC in the Study Area, half on Base Line.

#### Office Professional (OP)

Office-based working environments for general professional and administrative offices, as well as necessary support uses at a maximum FAR of 0.50. There are 13 acres of OP in the Study Area, of which 1.2 are along Base Line.

	General Commercial
	Historic Village District
	Mixed Use
	Neighborhood Commercial
	Planned Commercial
	Office Professional





### PUBLIC AND SOCIAL INFRASTRUCTURE

The Base Line corridor Study Area contains a rich mixture of facilities that meet civic, educational, and social needs. These uses are important resources and destinations for the community as a whole.

#### CIVIC ROW

The civic heart of the community is on Base Line between Palm and Central Avenues in the Base Line Corridor Policy Area. This area includes city hall, a new police station, an existing fire station (soon to include a new one), and Memorial Park, a new passive park for reflection. City hall is home to all non-emergency departments, the City Council, Planning Commission, and various committees. This concentration of public services make Civic Row an important destination in the City of Highland.

#### PARKS AND RECREATION

The Base Line area offers a variety of parks and recreation facilities for Highland residents. Active parks may feature sports facilities, play fields, playgrounds, exercise equipment, or other engaging facilities. Passive parks offer walking paths, seating areas, and spaces designed for individual or small group reflection and enjoyment rather than large, organized activities.

Within the Study Area, there are two passive parks. Highland recently opened Memorial Park, a one-acre park that honors emergency service personnel and members of the Armed Forces. The park features a memorial, seating, a pedestrian path, and landscaping. Cunningham Neighborhood Park is a two-acre park featuring an expansive lawn, rest areas, and a pedestrian path. The general project vicinity also includes active park and recreation facilities, including the Jerry Lewis Community Center, Highland YMCA, and three sports-oriented parks: Community Park, Belcher Park, and the San Bernardino Soccer Complex.

#### PUBLIC SCHOOLS

The Base Line Corridor Study Area includes two public schools, Thompson Elementary on Church Street, south of Base Line, and Cole Elementary on Cole Avenue, north of Base Line. Several other schools are located in the general project vicinity, including three elementary schools and two high schools. A Headstart preschool is also in the general project vicinity, serving families with young children. In addition to being centers of

learning, public schools can provide recreational space for day and evening activities, organized sports, and special events.

#### RELIGIOUS INSTITUTIONS AND SCHOOLS

Religious institutions can function as social gathering spaces that foster a greater sense of community among members. St. Adelaide Catholic Church and St. Adelaide Academy (preschool through 8th grade) are on the southwest corner of Base Line and Church Avenue. First United Methodist Church and United Methodist Nursery School are on the southeast corner of Base Line and Church Avenue. Five other religious institutions on the west side of Highland also contribute to the strong social network in the area.

#### COMMUNITY EVENTS

The Base Line corridor is home to the annual Highland Independence Day Parade. Each year Base Line is temporarily closed to vehicles to host a patriotic parade between Church Avenue and Central Avenue, and then south to the Community Park for a festive picnic. An alternative location for important community events such as this one would be ideal to prevent the temporary closure of Base Line.

#### LOCALLY IMPORTANT DESTINATIONS

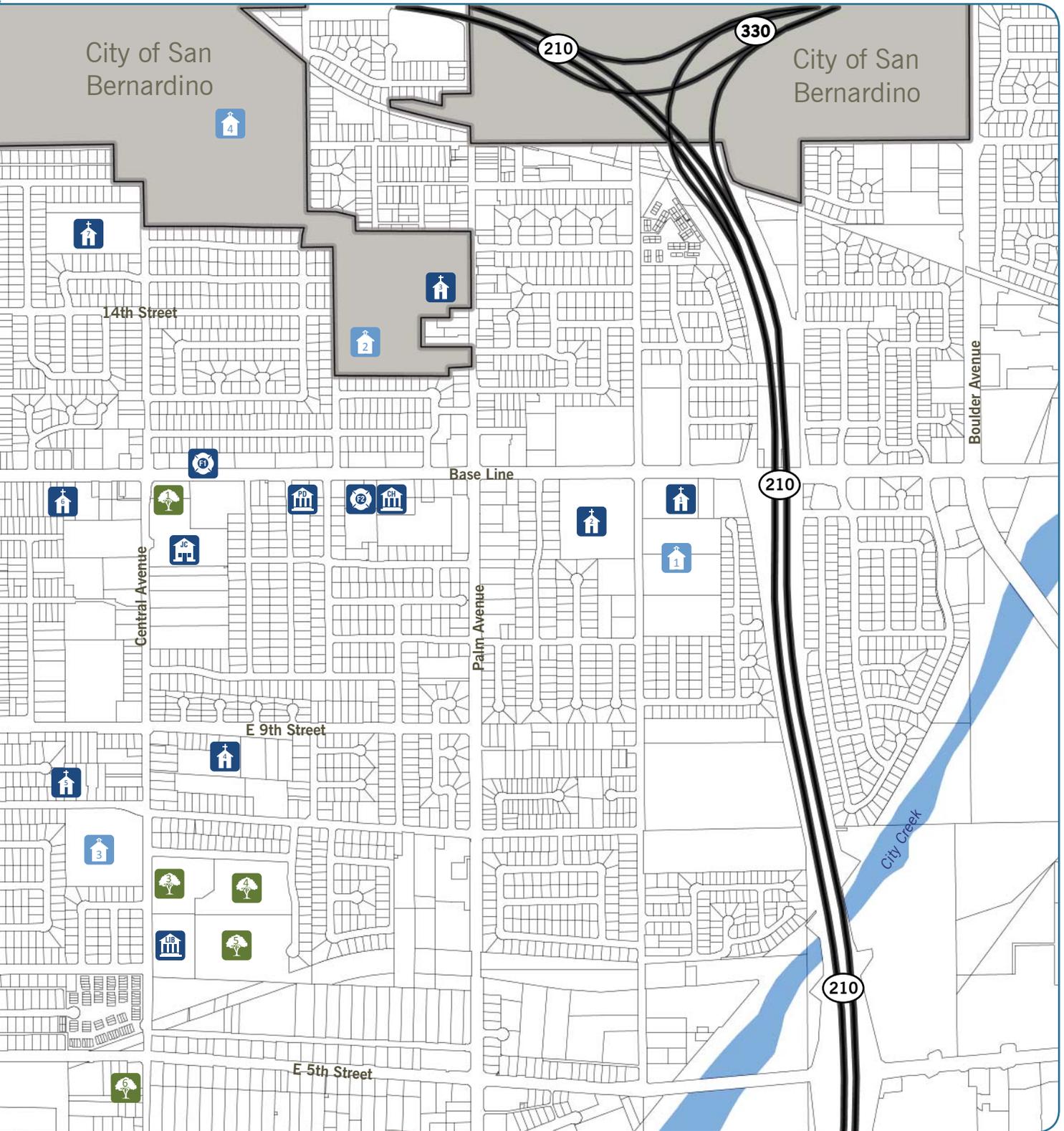
These civic, educational, and community institutions draw residents to Base Line every day. Residents, developers, and local business owners visit city hall, the fire department, and the police station for a variety of services. Local parks in the area are open every day of the week and are especially busy on the weekends and evenings. Within the Study Area, two schools draw over 1,000 students, and other schools in the vicinity draw approximately 5,000 students. Religious institutions often offer weekday and weeknight activities in addition to large services on the weekends. The two churches along Base Line attract more than 2,000 members to the corridor each weekend. The multitude of services and facilities in the Base Line Study Area makes it a destination that attracts residents from the entire community and beyond. All of these trips represent potential patrons for businesses along the corridor.

The public and social infrastructure in the Study Area is shown in Figure 8 on the following page.

FIGURE 8. PUBLIC AND SOCIAL INFRASTRUCTURE

-  City Hall
-  Highland Police Station
-  Highland Fire Station #1 (existing)
-  Highland Fire Station (future)
-  Sam Racadio Env. Learning Center and City Library
-  Jeffrey Court Senior Housing
  
-  Memorial Park
-  Cunningham Neighborhood Park
-  Jerry Lewis Community Center/Highland YMCA
-  Community Park
-  Central Little League
-  Headstart Pre-School
-  San Bernardino Soccer Complex
-  Belcher Park
  
-  Thompson Elementary School
-  Cole Elementary School
-  Cypress Elementary School
-  Highland Pacific Elementary School and Alternative Learning School
-  Banner Elementary School
-  Lankershim Elementary School
-  San Geronio Senior High School
  
-  United Methodist Church and Nursery School
-  St. Adelaide Catholic Church and School
-  Messiah Lutheran Church
-  Jehovah's Witnesses Highland
-  Church of Christ
-  Cornerstone Praise Center
-  Church of Jesus Christ of LDS







### MOBILITY

Mobility in a community is significantly impacted by the safety and efficiency of the local transportation network. This network includes multiple modes of transportation, such as walking, cycling, driving, and taking public transit.

### COMMUTE PATTERNS

Considered by many to be a bedroom community, Highland prides itself on being a great place to live. However, this housing-rich pattern of development can create a need to leave the City for employment. Major employment centers for Highland residents are in San Bernardino, Loma Linda, Fontana, and Redlands. Most Highland residents have to travel west or southwest to their place of work, contributing to congestion in peak commute hours.

Bus rapid transit can meet commuter needs for several reasons. It has shorter headways (wait times) than traditional bus service, giving commuters greater flexibility in trip planning. BRT service also has fewer stops so commuters can get to work faster than traditional busing. Carefully planned routes, stops, and schedules increase efficiency and will help attract a wide variety of riders, including those commuting to work who would typically choose to drive. Changing single-occupancy commuters into BRT commuters is a strategy to relieve road congestion and improve regional air quality and public health.

### ROAD NETWORK AND CONDITION

Base Line is a key regional east–west thoroughfare between Los Angeles County and Highland, connecting numerous cities in both Los Angeles and San Bernardino counties. Locally, Base Line connects the community to the SR-210 freeway, a major east–west connection between the cities of Los Angeles and Redlands.

Roads in west Highland are generally designed in a grid pattern. Base Line traverses the entire City of Highland and is categorized as a Major Highway in the Study Area. Several perpendicular streets cross it within the Study Area, including two roadways that are also designated Major Highways: Victoria Avenue and Palm Avenue.

In the Study Area Base Line has two lanes in each direction and turn lanes at major intersections. The roadway is maintained in good condition, but presently appears stark with limited landscaping and indistinct lighting. A landscaped median, additional street trees, and new street lighting are planned as part of the

City’s Base Line beautification efforts beginning at SR-210. As additional funding becomes available, the landscaping improvements will continue west along the corridor. Medians and thematic street lighting and street furnishings help create a sense of place, improve pedestrian safety, and indicate to drivers that they are entering a special area. Response to these treatments may include reduced speeds, more attentive driving, and a more inviting experience for potential patrons of the businesses along the corridor.

### LEVELS OF SERVICE

Traffic volumes and level of service influence the experience of motorists, cyclists, and pedestrians. The General Plan identified level of service D on roadway intersections as an acceptable level. Level of service A reflects short light cycles and minimal delays, level of service B has low delays, level of service C has longer cycles and average delays, and level of service D may have longer delays due to long cycle lengths or high volume-to-road capacity ratios.

Level of service descriptions can be deceiving because initial reactions are often that level of service A is preferable to others. However, lesser levels of service can create more pedestrian-friendly environments, giving drivers the opportunity to notice their surroundings, and increasing the visibility of and access to local businesses. All of the intersections in the Study Area performed between levels of service A and C.

### PARKING AND CURB CUTS

Approximately 1,500 spaces of off-street parking are provided on lots along Base Line, not including City facilities. Several small businesses on shallow lots lack adequate parking. Some of these businesses appear to rely upon on-street parking on residential streets.

On-street parking is not allowed on Base Line in the Study Area. Off-street surface parking in private lots is sufficient for most businesses along Base Line, especially for structures and shopping centers built after Highland incorporated. Most businesses provide parking fronting Base Line, and on larger lots the parking wraps around one or several sides of the building.

There are over 190 parcels along Base Line, and many of them have their own ingress/egress for parking, creating an abundance of curb cuts. Although necessary, curb cuts impede the pedestrian space and create areas of potential conflict with motorists.

## **PUBLIC TRANSPORTATION**

Public transportation is a viable option for Highland residents of all income levels. Increasing public transportation connectivity and efficiency attracts greater ridership and reduces the number of vehicles on the roads. Omnitrans serves Highland residents with three bus routes.

### **Transit Routes**

Routes 3 and 4 (Base Line-Highland-San Bernardino) connect Highland to San Bernardino. These routes provide round-trip service along various roads in Highland, including Highland Avenue, 2nd Street, Base Line, and Boulder Avenue. Service is provided at approximately 20-minute headways every day. Routes 3 and 4 operate from approximately 4:30 AM to 11:00 PM on weekdays and 6:00 AM to 7:00 PM on weekends.

Route 15 (Fontana-San Bernardino-Highland-Redlands) starts in Fontana and travels east to Highland and Redlands. In the Study Area, Route 15 runs on 9th Street at Victoria Avenue and eventually continues on to Base Line between Palm and Church Avenues. Service is provided at 15- and 30-minute headways on weekdays and every 30 minutes on weekends. Route 15 is operational from approximately 5:00 AM to 11:00 PM on weekdays and 6:30 AM to 7:30 PM on weekends.

The Omnitrans bus routes in the general project vicinity are shown in Figure 9.

### **Ridership and Transit Stops**

Routes 3 and 4 serves an average of 70,500 riders per month. Route 15 serves an average of 63,800 riders per month. For a typical weekday on Routes 3 and 4, the maximum number of passengers on a bus is 43 riders in the AM peak hour, 64 riders in the midday, and 45 riders in the PM peak hour. For a typical weekday on Route 15, the maximum number of passengers is 59 riders in the AM peak hour, 57 in the midday, and 47 riders in the PM peak hour.

Safety and comfort are important considerations for those waiting for a bus. The quality of bus stops in Highland varies. Some are just a bus sign and a bench while others are sheltered from the elements. A field study was conducted in September 2011 to identify existing bus transit facilities along Base Line. In some areas, the sidewalk is so narrow that the bus stop impedes the pedestrian space.

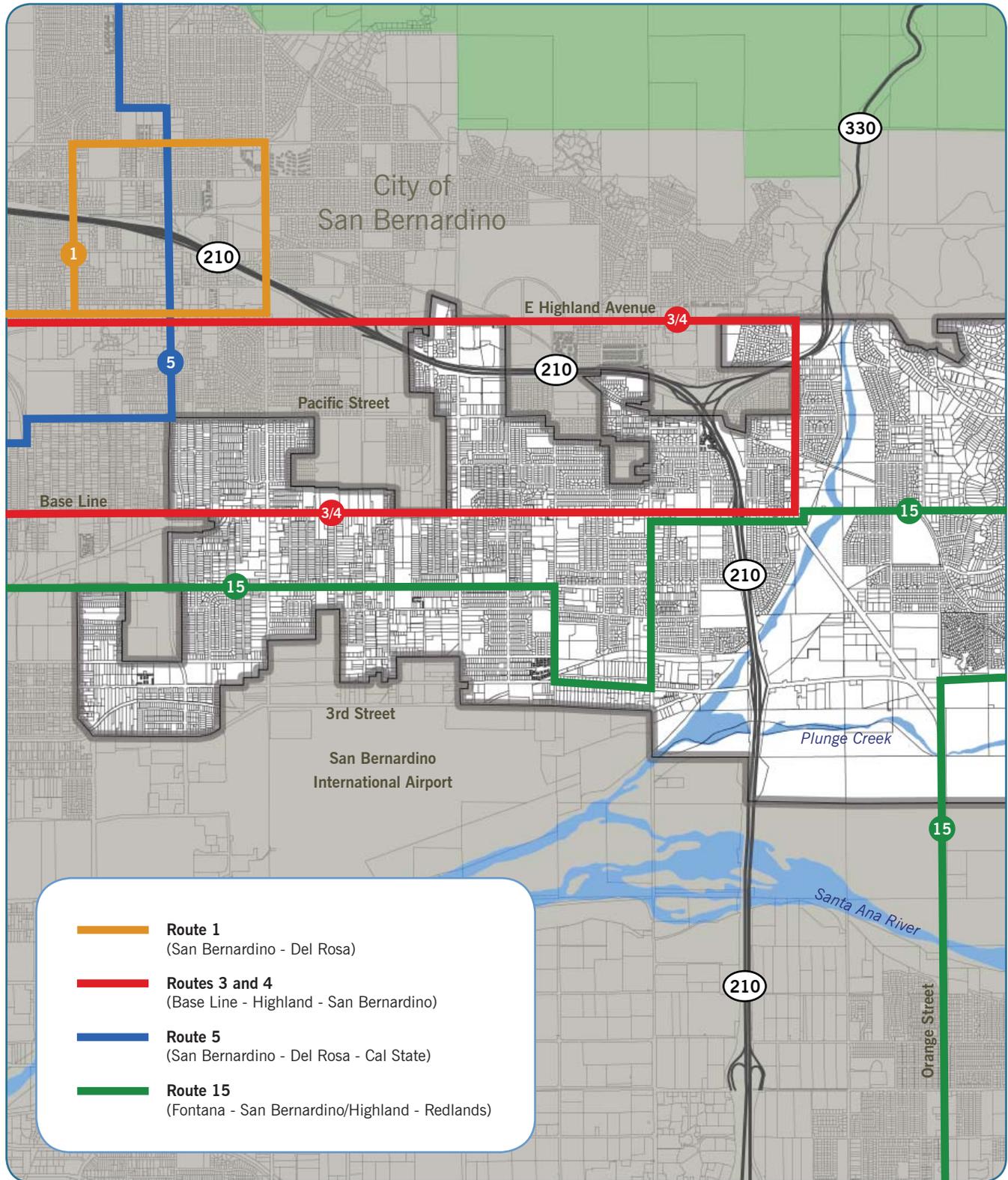
## **Bus Rapid Transit**

Omnitrans plans to extend BRT service to Highland. The service, called sbX, is the first BRT operation in the Inland Empire. BRT is designed to move passengers quickly, making it a cost-effective and efficient alternative to driving. The E Street corridor sbX line that will connect California State University, San Bernardino, to Loma Linda University Medical Center is currently under construction. Omnitrans is planning a BRT line that may travel from the Los Angeles County line to Highland via 5th Street and Base Line.

The exact routes and locations of BRT stations will be studied by Omnitrans with participation from the affected jurisdictions. BRT stations are placed farther apart than traditional bus stops to help achieve faster service. Successful BRT stations are in key destinations such as employment and civic centers, to maximize ridership and reduce vehicle miles traveled. When stations are in underdeveloped areas such as the Base Line corridor, development regulations should foster the creation of a vibrant, multi-modal activity center. This is often achieved through mixed-use zoning, flexible design and development standards, and densities and intensities that are higher than areas of the community that are not served by transit.

BRT service is a fast public transit option that helps decrease traffic congestion and improves air quality by reducing reliance on single-occupancy vehicles. This form of transit also has economic development benefits for the communities it serves. Well-designed buses, highly amenitized stations, and faster service can attract a greater range of riders than traditional bus service. For example, many BRT routes and schedules are designed to accommodate commuters who may avoid traditional busing, but embrace BRT for its high quality features and efficient service. Stations attract people, bringing greater visibility, foot traffic, and spending power to local businesses. BRT is expected to increase patronage at existing businesses within walking distance (1/4 mile) of each station and encourage new economic development. It is important for BRT stations to be placed in areas where growth and improvements are expected to occur so the community can maximize the economic development benefits of this unique transit service.

FIGURE 9. EXISTING OMNITRANS BUS ROUTES



## PEDESTRIAN AMENITIES

The General Plan calls for a pedestrian-friendly system that encourages walking as an alternative to driving. Unencumbered sidewalks and safe crossings are critical for a high quality and secure pedestrian environment. Safe routes to schools are also important, especially when students have to cross major roads like Base Line.

The pedestrian network along Base Line includes sidewalks, pedestrian crosswalks, and appropriate pedestrian crossing controls. The Federal Highway Administration and Americans with Disabilities Act set design standards for pedestrian facilities. An acceptable sidewalk will include the following features:

- A minimum of 44 inches of unobstructed sidewalk
- A maximum of a half inch of vertical obstruction
- Curb ramps at intersections and driveways
- Pedestrian push-buttons at intersections

Figure 10 shows areas of deficient sidewalks. In many places the sidewalk is very narrow, leaving little room for both pedestrians and infrastructure such as light poles, utility boxes, and bus stop benches or shelters. Some sidewalks are unpaved and many of the north-south streets lack paved sidewalks.

Crossing Base Line can also be challenging. There are three school-related crosswalks across Base Line at Cole Avenue, Reedy Avenue, and Church Avenue.

- Cole is a signed, yellow crosswalk without a median or flashing crossing signal; it connects students to Cole Elementary School
- Reedy is a signed, white crosswalk without a median or flashing crossing signal; it is a secondary connection to Cole Elementary School
- Church is a signalized intersection that connects to St. Adelaide Catholic Church and School and the First United Methodist Church and Nursery School

Signalized crossings along Base Line are typically 0.2 to 0.3 miles apart, a reasonable distance for pedestrians. The longest distance between signalized crossings is 0.5 miles from Central Avenue to Palm Avenue, where city hall and a planned fire station are located.

## CYCLING FACILITIES

The City's vision for its transportation network includes a comprehensive system of bikeways. Biking is a healthy, zero-emission alternative to driving and should be encouraged throughout the community. Highland's General Plan has three bikeway classifications based on intended use and design.

Class I: Off-street paved bike paths on a separate right-of-way from roadways, usually shared by cyclists and pedestrians.

Class II: On-street bicycle lanes that have painted stripes or stencils to delineate space for cyclists.

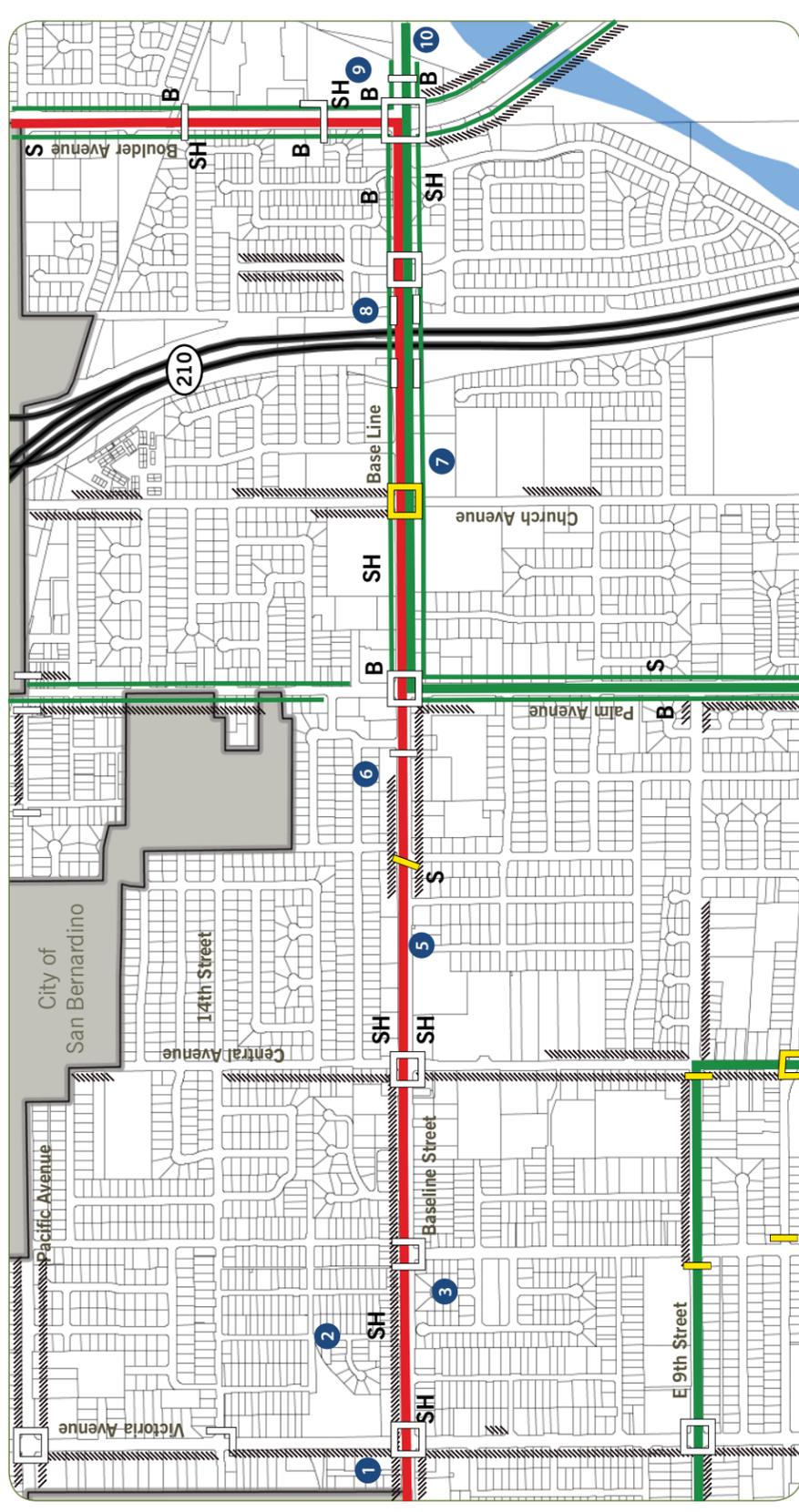
Class III: On-street shared-lane bicycle routes that accommodate vehicles and bicycles in the same travel lane.

The General Plan envisions Class II bike lanes along the entirety of Base Line as part of an overall vision for a highly connected, active, and multi-modal environment. The existing cyclist network consists of dedicated Class II bike lanes. Bicycle lanes are clearly striped on Base Line between Palm Avenue and City Creek; however, delineation in other parts of the corridor is not as clear. Bicycle lanes are marked on Palm Avenue and Boulder Avenue. No bicycle racks were observed at the businesses along Base Line, leaving cyclists to secure bikes to light poles, trees, and other improvised sites.

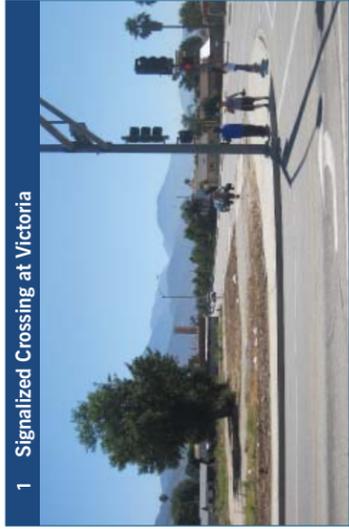
The City of Highland General Plan identifies Base Line, Palm Avenue, and Boulder Avenue in the Study Area as Class II bike lanes. Victoria Avenue is identified as a Class III bike route, but no signs were observed during the field survey. Figure 11 shows existing and proposed bikeways in the City of Highland.

Strong bike lane markings and obvious signage will help make drivers more aware of bike lanes and areas of potential conflict with cyclists. High quality cycling facilities are especially important in the Study Area due to the concentration of schools, parks, and other community gathering places.

FIGURE 10. EXISTING TRANSIT, PEDESTRIAN, AND CYCLIST CONDITIONS



	Omnitrans Bus Routes 3 and 4
	Omnitrans Bus Route 15
	Class II Bicycle Lane
	Deficient Sidewalk
	White Crosswalk
	Yellow Crosswalk
	Bus Sign
	Bus Sign with Bench
	Bus Sign with Shelter



1 Signalized Crossing at Victoria



6 Inadequate crosswalk and sidewalks



2 Deficient sidewalks in neighborhood



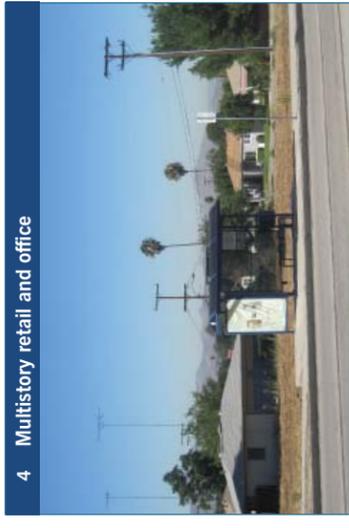
7 Sidewalks with utilities and street furniture



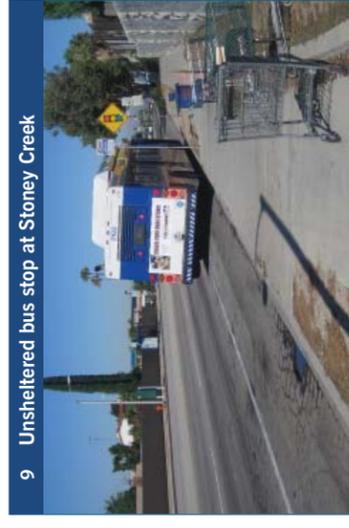
3 Complete sidewalks in newer subdivisions



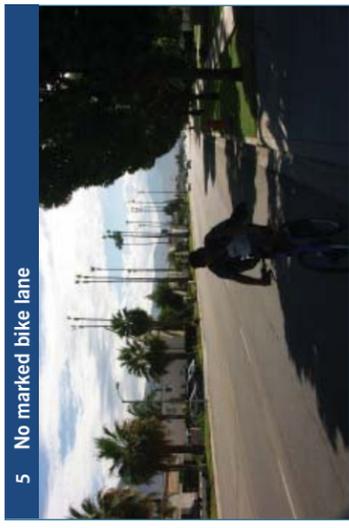
8 Freeway overpass



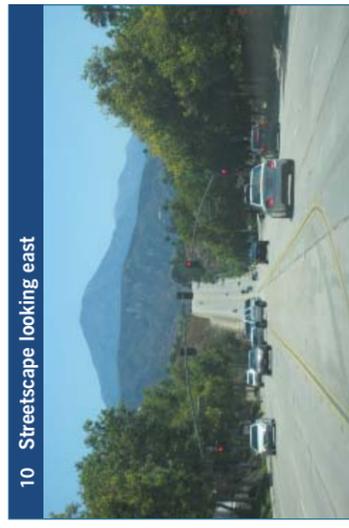
4 Multistory retail and office



9 Unsheltered bus stop at Stoney Creek



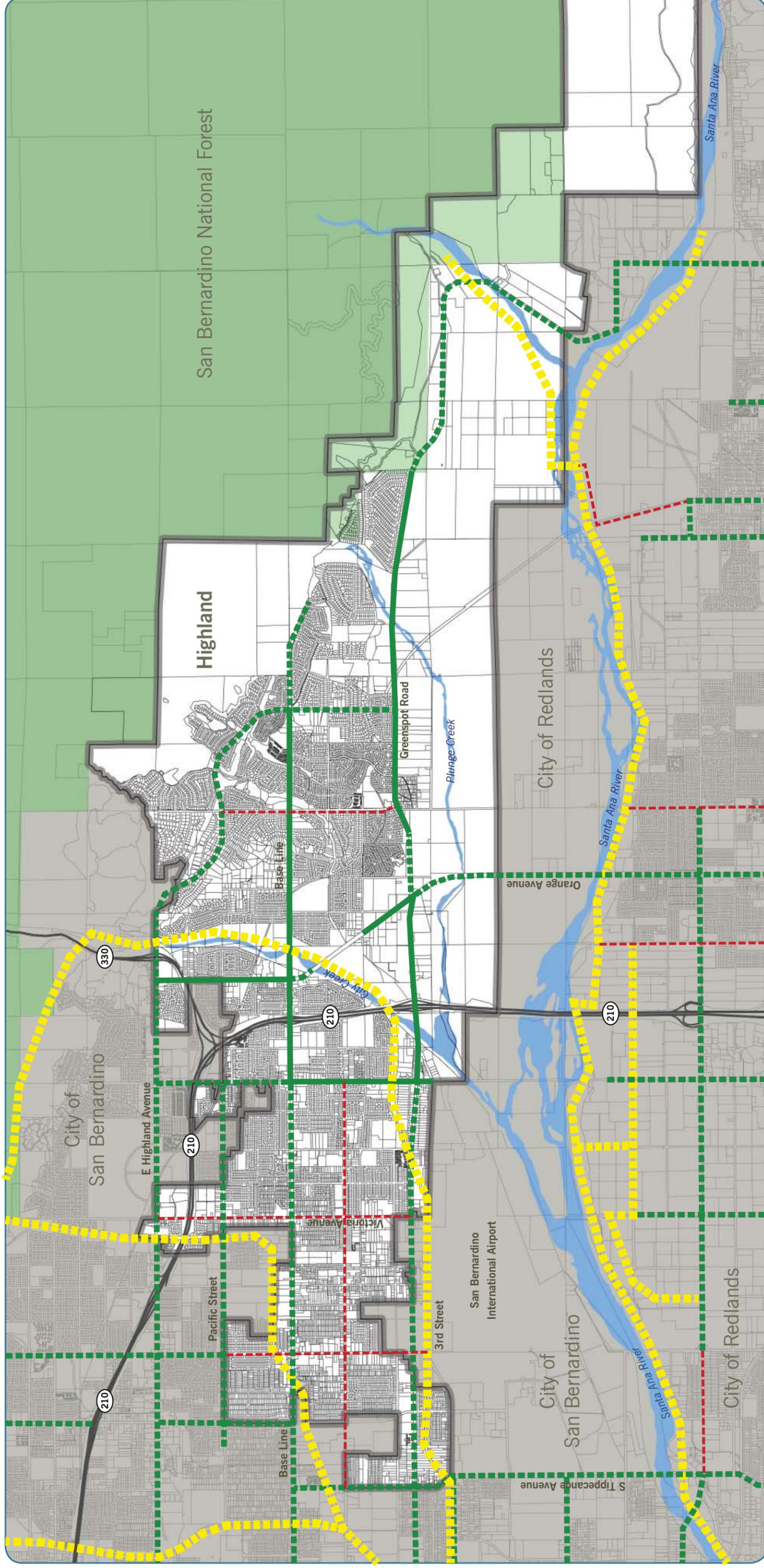
5 No marked bike lane



10 Streetscape looking east



FIGURE 11. EXISTING AND PLANNED BIKE LANES



- Class I Existing
- - - Class I Proposed
- Class II Existing
- - - Class II Proposed
- Class III Existing
- - - Class III Proposed



## 2 EXISTING CONDITIONS

### TRAFFIC SAFETY

When creating a multi-modal environment, the safety of all parties is of utmost importance. Pedestrians, cyclists, and motorists need to be able to coexist with minimal conflict. The General Plan has strong policy guidance to create roadways that are safe for multiple modes of transportation.

The Statewide Integrated Traffic Records System tracks the severity and location of collisions involving motorists, bicyclists, and pedestrians. Between 2001 and 2010 (a ten-year span), a total of 871 collisions involving vehicles, pedestrians, or cyclists occurred in the City of Highland, averaging 87 per year. The Office of Traffic Safety adjusts these numbers compared to similar jurisdictions. Compared to 103 similarly sized cities, Highland ranked 69th lowest of 103 comparable jurisdictions in traffic safety.

For areas within a ½ mile radius of the Base Line corridor, there were 216 collisions and 163 were on City streets (not SR-30 or SR-210). Victoria Avenue and Base Line are the roadways with the highest numbers of collisions, accounting for 74 and 21 collisions, respectively. On Base Line, 39 occurred at intersections and 35 occurred in midblock segments.

The following segments within a ½ mile of Base Line had the most collisions:

- Victoria Avenue, 14
- Central Avenue, 6
- Cole Avenue, 6
- Palm Avenue, 6
- Boulder Avenue, 6
- Seine Avenue, 6
- Boulder Avenue, 6
- Reedy Avenue, 5
- Buckeye Street, 5

There are also safety concerns for pedestrians and cyclists in the Study Area. From 2001 to 2010, 25 pedestrians were injured and 4 were killed as the results of collisions. More than half of all the accidents occurred at midblock locations. For bicyclists, 4 were injured and 1 killed. During interviews with stakeholders, church officials and school district personnel also expressed considerable concern about the safety of Base Line, particularly at school opening and closing times.



A signed and striped pedestrian crossing near city hall



The city is planning to replace the aging crosswalk leading to Cole Elementary School



Motorists, cyclists, and pedestrians crossing Buckeye Street



**H&R BLOCK**

**The UPS Store**

**FOULISA**

**RENTAL**

**Auto**

### MARKET CONDITIONS

Planning and achieving the revitalization of any corridor requires understanding and building on the economic and market forces that fuel business and residential growth and redevelopment activity.

#### MARKET INFLUENCERS

For the Base Line corridor, several unique factors influence the broad market conditions. First, the corridor lies to the west of SR-210, in a relatively old area of Highland. Most of the City's new development over the last 15 years has occurred to the north and east of the freeway. The freeway could create a psychological barrier that new residential development may have to overcome to attract new residents. Second, several retail centers in reasonable proximity to the corridor already serve residents in and near the Study Area, even though the corridor itself has only limited commercial businesses.

The Town Center Policy Area is less than three-quarters of a mile from the 135,000-square-foot Highland Village Plaza and about one and a half miles from the Golden Triangle Policy Area, which is expected to accommodate large scale retail and mixed-use development. It is also about a 1.6-mile drive to the 300,000-square-foot Walmart-anchored Highland Avenue Plaza and about a 3.6-mile drive to the one million square foot shopping complex at Citrus Plaza, both of which are in unincorporated portions of San Bernardino County, just beyond Highland's boundaries.

Nevertheless, the long-term development and buildout of the San Bernardino International Airport (former Norton Air Force Base) has the potential to drive economic development and employment in Highland.

#### RETAIL MARKET DEMAND

There is some unmet demand for convenience goods and services in the corridor trade area (the area within one half-mile of Base Line). Existing residents in the corridor trade area could support up to approximately 30,000 square feet of additional food and beverage stores. This is not sufficient for a full-service supermarket, the smallest of which might start at 50,000 square feet. Even the area within one and a half miles of the corridor would support additional retail building space in this category, but, once again, not a full-service supermarket. There is potential for a small format grocery, like a Fresh and Easy or Sprouts Farmers Market, which occupy 10 to 15,000 square feet, plus one or two small specialty grocers. Consumer

spending by trade area residents could also support a full-service pharmacy, which might occupy 10 to 12,000 square feet. Other health and personal care stores could round out the recommended additional square footage. Finally, consumer spending by corridor area residents could support up to 2,500 square feet of additional building space for personal services.

#### RESIDENTIAL MARKET DEMAND

Over the next five years, the Highland market area will add approximately 3,100 households with annual incomes over \$50,000. These future residents could be attracted to new housing in the Study Area. Numerous research and writings point to substantial changes in the type of housing that will be desired in the near future, driven by changing demographics. According to Department of Finance estimates, less than 20 percent of Highland's total housing is attached and multi-family. Demographic forces may change that pattern. Baby boomers are approaching retirement, and an increasing share of them desire to downsize their housing. Generation Y is entering the housing market, and many express a desire for compact housing types. Finally, the portion of households with children is declining. These trends, could lead to higher demand for attached and multi-family housing in Highland over the next 20 years.

With this assumption of changing preferences leading to an increase in attached and multi-family housing, the City of Highland could support the development of 170 new for-sale attached units and 130 new multi-family rental units. With developer interest, a substantial number of those 300 new units could be along or near the Base Line corridor.

Attractive market-rate for-sale and rental housing with on-site management can help improve the image of the area, create a more positive atmosphere and feeling of revitalization, and help add support for new retail development.



626-1

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### EXISTING CONDITIONS SUMMARY

West Highland is the civic heart of the community, and the Base Line corridor is a gateway to the community. The addition of BRT service along Base Line can play an important role in an ongoing effort to increase opportunities for investment and reinvestment, and maximize patronage to the community's retail and civic core. Presently, pedestrian amenities are lacking, and several businesses and homes show signs of aging. New investment in the public realm, including streetscapes and transportation, can help spur reinvestment in private properties.

Incorporating BRT service into the existing transportation and land use framework in the Base Line corridor creates numerous opportunities for the City of Highland. This predominantly bedroom community would greatly benefit from improved transit service to employment centers, and residents from nearby cities will have more convenient access to businesses along Base Line. Both of these types of trips will bring more potential patrons to the corridor at various times throughout the day, increasing the visibility of local businesses and access to key public facilities in the Study Area.

The existing land use regulations encourage and facilitate intensities and densities appropriate for suburban BRT nodes, especially on large vacant sites at Victoria and in the Town Center Policy Area. However, creating a multi-modal corridor and attracting the high quality of development expected by Highland residents has its challenges. There are numerous strategies worth exploring to help overcome these issues. Those tools are discussed in the next chapter. The following are lists of key opportunities and challenges for improving the Base Line corridor and incorporating BRT service.

#### OPPORTUNITIES

- Reputation as a high quality community attracts families and other new residents
- Initial visibility from SR-210
- Base Line at SR-210 is the main gateway to the civic core and existing retail
- Large vacant parcels on Base Line
- Adjacent residential neighborhoods to support businesses and BRT
- Existing bus routes are well utilized

- Target BRT for dominant commute patterns
- Area is rich with public and social infrastructure
- Landscaping and lighting improvements approved for the Town Center Policy Area
- Developer interest in the area
- Support for development from local property owners and stakeholders
- Market demand for additional retail and residential development
- Existing zoning encourages higher intensity and density for infill development
- General Plan has a strong vision for the Town Center, Base Line Corridor, and Victoria Corridor Policy Areas
- The vision was developed following extensive outreach with Highland residents

#### CHALLENGES

- Reduce conflict between existing low density neighborhoods and more intense development allowed along Base Line
- Shallow lots can be difficult to develop or redevelop
- Incomplete and narrow sidewalks
- Frequent curb cuts impede the pedestrian space
- Lack of shade trees
- Vehicle collisions with pedestrians and cyclists
- Non-signalized and unpainted pedestrian crossings
- Lack of bike storage
- Inconsistent bike lane definition and lack of signage
- Bus shelters and other street furnishings impede some sidewalks
- Competition from proposed commercial projects in Highland
- Competition from existing commercial projects in adjacent cities
- Mental boundary between east and west Highland



# COLLECTING INSIGHTS

# 3



#### COLLECTING INPUT

Through this demonstration project, the City of Highland is exploring new opportunities for encouraging and facilitating investment along Base Line, creating a safe multi-modal transportation environment, and exerting more control over the appearance and quality of development in the area.

The information provided through the existing conditions data is critical for understanding where the corridor is today so the City can properly plan for its future. Additional input was sought from the public, decision makers, and other key stakeholders. Case studies were also explored for inspiration and methods applicable to Base Line.

#### COMMUNITY INSIGHT

The City of Highland frequently reaches out to the community to gain insight into local wants and needs. The adopted visions for the Town Center, Base Line Corridor, and Victoria Corridor Policy Areas were developed following an extensive public outreach process for the 2005 General Plan. Additional input was collected to gauge the appropriateness of those visions in the context of the current and projected market, and when considering the potential for BRT service. Local property owners, nonprofit organizations, and school administrators were interviewed. Comments were also solicited from the Planning Commission and City Council at two public hearings. Their concerns and suggestions greatly influenced the development of a series of recommendations for improving Base Line.

#### CASE STUDY INSIGHT

Several case studies were explored to identify commonalities between successful and developing multi-modal town centers that are examples for the City of Highland. Downtown Ontario and Downtown Claremont in California and Downtown Murray in Utah, are activity centers that are supported by pedestrian and bicyclist amenities, public transportation, civic uses, open spaces, and aesthetic enhancements such as thematic landscaping, lighting, and iconic structures. These communities have prioritized public facilities, public spaces, and safe access to their downtowns. Anchored by public facilities, educational centers, and public transportation, these areas attract a diversity of businesses and are vibrant districts.

#### WHAT WE HEARD

**We need to give residents from all over the City a reason to patronize west Highland businesses**

**We want more places for public and family gatherings**

**Many buildings are aging and need remodeling**

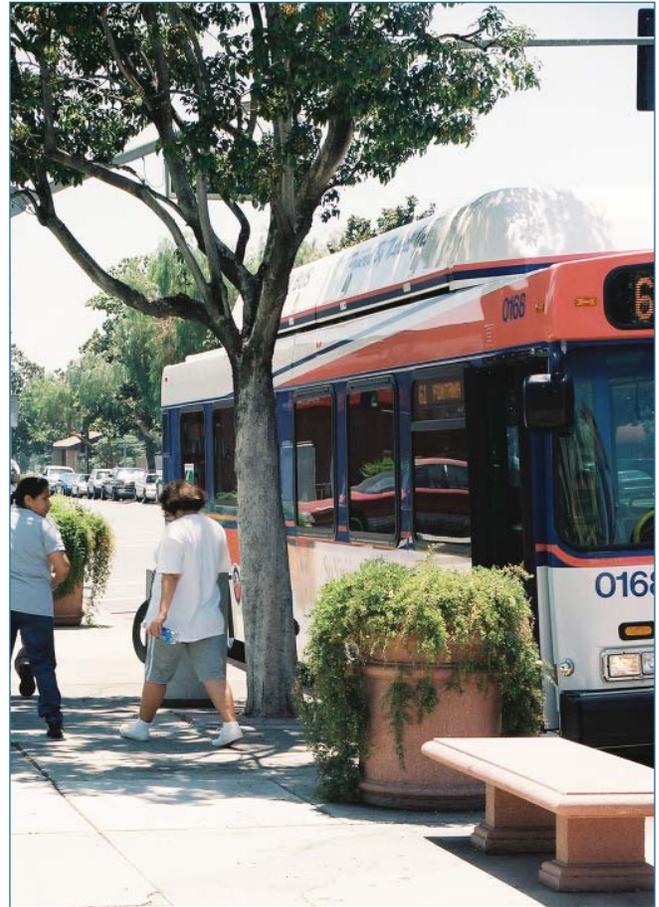
**BRT stations should look like they belong in Highland**

**The City needs to collaborate with property owners to achieve the vision**

**Base Line lacks a sense of place; it needs an identity**



The Ontario Library is one of many civic uses adjacent to the Euclid corridor



Shade trees and benches at a bus stop along Euclid Avenue



Iconic structures at key intersections help define a special district



A large landscaped median on Euclid Avenue is a popular park



Potted plants line wide sidewalks without impeding the pedestrian space

### DOWNTOWN ONTARIO

#### CASE STUDY AREA

The Case Study Area in downtown Ontario is along Euclid Avenue between H Street and Phillips Street. Anchored by City Hall, this mixed-use (institutional, commercial, and residential) district includes historic storefronts, new and revitalized shopping centers, well-maintained single-family homes, and new apartments. Although the scale of the roadway is massive—in some areas 170 feet of right-of-way—lush street trees, stately city facilities, and historic building facades create the impression of a grand, pedestrian-friendly boulevard instead of a high-volume and high-speed transportation corridor.

#### TRANSIT AMENITIES

Downtown Ontario is served by Omnitrans and Amtrak and connected to Metrolink. Omnitrans operates five bus routes in Ontario, all of which connect to Euclid in the Case Study Area. A typical bus stop here has a sign and a bench. Many also include a trash can and are shaded by trees.

- Route 61, Fontana-Ontario Mills-Pomona, 15-minute headways every day
- Route 63, Chino-Ontario-Upland, 60-minute headways every day
- Route 80, Montclair-Ontario Convention Center-Rancho Cucamonga, 60-minute headways every day
- Route 81, Ontario-Ontario Mills-Chaffey College, stops 1/5 mile from the East Ontario Metrolink Station (Riverside Line), 60-minute headways on weekdays, no weekend service
- Route 83, Upland-Euclid-Chino, stops 0.3 miles from the Upland Metrolink Station (San Bernardino Line), 60-minute headways every day

There is an Amtrak Station at Emporia Street and S. Lemon Avenue, approximately one block east of Euclid and 0.3 miles south of the Civic Center. The Ontario Amtrak Station serves two routes that originate and end at Union Station in downtown Los Angeles.

The Metrolink East Ontario Station is outside of the Case Study Area by the airport, but Omnitrans Route 81 can transport Metrolink riders to downtown Ontario. Metrolink's Riverside Line connects downtown Los Angeles with Riverside via Ontario and San Bernardino.

#### PEDESTRIAN AMENITIES

This area of Downtown Ontario has impressive pedestrian amenities, including shade trees with large canopies, benches, and trash receptacles that do not impede the sidewalk. Sidewalks are between 3- and 15-foot wide and create a spacious, safe, and pleasant environment for pedestrians. On-street parking buffers the sidewalk from fast-moving vehicles. Pedestrian crossings are painted, and east-west crossings are broken up by a well-landscaped median that features a passive park.

#### CYCLIST FACILITIES

Between H Street and Holt Boulevard the sidewalks are wide enough to be safe for both pedestrians and cyclists. Biking in the street is not encouraged along this stretch of Euclid, and there are no bike lanes or route signs. Two cross-streets within the Case Study Area feature marked bike lanes, G Street and State Street. The Ontario Plan, adopted in 2010, designates Euclid a future bicycle corridor. Improvements may include bike lanes, signed routes, and bike storage.

#### VEHICULAR CIRCULATION

The right-of-way without sidewalk is between 135 and 170 feet wide. A 65-foot-wide, landscaped median divides Euclid Street and helps define the area as a special destination.

Vehicles are able to travel through the Study Area faster in the morning than they are in the afternoon; a typical morning level of service is B and the typical afternoon level of service is C or D. The busiest stretch of the corridor, between H Street and Holt Boulevard, has an average daily trip count of 34,170 vehicles.

#### ALTERNATIVE TRANSIT GOALS AND POLICIES

The Ontario Plan sets forth a "system of trails and corridors that facilitate and encourage bicycling and walking." Several policies promote plans for a comprehensive network of multipurpose trails, bicycle corridors, and pedestrian connections between key destination points. The city emphasizes off-street trails and Class II bikeways for connectivity; Class III bikeways are only to be used in areas of constrained rights-of-ways. Within this framework, Euclid is designated a bicycle corridor.



Clear signage for bikeways helps cyclists, pedestrians, and drivers safely navigate the downtown



Special pavers increase the visibility of pedestrian crossings



Awnings and a variety of paving and landscaping materials create a rich, unique look in this pedestrian-friendly area



Integrating street furniture into building recesses leaves more space for pedestrians



A Foothill Transit bus on Indian Hill Boulevard. A river rock median is in the foreground; high quality attached housing is in the background

## DOWNTOWN CLAREMONT

### CASE STUDY AREA

The Case Study Area is in downtown Claremont, a mixed-use area along Indian Hill Boulevard between Foothill Boulevard to the north and train tracks to the south. Just a few blocks east of Indian Hill Boulevard lies the Claremont Colleges, a series of adjoining campuses for 5 private undergraduate and 2 graduate institutions. The concentration of educational facilities and relatively high incomes of the adjacent neighborhoods attract a range of retailers. The historic charm and pedestrian scale of this area offers an inviting environment in a fairly intense downtown.

### TRANSIT AMENITIES

Foothill Transit, Metrolink, and Amtrak serve the Case Study Area. Foothill Transit is a bus operator serving the eastern San Gabriel Valley and providing express bus service to Pasadena and downtown Los Angeles. Six bus routes serve the Case Study Area, most with very frequent service. A typical bus stop in this area is limited to a sign and shade trees.

- Route 187, Montclair-Claremont-Glendale-Pasadena, 30-minute headways every day
- Route 197, Pomona-Claremont, 30-minute headways on weekdays, 60 on weekends
- Route 292, Claremont-Pomona, 30-minute headways every day
- Route 480, Montclair-Pomona-West Covina via Mission Blvd., 30-minute headways every day
- Route 492, Montclair-Arcadia-El Monte via Arrow Highway, 30-minute headways on weekdays, 60 on weekends
- Route 690, Montclair-Pasadena via 210 Corridor, 20-minute headways on weekdays, no weekend service
- Route 855, Pomona TransCenter-Claremont, 30-minute headways on weekdays, no weekend service

Metrolink connects Claremont to Los Angeles and San Bernardino on the San Bernardino Line. The station is on W. 1st Street and N. Harvard Avenue, two blocks east of Indian Hill Boulevard (0.1 mile). Metrolink serves this station every 30 minutes on weekdays and every two hours on weekends.

### PEDESTRIAN AMENITIES

Sidewalks in downtown Claremont vary, but this variation is part of what makes the pedestrian experience interesting. Paths are often edged by contrasting materials, and their widths vary between 4 and 8 feet. These sidewalks feature wayfinding signs, shade trees, thematic lighting, trash cans, and benches. Pedestrian crossings in a heavily trafficked area feature brick or brick-like pavers to bring greater attention to the crosswalks and add to the character to the area.

### CYCLIST FACILITIES

The Claremont Colleges' large student population drives local demand for cycling facilities. There are bike racks throughout the downtown area. Class II and III bikeways are proposed for Indian Hill Boulevard. The City of Claremont designates Bike Priority Zones in activity centers like the downtown. Bike Priority Zones will have bicycle-oriented wayfinding signs, sharrows, bicycle loop detectors at signalized intersections, and bike racks (required at every public park and public building).

### VEHICULAR CIRCULATION

The right-of-way along Indian Hill Boulevard is 50 to 64 feet; with sidewalks the right-of-way is 78 to 86 feet. Truck traffic is discouraged on Indian Hill to preserve the quaint village atmosphere. There are frequent four-way stop intersections, bulb-outs at intersections, and on-street parking, all of which can slow traffic. Levels of service in this area vary between C and F. The number of average daily trips at Indian Hill and Bonita Avenue is 22,500 vehicles.

### ALTERNATIVE TRANSIT GOALS AND POLICIES

Claremont's General Plan establishes a comprehensive system of pedestrian paths and bicycle routes to provide a viable alternative to vehicles. Specific policies encourage pedestrian amenity improvements along Indian Hill Boulevard as well as surrounding arterials. The Claremont Bicycle Plan provides a detailed master plan for bicycle facilities and amenities throughout the community, emphasizing bicycle connections between activity centers such as downtown, public facilities, and the colleges. The Claremont Bicycle Plan proposes Class II and III bikeways along Indian Hill Boulevard.



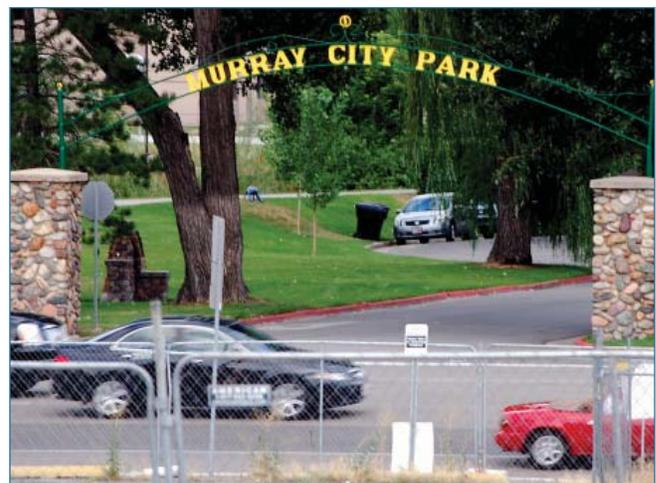
An artistic gateway feature and multistory buildings with minimal setbacks create a sense of closeness and pedestrian scale on a high-volume roadway



Special pavers on wide sidewalks, street trees, minimal building setbacks, awnings, and historic signs all contribute to the charm of State Street



A new TRAX light rail station (middle) and bus depot (above)



This large public park, located adjacent to the Case Study Area, is an important destination for the community

## DOWNTOWN MURRAY

### CASE STUDY AREA

The Case Study Area in downtown Murray, Utah, encompasses State Street (SR-89) between Lester Avenue and Fireclay Avenue. Once a major highway, improvements to a nearby interstate has relieved traffic volumes along State Street, creating greater opportunities for a “Main Street” atmosphere. State Street was the subject of “Life on State,” a recent study to explore ways to attract investment, improve multi-modal functionality, and address how the street functions for individual jurisdictions instead of the region as a whole. Downtown Murray is a transit-oriented development area with design overlays to enhance the pedestrian, bicyclist, and transit rider experience.

### TRANSIT AMENITIES

Murray City is served by Utah Transportation Authority, which has one of the largest public transit service areas in the country. Three bus routes provide frequent service to the Case Study Area. Downtown Murray also benefits from TRAX light rail service out of a station at Fireclay Avenue. The primary north–south routes are listed below. There are numerous east–west bus routes through the Case Study Area, typically with headways between 30 and 60 minutes.

- Route 200, Salt Lake City-Murray, 15-minute headways
- Route 201, Murray-Draper, 30-minute headways
- SLC/Sandy TRAX Line, 10-minute headways during peak hours
- Mid-Jordan/University TRAX Line, 10-minute headways during peak hours

A typical bus stop in this area is denoted with a sign and an occasional shade structure. In contrast, light rail stations are new and feature weather proofing, benches, ticket machines, and headway boards.

### PEDESTRIAN AMENITIES

Sidewalks in downtown Murray are generally five feet wide, but range from 3 to 15 feet. Part of the Case Study Area, from 4800 Street and Vine Street, features pink brick sidewalks that add warmth and character to the pedestrian space. To ensure pedestrian safety, State Street has striped crosswalks at signalized intersections and curb ramps. Cars are offset farther

back than normal from pedestrian crossings at major intersections. A pedestrian bridge serves Murray High School and Hillcrest Junior High School. Additional pedestrian amenities are planned.

### CYCLIST FACILITIES

Cyclist facilities are limited in the Case Study Area. The Fireclay Transit-Oriented Development/Redevelopment Area Design Standards, Murray Center Overlay District Design Guidelines, and Life on State: Our Street Our Vision study outline the future of pedestrian and cyclist facilities in the Case Study Area and beyond.

### VEHICULAR CIRCULATION

A state highway, State Street has a right-of-way similar to Base Line. Without sidewalks the right-of-way within the Case Study Area varies between 84 and 102 feet. In Murray, however, the sidewalks are dramatically wide. Like Base Line, State Street is an important regional roadway and accommodates a high volume of vehicles. The busiest intersection in the Case Study Area has an average daily trip rate of 37,070. Peak hour congestion is common.

### ALTERNATIVE TRANSIT GOALS AND POLICIES

The 2006 City of Murray Transportation Plan identifies areas where new signals and a road diet (decreasing travel lanes) will improve pedestrian safety. The 2007 Murray Center Overlay District Design Guidelines call for bike racks and bike lockers and provide design standards for tree grates, trash receptacles, bollards, benches, planters, lighting, and special pavers. Although State Street is not a designated bikeway, the Murray Center Overlay District Design Guidelines encourage a bicycling and pedestrian environment. District Guidelines limit new block lengths to 350 feet, require continuous sidewalks, encourage bikeway connections using paving and plant materials to buffer pedestrians and cyclists from traffic, and create a strong sense of place through coordinated street furniture, lighting, and cohesive architecture. The Life on State study provides a new vision for the Case Study Area that prioritizes walkable corridors with landscaped medians and signalized crossings, buildings designed to the pedestrian scale, and public spaces for special events.

## CASE STUDY COMMON THEMES

The case studies reveal several common themes that have helped create interesting, attractive places in various stages of implementing multi-modal policies and programs.

Civic buildings and open spaces are natural centers of community life that should be well-served by public transit and amenities for pedestrians and cyclists.

For people to enjoy riding transit, the wait times should be shorter, more predictable, and comfortable. New bus stops feature weather shelters, benches, trash receptacles, ticket machines, bike storage, and electronic headway boards.

Improvements to public spaces can inspire private property owners to invest in their land and structures.

Special districts have a unique sense of place through gateway features, architecture, and street furnishings.

Complementary architectural styles or the celebration of historical features can heighten the awareness of a cohesive district.

Having a variety of compatible land uses within one area allows businesses, open spaces, institutions, and residences to support one another and create dynamic places.

Pedestrian safety is a critical concern. Special pavers, medians, signals, flashers, signs, ramps, and bulb-outs help improve pedestrian safety and therefore encourage more people to stay and stroll throughout the area.

Bike paths need to be clearly designated to best serve and protect both cyclists and drivers.

Parks and park amenities provide welcomed relief from the built environment.

Signage is important to identify the district, welcome visitors, establish neighborhood character, and denote passageways or stations for pedestrians, cyclists, and transit-riders.

Signage is important to identify the district, welcome visitors, establish neighborhood character, and denote passageways or stations for pedestrians, cyclists, and transit-riders.

New plans, policies, and programs are necessary to carry a community into the future. Without forward thinking, the quality of life will not remain the same or improve over time.

# RETHINKING THE CORRIDOR

# 4



### RECOMMENDATIONS

The Highland General Plan provides the vision for the Base Line corridor. Because the General Plan provides a solid foundation, no fundamental changes to land use designations are proposed. Yet additional implementation is required to foster attractive and sustainable places in Highland served by bus rapid transit along a safe and multi-modal Base Line corridor. The study of the project's context has influenced the creation of an extensive set of recommendations for the future of the Base Line corridor. The purpose of the recommendations is to foster the development of attractive and sustainable places served by bus rapid transit along a safe and multi-modal corridor.

#### CORRIDOR FRAMEWORK

As described earlier, Base Line corridor has a series of features that define its form, function, and cohesiveness. Achieving the General Plan vision for a mixed-use community core that is well served by bus rapid transit requires careful attention to each element.

Recommendations are intended to improve the following features of the corridor:

- **Paths/Connections:** these include the various bicycle routes, pedestrian sidewalks, landscaped amenities, and transit amenities that encourage and foster a multi-modal corridor
- **Key Districts:** these include the policy areas within the corridor—Victoria, Base Line, and Town Center. Recommendations are intended to foster a distinct and complementary land pattern, and unique character
- **Gateways:** these include the special designation and treatment of major gateways into the Study Area at the intersection of Victoria and Base Line and at Base Line near SR-30.

In crafting recommendations, it is important to recognize the location, suburban fabric, and community preferences of Highland. Established 25 years ago, Highland has a distinctively different pattern of development than many urban areas. Thus, recommendations for a bus rapid transit corridor in Highland must respect community preferences articulated in the General Plan and through input from community stakeholders.

### PATHS AND CONNECTIONS

The Base Line corridor consists of three policy areas—Victoria Corridor, Base Line Corridor, and Town Center. Each policy area has distinct land use patterns, character, and function and form. However, the policy areas are mutually dependent, activity in one area affects the others. Base Line connects each policy area, making it critical to enhance the paths and connections to allow for more synergy in a multi-modal environment.

#### ***Principle 1: Build Pleasant, Safe, and Attractive Pedestrian Routes in the Study Area***

Highland should complete the network of sidewalks on both sides of Base Line. The sidewalks should be wide enough for travel, amenitized with pedestrian facilities, lined with shade trees if possible, and safe from traffic.

Specific actions include:

1. All midblock crossings should be painted and signed, and all school crossings should be flashing, painted, and signed
2. Install medians along the corridor and at major intersections so pedestrians may have a refuge when crossing
3. Incentivize wide sidewalks (six feet of unobstructed space is the minimum), with even wider sidewalks at major nodes
4. Install curb ramps at all intersections to encourage walking for residents with strollers and wheelchairs
5. Enhance walkways with shade trees and landscaped amenities to improve aesthetics and reduce heat island effects
6. Install special paving at key intersections to define places and improve pedestrian safety (Town Center, city hall, etc.)
7. Include consistent and pedestrian scale lighting to improve aesthetics, safety, and security of pedestrians
8. Encourage the consolidation of nonresidential curb cuts to reduce automobile and pedestrian/bicyclist areas of conflict
9. Complete sidewalks extending ½ mile along north and south feeder streets to encourage residents to walk to Base Line

**Principle 2: Build Pleasant, Attractive, and Safe Bikeways in the Study Area**

Highland should complete gaps in its existing bikeways and provide connectivity between major destinations. The bikeways should be wide enough for travel, amenitized with bicyclist facilities, and inviting for residents to utilize.

Specific actions include:

1. Complete the striping of the Class II bikeway along Base Line and use distinctive stencils or colored pavement to denote the bicycle lanes
2. Bicycle lanes should be a minimum of 5 feet in width measured from the curb, edge of payment, or outside edge of parking lane
3. Install bike lane signs and directional signage after every intersection or at intervals of one-half mile or less
4. Adequately sign the Class III bikeway along Victoria Avenue to distinguish the bicycling route from vehicular travel
5. Require attractive bike parking facilities at all City facilities, parks, and public facilities to provide designated places for bike parking
6. Require bike parking at commercial, industrial, office, and multi-family residential buildings to reduce the incidence of improvised bike racks
7. Initiate a City program to encourage the addition of attractive bike storage at existing businesses and apartment complexes



## 4 RETHINKING THE CORRIDOR

### ***Principle 3: Incorporate Amenities that Maximize the Convenience and Use of Bus Rapid Transit***

Base Line is currently designed and operated to accommodate automobile, truck, and transit use. Although dedicated lanes are not the preferred mode for Bus Rapid Transit service in Highland, improvements are needed to facilitate service and increase transit ridership. This includes new bus stations, appropriate street enhancements, public realm improvements, and other transit amenities.

Specific actions include:

1. Locate BRT stations near activity nodes and public facilities to directly and conveniently connect visitors to major destinations
2. Require BRT stations to be designed to reflect the historic character of the City of Highland and desired architectural features
3. Require BRT stations to include shelters, benches, automated ticket machines, real-time message boards, night lighting, and sheltered space for wheelchair users
4. Prohibit BRT stations from impeding the pedestrian right-of-way (which is designated to allow for a minimum sidewalk width of 6 feet)
5. Require cut-outs for at least one bus at each BRT station; consider additional cut-out length for bus stacking if desirable
6. Collaborate with the San Bernardino Associated Governments to ensure proper design and location of BRT stations in Highland that achieve the community's goals
7. Prohibit dedication of existing street lanes, conversion of medians, or downsizing of sidewalks to accommodate transit
8. Consolidate, where possible, existing transit stops with BRT station stops to prevent the unnecessary stoppage or disruption of traffic flow



***Principle 4: Accommodate Motorized Vehicle Parking to Serve Bus Rapid Transit Park-and-Ride and Other Corridor Patrons in an Attractive Manner***

This multi-modal corridor must continue to adequately serve motorized vehicles in addition to pedestrians and cyclists. Parking management plays an important role in determining accessibility to existing and future businesses and the proposed BRT stations.

Specific actions include:

1. Establish a shared parking program with incentives for existing and future businesses
2. Encourage shared curb cuts for accessing the parking areas for multiple properties
3. Require decorative walls, fences, or landscaping to enhance the appearance of parking lots that front Base Line
4. Encourage truck loading areas for nonresidential uses to be oriented away from single-family residential neighborhoods
5. Where feasible, locate short-term parking lots behind buildings that face Base Line
6. Park-and-ride facilities or lots with spaces available for park-and-ride should be visible from Base Line
7. Should a parking structure be necessary, it shall be treated with pedestrian-scale architectural features to appear more like a retail structure on the ground floor
8. Structured parking over two stories should be prohibited adjacent to existing single-family neighborhoods



## 4 RETHINKING THE CORRIDOR

### KEY DISTRICTS

The policy areas also serve as three key districts or activity nodes within the Study Area. The Town Center represents a major opportunity for large-scale new development in a mixed-use setting that should help bridge west and east Highland. The Base Line corridor, known as Civic Row, features a concentration of public services and facilities that should make the area a point of pride for the entire community. The Victoria Corridor Policy Area includes several vacant and underutilized sites that should provide new mixed-use and employment-generating uses to anchor the east side of the Study Area. The identity of each district can be more clearly defined, and there are other recommendations for coordinated improvements to all of them.

#### ***Principle 6: Heighten the Design Quality in Key Districts to Distinguish each Area and Attract New Patrons, Residents, and Investors***

Iconic structures and pedestrian-oriented building forms will help create an inviting environment that reflects the vibrancy desired in the Town Center, Civic Row, and Victoria key districts.

Specific actions include:

1. Architectural guidelines should establish unique identities for each policy area/district, and design guidelines should ensure high quality, pedestrian-oriented development in all three districts
2. Buildings should be oriented toward Base Line or the most pedestrian-friendly street frontage
3. Pedestrian-scale building features should be required along Base Line to improve the feeling and character of development
4. Avoid long monotonous walls along Base Line by encouraging variation in texture, material, color, and setbacks
5. Encourage tower or other vertical elements on buildings at major intersections to provide landmarks
6. Building corners at pedestrian crossings should be angled, rounded, or covered by an upper story overhang or otherwise designed to provide shelter to the pedestrian space
7. Ground floors should incorporate features such as awnings, canopies, bulkheads, arcades, and portals to create visual interest



***Principle 7: Beautify the Public Realm through Landscape Treatments, Lighting, Street Trees, and Other Pedestrian Scale Amenities.***

Investing in public spaces and the appearance of the corridor sets the tone for a high quality district that will attract more businesses, patrons, and interest in the City in general.

Specific actions include:

1. Designate plant palettes for each key district in the corridor to identify attractive, drought-tolerant, and low maintenance shade trees, shrubs, and ground covers that are appropriate for both public and private spaces
2. Medians should include landscaping where feasible and alternative decorative features such as river rock where landscaping is not appropriate
3. Incentivize the creation of public pocket parks in the Town Center Policy Area to buffer new development from existing residential neighborhoods by offering density/intensity bonuses or changes to other development requirements
4. Adopt thematic lighting standards for public spaces along the corridor and more strict guidelines for the height and design of lighting fixtures on private property, including parking lots
5. Encourage existing businesses to update their signage to comply with the City's sign ordinance
6. Require new telephone and utility poles to be underground and facilitate undergrounding existing utility poles
7. Adopt thematic street furniture standards for public spaces (that may or may not be unique to each district) and encourage private property owners along the corridor to provide high quality benches, trash receptacles, etc., on their properties as well



## 4 RETHINKING THE CORRIDOR

### GATEWAYS

Gateways denote arrival into a unique place or district and are often located where major streets cross one another or at the entrance to specific districts. The Base Line corridor has two gateways—at the intersection of Victoria and Base Line on the west and the intersection of Base Line and SR-30 on the east. The former signifies a crossroads leading to the San Bernardino International Airport, San Manuel Indian Bingo and Casino, and the Base Line corridor. To the east, the gateway signifies the major entry point to Highland and the Town Center. Appropriate and context-sensitive design treatments are an important element to include in the design of the gateways for both locations.

***Principle 8: Emphasize Strategic Entry Points along Base Line to Form the Definition of the Corridor and Improve the Image of the City***

1. Approach gateways as opportunities to display public art, celebrate local history, and establish a sense of place and arrival
2. Gateways on the eastern and western sides of the Base Line corridor should be welcoming and iconic, and provide a memorable landmark
3. Locate gateway features on, across, or on corners of Base Line at Victoria Avenue and Buckeye Street (alternately, Church Avenue)
4. Formally adopt design guidelines for thematic gateway features as well as secondary monuments
5. Amend the General Plan Circulation Element to encourage the development of a decorative roundabout at Victoria Avenue and Base Line

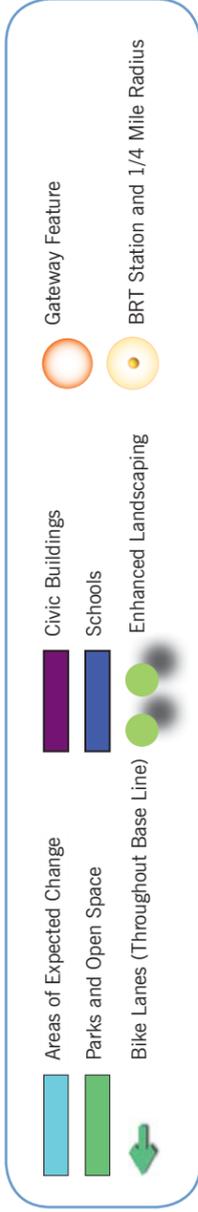
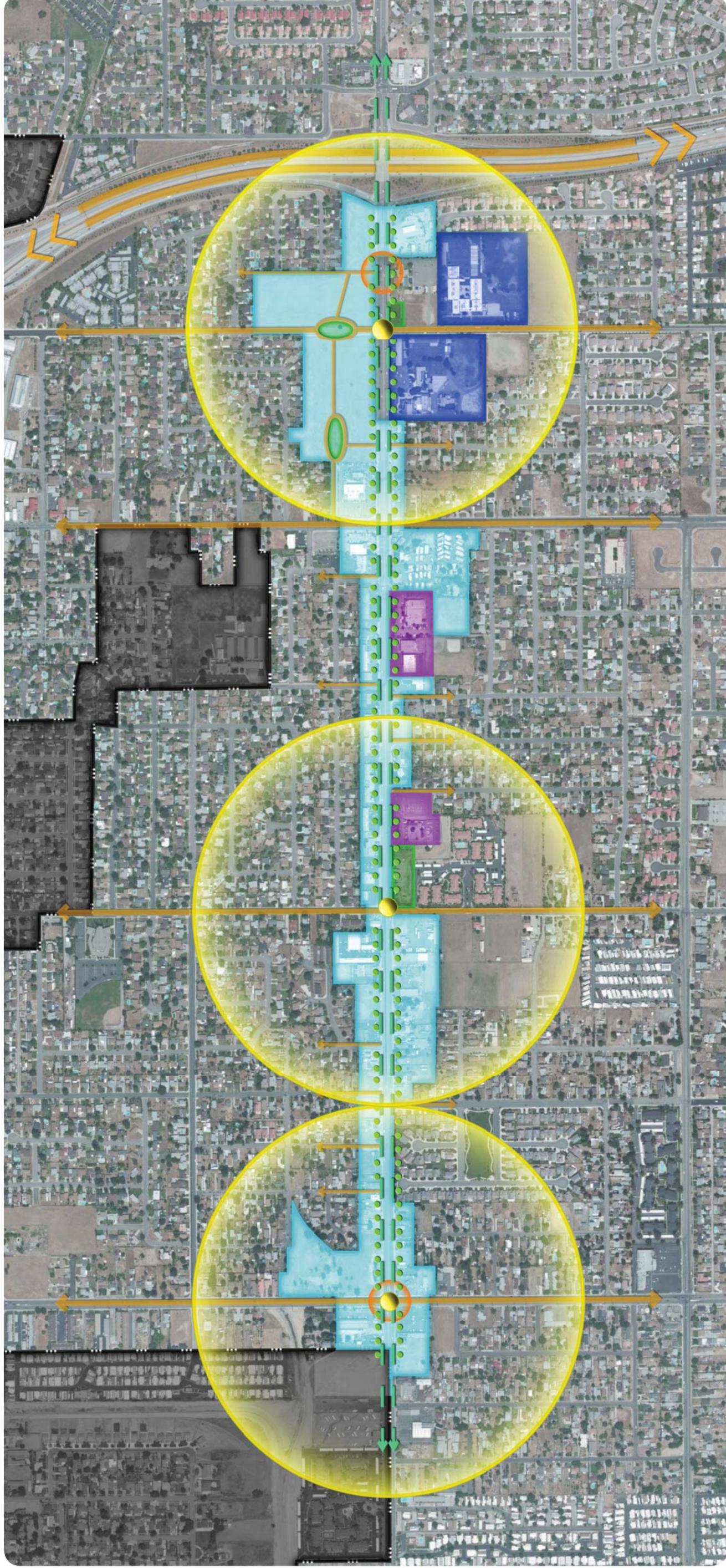


## RECOMMENDATIONS FRAMEWORK

The future of the corridor will be driven by the development of large vacant sites and the incorporation of bus rapid transit, public realm enhancements, and access to public facilities. Figure 12, Recommendations Framework Diagram, was prepared to identify some basic infrastructure improvements recommended to facilitate the creation of multi-modal activity centers along Base Line.

- Gateway features at Victoria Avenue and Buckeye Street
- BRT stations at Victoria, Central, and Church Avenues
- Enhance connectivity to civic buildings and educational facilities
- Class II bikeways throughout Base Line
- Landscaping/streetscaping enhancements
- New pocket parks for open space and traffic calming

FIGURE 12. RECOMMENDATIONS FRAMEWORK DIAGRAM





### TOWN CENTER CONCEPT

The Town Center is a catalytic area; its development will influence the future of the remainder of Base Line. A development concept based on the existing allowable uses was designed to help describe the vision of the Town Center to the development community. The concept is one example of how the vacant properties in the Town Center Policy Area could be developed as a mixed-use activity center with public amenities.

The Town Center concept recognizes that the traffic volumes and speeds along Base Line do not reflect the village character that is desired in a Town Center. Rather than trying to force a pedestrian scale along a major vehicular thoroughfare and limiting vehicular access to the SR-210 via Base Line, the Town Center concept demonstrates how larger-scale uses can be designed to create interest along Base Line and establish a gateway into interior streets that have a more pedestrian-scale, village character.

- Establish a gateway from SR-210
- Iconic tower feature at Church Avenue to help identify the special district
- Highly visible and decorated parking lot/park-and-ride fronting Base Line and surrounded by retail and office uses
- Wide parkways or plazas to slow internal traffic and provide open space
- Internal Main Street that can be closed off for special events
- Village scale of development along Main Street helps buffer existing neighborhoods from stand-alone retailers along Base Line
- Orient mixed-use and commercial buildings away from existing residential neighborhoods
- Grocery store as an anchor tenant along Base Line
- Single-family attached housing as a transition between existing neighborhoods and nonresidential development

Extending Foster Avenue into a new “Main Street” parallel to Base Line will create a focal area that is away from high speed traffic. The street can also be closed off to vehicular traffic by bollards for pedestrian-only events like a farmers market, 4th of July parade, or other community gatherings. This provides the community with a temporary event space that does not impede the flow of traffic along Base Line or hinder access to SR-210 in any way.

The concept shown in Figure 13 on the following page is not intended to prescribe building locations, types, or sizes. Rather it should help the development community understand Highland’s vision for the Town Center Policy Area.

### FLY-THROUGH MODEL

A land use map or identification of districts, gateways, etc., can only convey part of the vision for an area. A computer-generated animation of the Base Line corridor, called a fly-through model, was developed to show building massing, streetscape features, transportation improvements, and other recommendations for the Base Line corridor. It also contains detailed drawings of existing structures along the corridor as well as proposed concepts for the central feature—the Town Center. The fly-through was created using SketchUp, a software program that the City could use to further manipulate the video and test development proposals to see how well they fit into the vision and existing framework.

The fly-through was created with several key objectives in mind: generate investor interest, guide developer and decision makers, market the City of Highland, and serve as a development tool.

In this economic climate, cities are tasked with encouraging economic development yet no longer have redevelopment tax increment financing or redevelopment authority to attract investment through incentives such as low cost loans, infrastructure improvements, land, or other financial incentives. This fly-through is well suited for marketing the City of Highland as an excellent financial investment.

In making any large project happen, it is incumbent on developers to propose products that not only meet specific general plan and land use codes, but that also create a project that embodies the long-term vision for the community. This can be challenging when viewing site plans and elevations. The fly-through allows the City Council to communicate the type, look, and overall feel of the corridor in which projects sit.

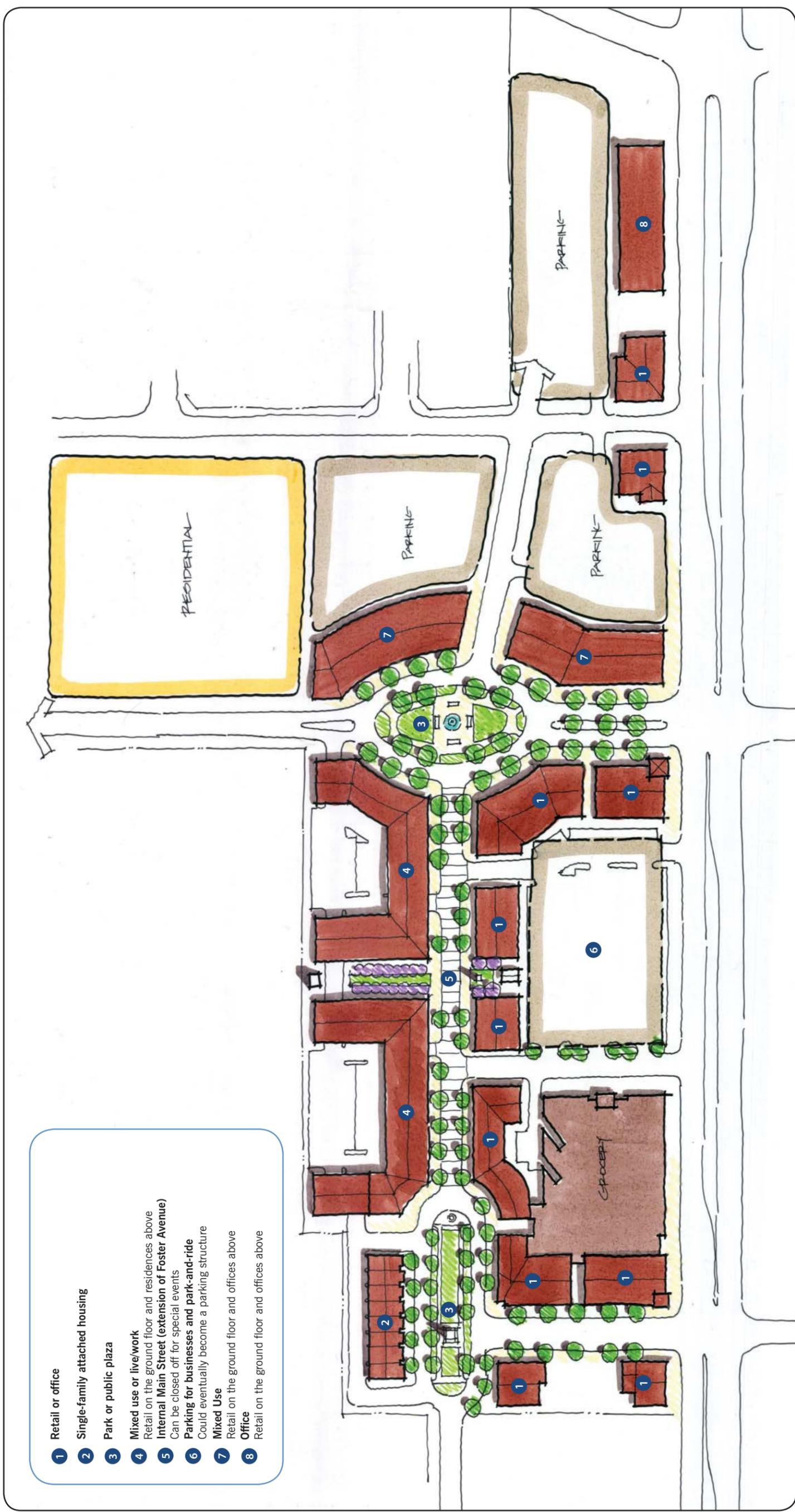
In addition to generating investor interest, the fly-through allows the City Council to market the Base Line corridor to the entire Highland community—its residents, businesses, and organizations. The fly-through communicates, in concrete terms, the progress being made due to the City’s vision and wise stewardship of public funds. This creates momentum and support for making further public investments.

The fly-through creates a unique development tool that

is significantly more advanced than the traditional two-dimensional site plans and occasional elevation. As new projects or improvements are proposed, the City can import the actual project features into the model. This allows the City the tremendous opportunity to field test or view the end result prior to approving a project or multi-million dollar public improvement.

Figures 13 through 20 show conceptualizations of the Town Center and other key areas along the corridor, including several before and after views from photographs and the fly-through model.

FIGURE 13. TOWN CENTER CONCEPT





## 4 RETHINKING THE CORRIDOR

FIGURE 14. TOWN CENTER GATEWAY BEFORE AND AFTER



### KEY CONCEPTS

- Gateway arch with a historic Highland theme
- Planted median featuring river rock to reduce water use
- Thematic street lighting
- Iconic corner structure to designate the entrance to a new shopping area
- Mixture of retail, office, and institution along Base Line and residential uses closer to neighborhoods

FIGURE 15. INTERNAL MAIN STREET BEFORE AND AFTER



### KEY CONCEPTS

- Internal Main Street that can be closed off from vehicular traffic for special events
- Traffic calming through special pavers, bulb-outs, and street trees
- Retail ground floor on both sides of the street
- Prefer office upper story on the right side and residential upper story on the left to transition between single use developments

## 4 RETHINKING THE CORRIDOR

FIGURE 16. OPEN SPACE BUFFER BEFORE AND AFTER



### KEY CONCEPTS

- Create a visually interesting public gathering space
- Provide new open space to support new development and existing residents in the area
- Slow traffic along Church Avenue to reduce impact to existing neighborhoods
- High quality materials and landscaping to welcome patrons to the Town Center

FIGURE 17 .MIDBLOCK HOUSING BEFORE AND AFTER



### KEY CONCEPTS

- Existing structures, even multi-family units, can be revitalized
- Property maintenance is important to make Base Line more attractive
- Facade enhancements to more clearly define the building base, top, windows, and entries add interest
- Improved landscaping and fencing can significantly alter the appearance of a building

## 4 RETHINKING THE CORRIDOR

FIGURE 18. CIVIC ROW BEFORE AND AFTER



### KEY CONCEPTS

- Concentrate public facilities in the Base Line Corridor Policy Area (Civic Row)
- Brand the area as Civic Row
- Wide sidewalks throughout the corridor
- Ensure adequate bike accessibility through clearly marked bike lanes

FIGURE 19. CIVIC ROW BUS STOP BEFORE AND BRT STATION AFTER



### KEY CONCEPTS

- Historic Highland design matches gateway features and new streetscaping elements
- Stations feature benches, shade structures, ticket machines, and headway boards
- Wide sidewalks in front of and behind stations
- Bike parking at all BRT stations
- Locate BRT stations near future destinations like the Town Center, Civic Row, and Victoria Avenue

## 4 RETHINKING THE CORRIDOR

FIGURE 20. VICTORIA GATEWAY BEFORE AND AFTER



### KEY CONCEPTS

- Artistic and iconic gateway feature
- Roundabout helps control traffic while reducing stops
- Define the western entrance into the corridor
- Set the tone for the development and redevelopment of parcels along Base Line and Victoria Avenue



**NEXT STEPS**

**5**



MISSY WOODS  
1958 - 2018

### A NEW PHASE

The BRT project in the City of Highland is part of a larger effort coordinated by the San Bernardino Associated Governments (SANBAG) and Omnitrans. BRT is part of the region's plan to improve linkages between transportation, housing, and jobs while improving sustainability, public health, and overall quality of life. The next phases in the process include collaborations to further transportation improvements, detailed plans for design, and economic development strategies and implementation tools.

### TRANSIT IMPROVEMENTS

The next phase of BRT development in Highland will be organized by SANBAG as they work with Omnitrans to establish details for routes, station locations, and station designs. It is important for the City of Highland to be actively involved in this process to ensure that the BRT service complements the community's vision for the Base Line corridor in terms of both form and function. The City of Highland should proactively engage SANBAG and Omnitrans. Several key questions need to be addressed in the next phase of the project:

- Does being at the end of the line create a special need for temporary vehicle storage space?
- What type of stacking space is necessary to serve BRT buses between services?
- Where along the Base Line corridor can this stacking space be accommodated without interrupting the flow of traffic?
- Who will be responsible for purchasing the necessary right-of-way for the BRT station and bus parking?
- How will station design and location handle potentially large crowds, limit impediments on the adjacent sidewalk, and assuage public safety concerns?

The present pedestrian space along Base Line is minimal. In several areas the existing bus stops partially impede pedestrian access. The BRT station design must be customized to fit into the right-of-way without impeding pedestrian paths. When selecting station designs and locations, available land for purchase, access to City Hall, the planned nodes at the Town Center and Victoria, and signalized pedestrian crossings are influential factors. Another issue that is important to Highland residents and businesses is public safety. BRT stations should be attractive and safe, not covered in graffiti. A plan for the maintenance and security of

these facilities should be communicated to the City of Highland during the station design and locating process.

Highland residents and the business community are proud to be there and will want to continue to be involved in the long-range planning process. It is critical that SANBAG and Omnitrans maintain an open line of communication with City staff and seek additional input from stakeholders, community members, and appointed and elected officials.

Ultimately, BRT service offers an incredible range of economic, social, and sustainability-related opportunities for Highland. These opportunities will be facilitated with support from the community and designed to reflect local visions and values.



TRAX BRT service in Utah

## SPECIFIC PLAN

In revitalizing the corridor, Highland faces the challenge of how to coordinate the varied efforts of property owners in a way that balances individual property interests, maximizes the return on investment for property owners, and achieves the community's vision for Base Line corridor. Redevelopment financing is no longer available as a primary tool to incentivize development projects or make major infrastructure improvements. So if left on their own, individual landowners or developers will gradually propose individual projects that make sense in today's market, not realizing that if efforts were coordinated with adjacent property owners, the final projects would far exceed expectations, maximize property value, and transform the corridor.

A specific plan is the appropriate implementation tool to achieve this broader vision for the community. Although the Town Center is the natural choice for a specific plan, the City may wish to broaden the Specific Plan area to cover the entire Base Line corridor. As discussed earlier, the corridor actually has three separate districts, within separate policy areas covered by the General Plan. However, in order for a corridor to work in a cohesive manner, each district must complement and support the others. BRT service will further link the future of these districts, but additional effort is required. The City could create a specific plan that coordinates the development and improvement activities of each district into a greater whole.

A specific plan has other tangible benefits. The Land Use and Development Code allows a broad range of land uses for the community as a whole, but the uses need to be tailored to the corridor or a Town Center. The City has had difficulty in attracting the type of uses most suitable for a corridor. In these present economic times, the Base Line corridor is an attractive investment to lower-margin businesses that rely on relatively inexpensive land and low operating costs. This trend will continue for the foreseeable future based on the economic study prepared for this project. These types of land uses, if allowed to occupy strategic sections of the corridor, particularly vacant sites, will constrict the City's ability to achieve the community's vision for Base Line.

A specific plan also provides guidance on the appearance of the Base Line corridor. Since design guidelines and standards are not in place, the City has seen many proposals that offer less than the desired attractiveness. A specific plan would allow the City

to provide property owners, developers, and decision makers with clear directions for the future appearance of the area, from building architecture to street furnishings. The specific plan would include distinct standards and guidelines for each key district as well as unified standards and guidelines for select features that should be consistent throughout the corridor. By providing a greater level of detail than existing regulations, the specific plan would result in a higher quality product.

One of the primary difficulties in the planning process is the incremental development of individual lots. When parcels are developed piecemeal, they are often done without consideration of the impacts or connections with surrounding properties. However, if the properties were combined together, the developers could produce a more cohesive product, yielding greater returns for the developer and the community. Within the context of a specific plan, the City could encourage developers to consolidate adjacent lots, because consolidation would allow developers to achieve the highest return on their investment.



Master planning has resulted in higher quality development in east Highland

### ECONOMIC DEVELOPMENT STRATEGIES

The City of Highland has to position the Base Line corridor to compete with other business districts in the San Bernardino Valley. This effort may be most effective if it is a collaboration between the City, Highland Chamber of Commerce, and local civic organizations. The following strategies are activities that can be championed by the City and its partners to increase economic interest and vitality along Base Line.

#### Branding and Marketing

The challenges for areas that developed gradually, such as the Base Line corridor, are to provide a unified message, build that brand, and market it to regional residents and businesses.

The key districts at the Town Center and Victoria will require branding and marketing. The City could directly provide this service, but the City's skills are better suited to making improvements in the public realm. A business improvement district (BID) that is focused solely on local businesses and property owners in these districts could be much more effective at creating and spreading the Highland brand.

To get the effort started, however, the City can work with local and regional media to provide coverage and craft stories about this corridor plan and future BRT service to begin a public relations campaign that will ultimately market the Base Line corridor as an emerging destination.

#### Business Retention and Attraction

Business development activities will put local businesses in contact with services to help them maximize their operations and profitability. Business attraction targets the types of businesses that will complement the existing mix along Base Line. The City and Chamber of Commerce can play important roles in retaining existing businesses and strategically attracting new ones. These organizations should schedule regular meetings with commercial real estate brokers to resolve issues existing businesses are having, to make brokers aware of the City's plans and opportunity areas, and allow brokers to keep the City and Chamber informed of potential businesses looking for new locations.

### Special Events

Hosting special events on a regular basis brings people to the area and raises its profile as a sought-after destination. Visitors will become familiar with the restaurants and other businesses along Base Line by attending special events in the area. Presently, potential venues include Memorial Park, City Hall, St. Adelaide Catholic Church and First United Methodist Church facilities and parking lots, and the parking lot at Highland Village Plaza. Some event ideas include farmers markets, arts and crafts fairs, food truck rallies, and holiday festivities.

A schedule of special events should be coordinated and issued in advance, but different groups can be responsible for different events. The City can directly provide organization, but if the community forms a BID, that entity could be in charge of programming and running events. The BID might also be able to cover the costs associated with events, such as security, cleanup, tables, chairs, and public address systems.



The Claremont Farmers and Artisans Market attracts visitors from beyond the city limits

## FINANCIAL IMPLEMENTATION TOOLS

Funding for the many public and private improvements recommended for the corridor is going to be the primary challenge to implementation. Ultimately, a great deal of investment will be necessary from property owners, developers, the City, SANBAG, Omnitrans, and other agencies. The following financial tools may be part of a multifaceted funding solution.

### Assessment Districts

An assessment district is an assessment on real property for a special benefit from a public improvement. This levy is on top of the maximum 1 percent level allowable under Proposition 13. Once an assessment district is established, the City can issue bonds, pledging the additional property tax revenues as security and using the bond proceeds to pay for the public improvements.

The process involves identifying which parcels belong inside the district and quantifying the special benefits they will receive. Assessment districts are often used to help fund improvements to local streets, streetlighting, parks, landscaping, sidewalks, parking facilities, and utilities.

There are several ways to establish an assessment district. A general process might follow the Municipal Improvement Act of 1913 (Streets and Highways Code Sections 10000 et seq., the "1913 Act"), as modified by Proposition 218 and subsequent legislation.

### Parking District

A parking district is a type of assessment district that can be formed to fund the construction and operation of public parking spaces, lots, garages, and meters. Unlike the standard assessment district, a parking district may also use the ad valorem property tax revenues for operations, maintenance, acquisition, and construction.

A parking district may also obtain revenue for operations and maintenance from parking meters. The Parking District Law of 1951 (Streets and Highways Code Sections 35100 et seq.) requires the City appoint a parking commission, but an existing public body, such as the planning commission, could fill this role.

Establishing a parking district requires majority property owner support because the district would impose a property tax levy on top of the 1 percent maximum levy under Proposition 13. Property owners could come out ahead if new parking lots mean reducing the zoning requirements for on-site parking.

## Contractual Assessments

Contractual assessments occur on individual parcels with the consent of the property owner. Individual property owners can ask the City to construct a public improvement on their property and to levy an ad valorem property tax assessment on their property to pay for the public improvement.

Property owners eventually pay for the public improvement in either type of assessment district. However, some owners prefer contractual assessments because the owners repay the construction costs through property taxes so the debt does not show up on the balance sheet of the property-owning entity. The property owner does not have to show a debt obligation for improvements funded through a contractual assessment and does not have to recover the value of the improvement in the sale price if they sell the property.

### Business Improvement Districts

A business improvement district is a partnership between a municipality and business and property owners in a specific area. BIDs can construct, operate, and maintain parking facilities, street furniture, trash receptacles, lighting, decorations, and parks. A BID can organize public events, promote tourism, and pursue other activities that would benefit Base Line.

There are two main types of BIDs, determined by how they are financed. The Parking and Business Improvement Area Law of 1989 (Streets and Highways Code Sections 36500 et seq., the "1989 Act") provides for the establishment of BIDs through an assessment in the individual businesses within the district. The Property and Business Improvement District Law of 1994 (Streets and Highways Code Sections 36600 et seq., the "1994 Act") allows BIDs to be financed with assessments on property owners.

Under the 1989 Act, the levy to support BID activities and projects is usually applied as part of the business license tax. Under the 1994 Act, the levy to support BID projects and activities is usually a property tax assessment. Experience shows that there is typically greater stability and higher revenues from property-owner BIDs (1994 Act).

A petition by a majority of the affected property owners is required to start establishing a BID. Second, a nonprofit owners association, under contract to the city, operates the BID and implements its projects and activities.

### Multi-Family Improvement Districts

A multi-family improvement district (MID) supplements BID statutes to assess apartment buildings. MIDs typically operate through a nonprofit organization or property owners association under contract to the City. A management plan is adopted at the creation and every renewal of the MID. An MID lasts 5 years, with 10-year increments for each renewal, and assessments for bonds can extend up to 20 years.

Under the Multi-Family Improvement District Law (Streets and Highways Code section 36700, et seq.), MIDs can address a wide variety of issues that aging apartment buildings in Highland are facing. MIDs can fund parking facilities, signage, entry monumentation, street lighting, decorative features, open space, fountains, planting areas, and pedestrian amenities like ramps, sidewalks, benches, and shade structures. MIDs can also enhance facilities and equipment such as security, landscape maintenance, graffiti removal, street and sidewalk cleaning, and building inspection. Some MIDs are designed to also market the housing projects to attract new tenants and promote economic development. This form of assessment district could significantly change the form and function of multi-family apartments along Base Line.



The newest multi-family housing in the Study Area is Jeffrey Court, a City-initiated senior housing project

### Landscaping and Lighting Maintenance District

Landscaping and lighting maintenance districts (LLMDs) can apply to a much larger area where the properties all receive some benefit, even if parcels do not abut the proposed improvement.

LLMDs apply an ad valorem property tax assessment on all properties within the district, and this increased property tax revenue can be used as security for the issuance of bonds to pay for improvements and to pay for annual operation and maintenance.

The authority of LLMDs is broad and includes the construction, operation, and maintenance of landscaping, ornamental structures and facilities, lighting, traffic signals, park or recreational improvements, community centers, and other municipal spaces. Streets, parking, and special events are not included.

LLMDs are only effective when there is sufficient community support for increased taxes. In any year that the City proposes to increase the assessment for ongoing activities or for a new bond issuance, the assessment is subject to the approval of a majority of the property owners in the district.

### Grants

County, state, and federal governments and many private foundations grant funding to municipalities for a variety of projects and activities. Community Development Block Grants from the US Department of Housing and Community Development or Public Works grants from the federal Economic Development Administration are highly sought after, but there are also smaller, more targeted grants from Caltrans and other entities that could help with some of the costs of improvements to the corridor.



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**APPENDIX A**  
**ECONOMIC AND**  
**MARKET ANALYSIS**





## ECONOMIC AND MARKET ANALYSIS

Planning and achieving the revitalization of any corridor requires understanding and building on the economic and market forces that fuel business and residential growth and redevelopment activity. The analysis of these economic and market conditions generally considers the demand for retail sales and services, residences, and office based employment.

For the Base Line corridor, several unique factors influence the broad market conditions. First, the corridor lies to the west of the Foothill Freeway, in the older area of Highland. Most of the City's new development over the last 15 years has occurred to the north and east of the freeway. The 210 thus creates a psychological barrier that new residential development may have to overcome in order to attract new residents.

Second, several retail centers in reasonable proximity to the corridor already serve residents in and near the project area, even though the corridor itself has only limited commercial businesses. Within the City, the proposed Highland Town Center is less than three quarters of a mile from the 135,000-square-foot Highland Village Plaza and about one and a half miles from the Golden Triangle Area, which was proposed for large scale retail and

mixed-use development prior to the recession. It is also about a 1.6-mile drive to the 300,000 square foot Walmart-anchored Highland Avenue Plaza and about a 3.6-mile drive to the one million square foot shopping complex at Citrus Plaza, both of which are in unincorporated portions of San Bernardino, just beyond Highland's boundaries.

Finally, Highland is, for all intents and purposes, at the edge of the Southern California metropolitan area. The edges of metropolitan areas typically struggle to attract jobs to balance out housing. Most employers prefer to locate farther in the metropolitan area to be in proximity to a larger number of potential employees, suppliers, and customers. Nevertheless, the long-term development and buildout of the San Bernardino International Airport (the former Norton Air Force Base) has the potential to drive economic development and employment in Highland.

The economic and market analysis for the Base Line Corridor Study provides a conventional quantitative assessment of the demand for housing, retail sales and services development, and office-based employment while considering the unique factors influencing that demand.

## RESIDENTIAL MARKET DEMAND

Growth in the number of households in an area drives the demand for new housing. The California Department of Finance estimates that Highland grew by 4,160 households from 1990 through 2011, or about 1.5 percent per year. If the trend were to continue, the City would add 2,080 households over the next ten years.

Because new housing in the project area would front on Base Line and because the City still has ample opportunities for new single family detached housing development on the area east of the 201 Freeway, the analysis of residential market demand focuses on multifamily housing, broadly defined as single family attached housing (including duplexes and townhouses) and multifamily housing (including apartments and condos). The question becomes, of those 2,080 news households, how many are potential home buyers or tenants for new multifamily housing along Base Line?

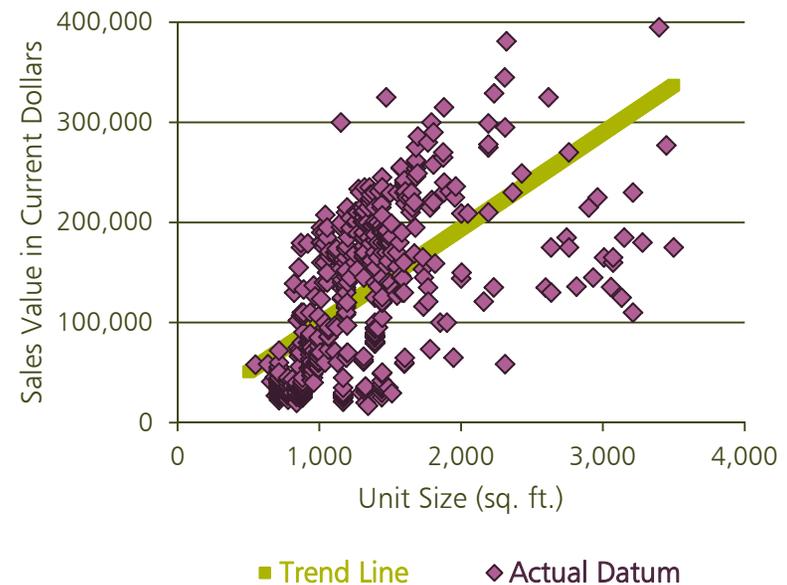
### Market Area

Analyzing the market demand for housing requires the delineation of the market area, the larger area in which the project area competes to attract new households. This analysis defines the residential market area as the East Valley region including Highland, Loma Linda, Mentone, and Redlands, or, more precisely, the zip code areas: 92318, 92346, 92350, 92354, 92359, 92373, and 92374. The Nielsen Company projects that this market area will grow by about 3,800 households over the next five years.

### For-Sale Housing: Household Potential

Before quantifying market demand for for-sale housing, one must first have a range of housing values because the price of housing relates to household income and thus to the number of households likely qualified to purchase new housing. Using data on multifamily unit sales from 2009 through 2011, Figure 1 shows the relationship between sales price and square footage.

**Figure 1: Multifamily Housing Sales Value by Unit Size, Base Line Corridor Market Area, 2009 through 2011**



Source: The Planning Center | DC&E, 2012, using data from Redfin.com.

The available data for multi-family unit sales since 2009 includes very few new units. The analysis therefore calculates the best fit line for all sales since 2009 and then applies a premium for new units calculated using the price-per-square-foot of new units and the average price-per-square-foot for all sales.

The analysis assumes that the smallest new multi-family unit would be a one-bedroom, one-bathroom, 750-square-foot unit. Such a unit would likely sell for \$119,000. A new two-bedroom,

### **For-Sale Housing: Multifamily Housing Demand**

Table 1 derives the projection for the market demand for new for-sale multifamily housing in the market area and in Highland. The data suggest that if past market trends were to continue, the entire market area, remember that include Highland, Loma Linda, Mentone, and Redlands, might support the development of only 100 for-sale multifamily housing units over the next five years.

However, past market trends are not expected to continue in the future. Numerous research and writings point to substantial changes in the type of housing that will be desired in the near future, driven by changing demographics. According to Department of Finance estimates, less than 20 percent of Highland's total housing is multifamily, and in the market area, multifamily accounts for 4.2 percent of all homeowners. Demographic forces will change that pattern. Baby boomers are approaching retirement, and an increasing share of them indicates in surveys a desire to downsize their housing. Gen Y, larger than the baby boom generation, is entering the housing market, and in surveys they express an increasing desire for smaller, more compact housing. Finally, the portion of households with children

two-bath, 1,200-square-foot multi-family unit would likely sell for \$188,000. Based on the estimated price of the smallest one-bedroom unit, the minimum annual household income range that could afford to purchase the 750-square-foot unit would be \$35,000 to \$49,999 (using standard Census Bureau income categories). The Nielsen Company projections indicate that, over the next five years, the market area will add about 3,100 households with this level of income or higher.

is on a continuing downward trend. Soon to be published research suggests that these changing preferences could alter development trends, leading to multi-family housing becoming the dominant form of housing constructed in Southern California over the next 20 years. To capture this change in demand, the analysis conservatively assumes that multi-family will constitute 25 percent of new housing.

With this assumption of changing preferences leading to an increase in multi-family housing, the analysis finds that the market area could support the development of 600 new for-sale multifamily housing units over five years. The City of Highland accounted for 29 percent of the market area's sales of multifamily housing units since 2009. If Highland continues with that same rate, the City could support the development of 170 of those new for-sale multifamily housing units.

**Table 1: Five-Year Demand for New For-Sale Multifamily Housing Units, Base Line Market Area and City of Highland, 2011 to 2016**

(1) 2011 Number of Households (estimate)	37,100
(2) 2016 Number of Households (projection)	40,200
(3) Five-Year Increase in Number of Households	3,100
(4) Homeownership Rate	79%
(5) Five-Year Increase in Homeowners	2,400
(6) Multifamily Housing as Portion of all Homeowners	4%
(7) New Multifamily Housing Home Purchases, Market Trend	100
(8) Multifamily Housing as Portion of all Homeowners, Changing Preferences	25%
(9) New Multifamily Housing Purchases, Changing Preferences	600
(10) Highland Capture Rate	29%
<b>(11) Highland Five-Year Multifamily Housing Demand</b>	<b>170</b>

Source: The Planning Center | DC&E, 2012.

**Notes to Table 1:**

1. The data have been rounded from the original data analysis and may not precisely calculate as presented
2. The number of households in 2011 and 2016 (rows 1 and 2) represent the number of households with annual household incomes \$35,000 or more. The data are estimates and projections from Nielsen.
3. The homeownership rate (row 4) datum represents the San Bernardino county subdivision (as defined by the Census Bureau) and is taken from the Census Bureau's American Community Survey. The rate indicated is a weighted average across the relevant income

categories and does not include households with annual incomes under \$35,000.

4. The five-year increase in homeowners (row 5) is derived by multiplying the project growth in households (row 3) by the homeownership rate (row 4).
5. Multi-family housing as a portion of all homeowners represents the portion of owner-occupied housing that is single-family attached and multi-family, based on data from the American Community Survey.
6. New multi-family housing home purchases (row 7) represents the number of multi-family housing units that would be needed over the next five years to accommodate the projected growth in the number of relevant households in the defined market area. The datum is derived by multiplying the projected increase in homeowner households (row 5) by the portion of homeowners living in multi-family housing units (row 6). This datum represents the market trend, i.e. the demand if past trends were to continue.
7. The multifamily housing as portion of all homeowners, changing preferences (row 8) is an explicit assumption discussed in the text.
8. New multifamily housing purchases, changing preferences (row 9) represents the number of new for-sale multifamily housing units that market demand could support in the defined market area. The datum is derived by multiplying the projected increase in homeowner households (row 5) by the future portion of homebuyers purchasing multi-family housing units (row 7).
9. Highland capture rate (row 10) represents the portion of the total number of multifamily housing purchases occurring in Highland. The datum was obtained from the Redfin.com website.
10. Highland five-year multifamily housing demand (row 11) represents the total number of new for-sale multifamily housing units that could be supported in Highland over the next five years. The datum is derived by multiplying the market area's market demand for new multifamily housing (row 9) by Highland's capture rate (row 10).

### For-Rent Housing: Multifamily Housing Demand

Calculation of market demand for rental housing follows the same general methodology as that used with for-sale housing. The analysis does, however, use all income categories for which the number of households is projected to increase, thus the total number of households will be somewhat different between the for-sale and for-rent data. Table 2 derives the projected demand for new multifamily for-rent housing in the market area and in Highland. The analysis finds that if past trends continue, the market could support the development of 130 new for-rent multifamily housing units over the next five years.

**Table 2: Five-Year Demand for New For-Rent Multifamily Housing Units, Base Line Corridor Market Area and City of Highland, 2011 to 2016**

(1) 2011 Number of Households (estimate)	53,200
(2) 2016 Number of Households (projection)	57,000
(3) Five-Year Increase in Number of Households	3,800
(4) Rentership Rate	29%
(5) Five-Year Increase in Renter Households	1,090
(6) Multifamily Housing as Portion of all Rentals	59%
(7) Five-Year Market Area Demand by New Multifamily Renters	640
(8) Highland Capture Rate	21%
<b>(9) Highland Five-Year Multifamily Housing Demand</b>	<b>130</b>

Source: The Planning Center | DC&E, 2012.

### Notes to Table 2:

1. The data have been rounded from the original data analysis and may not precisely calculate as presented.
2. The number of households in 2011 and 2016 (rows 1 and 2) as estimated and projected by the Nielsen Company..
3. The rentership rate (row 4) represents the San Bernardino county subdivision and is taken from the Census Bureau's American Community Survey. The rate indicated is a weighted average across all income categories.
4. The five-year increase in renter households (row 5) is derived by multiplying the projected growth in households (row 3) by the rentership rate (row 4).
5. Multi-family housing as a portion of all renters (row 6) represents the portion of renter-occupied housing that is single-family attached and multi-family, based on data from the American Community Survey.
6. Five-year market area demand by new multifamily renters (row 7) represents the number of new multifamily housing units need to accommodate the project growth in rental households in the market area. The datum is derived by multiplying the five-year increase in rental households (row 5) by multifamily housing's share of all rentals (row 6).
7. Highland capture rate (row 8) is the portion of all market-area rental households living in Highland. The datum is derived from data from the Nielsen Company.
8. Highland five-year multifamily housing demand (row 9) is the number of new for-rent multifamily housing units that could be supported in Highland over the next five years. The datum is derived by multiplying the market area's five-year demand for multifamily rental units (row 7) by Highland's capture rate for rental households (row 8).

### **Residential Market Demand Findings**

The foregoing analysis suggests that there should be sufficient market demand to support the development of new multifamily housing, for-sale and rental, in Highland. Overall, the analysis finds demand for a total of 300 multifamily housing units over five years. Depending on the City's planning and land use regulation, a substantial number of those 300 units could be steered to the Base Line Corridor.

As discussed in the introduction, however, steering that development across the 201 freeway, towards the older part of

### **DEMAND FOR RETAIL SALES AND SERVICES**

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The economic analysis quantifies the demand for retail building space for three primary reasons. First, to the degree that corridor has excess retail building space, vacant and functionally obsolete commercial sites would make good opportunity sites for infill development. Second, ground-floor retail is often viewed as a valuable amenity to residents who live above, but vertical mixed-use is not financially feasible if there is limited demand for retail space. Contrary to popular belief, there is no magic to vertical mixed-use, to having two, three, or more floors of residences overhead, that will make a good retail location out of a poor one. Finally, Highland leaks retail sales to major shopping centers the lie just beyond the City's boundary. To the degree that market demand can support new retail development, more municipal revenues will be generated, supporting more public investment in the community's quality of life.

Highland will remain a challenge. The psychological barrier will probably affect for-sale housing much more than it will affect rental housing. Thus planning for the Base Line Corridor should focus early phases on attracting new rental housing. Attractive market-rate rental housing can help improve the popular image of the area, can create a positive atmosphere and image of revitalization, and can help add support for new retail development. Nevertheless, the numbers indicate that there should be strong support for for-sale multifamily housing, and its role in the long-term development of the corridor should not be overlooked.

This section of the economic and market analysis begins with a brief description of the methodology and an overview of the fundamentals of retail market demand. Subsequent sections then calculate current and future market demand for retail development.

#### **Retail Market Analysis Methodology**

Four steps make up the basic retail market analysis methodology.

- **Define the Trade Area**

In general terms, the trade area is the geographic area from which a retail business or center will draw most of its customers. Several factors affect the size and boundaries of the trade area, including the type of shopping center, location of competitive retail facilities, and visibility and access to major roads and highways.

- **Calculate Market Potential**

The market potential represents the total amount of retail building space that spending by trade-area residents can support. The analysis estimates the total trade area spending by type of store (e.g., pharmacy, women's clothing). Dividing the spending by the average sales per square foot calculates the gross square footage of supportable retail building space.

- **Identify Competitive Facilities**

Competitive facilities are the trade area's existing and planned retail centers that offer a similar scale of goods. The amount of competition is expressed in terms of gross square footage of retail building space.

- **Determine Market Demand**

Subtracting the square footage of competitive retail facilities from the total square footage of retail space that trade area spending can support determines the market demand. Market demand represents the additional retail building space that the market can support without generating new vacancies.

## **Fundamentals of Retail Markets**

### **Convenience, Comparison, and Experience**

An easy way to understand retail markets is to categorize retail into two groups based on the type of goods or service, the need for which instigates the shopping trip. These groups include convenience goods and services, and comparison goods. Table 3 describes the types of shopping centers that typically serve these two groups.

Generally, the goods and services that most people need on a regular basis (convenience goods and services) are close to where people live. For these regular purchases, most consumers have built up knowledge of where to go to get what they want, whether their discriminator is price and convenience or quality. Groceries, medicines, fast food restaurants, and hair care are typical convenience goods and services. Because convenience goods and services usually have low cost margins and high sales volumes, convenience retailers are located throughout an area, close to concentrations of households. These businesses typically locate in convenience centers and neighborhood shopping centers. Importantly, these types of businesses are also the primary tenants in vertical mixed-use buildings and in areas that serve as a neighborhood or community destination. Corridors often provide good retail locations for convenience goods and services businesses that cater to the needs of residents living in the neighborhoods surrounding the corridor.

Consumers tend to compare goods across brands and across retailers for items they purchase infrequently or rarely. This habit of comparing induces retailers to locate near each other. It also promotes larger-scale retailers who can stock many different brands of similar products. Clothing, electronics, and furniture are quintessential comparison goods. Full-service restaurants, which consumers patronize infrequently, also fall into this group. Because comparison goods have higher cost margins and lower sales volumes, and because consumers purchase these goods infrequently, comparison goods retailers tend to locate close to major transportation corridors that give access to a greater number of consumers. These businesses typically locate in community, regional, and super-regional shopping centers.

Highland Avenue Plaza and Citrus Plaza are two large comparison goods destinations. While the intersections of major corridors often provide good locations for comparison goods retailers, the close proximity of these two centers will make it difficult to attract new comparison goods retailers to the Base Line Corridor.

**Table 3: Shopping Center Types**

Shopping Center Type	Building-Size Range (sq. ft.)	Trade Area	
		Size (radius in miles)	Population Range
Convenience	< 30,000	½	< 5,000
Neighborhood	30,000–100,000	1½	3,000–40,000
Community	100,000–450,000	3–5	40,000–150,000
Regional	300,000–900,000	8	150,000 or more
Super-regional	500,000–2 million	12	300,000 or more

Source: Beyard, Michael D. et al., *Shopping Center Development Handbook*, 3rd ed., Washington D.C.: Urban Land Institute, 1999.

With both of these types of retail, quick easy access, a knowledge of individual retailers and their locations (formed through advertising, signage, and visibility during regular travels), and previous experience can influence where consumers shop. In communities where the automobile is the dominant mode of transportation, retailers respond by locating near and seeking visibility to auto traffic.

A third, hybrid type of retail is experiential shopping. In this type of shopping, the experience of the trip is of equal if not greater importance than the material need for a good or service. The experiential value may accrue from socialization with friends, from entertainment, or from the quality of the place. Downtowns, new town centers, lifestyle centers, and even shopping malls all attempt to enhance the shopping experience and provide a mix of businesses and amenities to create an enjoyable shopping experience. Nevertheless, even corridors can provide a sense of experiential shopping. Planning for Base Line Corridor should strive to improve the experience of customers.

### Trade Area

A trade area is the geographic area from which a retail center will draw the majority of its customers. Sophisticated market-analysis models for individual retailers often define primary, secondary, and even tertiary trade areas. It is generally sufficient, however, for overall retail analyses to define a single primary trade area.

Several factors affect the size and boundaries of the trade area, including the type of shopping center, location of competitive retail facilities, physical barriers, and visibility and access to major roads and highways. The radial definition of a trade area based on its scale (Table 3) provides the starting point for defining a trade area. As the Urban Land Institute cautions, however, “A trade area does not lend itself to concentric circles around a potential site.”

The economic analysis considers two levels of trade area. The primary focus is on the trade area for convenience goods and services, because these are the types of businesses most likely to locate on a corridor, outside of a major destination. For this analysis, the convenience goods and services trade area is defined

as the area within one half mile of Base Line, accounting for the competition of similar businesses located within one and a half miles of the corridor. The analysis also considers a community-scale trade area, defined as the area within three miles of the corridor and accounting for competition within five miles.

### **Household Spending**

The household is the basic economic unit at the center of retail analysis. The US Bureau of Labor Statistics publishes an annual report, the Consumer Expenditure Survey, detailing how Americans spend their annual income. Nielsen, the preeminent marketing data firm, interprets that data for individual locations, based on the demographics and lifestyle characteristics of the households residing in that area. Nielsen reports the data both for types of goods and services (e.g., bakery goods, household repairs, and reading materials) and for types of stores (e.g., grocery stores, men's clothing stores, and full-service restaurants) using standard retail business categories from the North American Industrial Classification System.

### **Sales Efficiency**

Sales efficiency is the average annual sales per square foot of retail businesses. Sales efficiency varies by store type, by individual business, and among different locations of an individual retail chain. Every two years the Urban Land Institute and the International Council of Shopping Centers conduct a survey of retail locations throughout the country. From that survey, they publish average sales efficiency data by type of store in *Dollars and Cents of Shopping Centers / The SCORE*. The current edition was published for 2008. This analysis adjusts those national figures for

San Bernardino County using data from the US Census Bureau's *Economic Census*.

### **Market Potential and Market Demand**

Dividing total spending by average sales efficiency determines the market potential—the total amount of retail building space that can be supported. For example, households within one half mile of the corridor spend about \$22 million per year at grocery stores and supermarkets. Dividing that by the average sales efficiency for this type of store, \$485.75 per square foot per year, indicates that this trade area can support about 45,000 square feet of supermarkets. Market demand is the difference between the market potential and the amount of existing building space used for those types of stores.

### **Market Demand Summary: Convenience Goods and Services**

The analysis finds that there is some unmet demand for convenience goods and services in the corridor trade area (the area within one half mile of Base Line).

Table 4 summarizes the demand for additional retail building space in this category.

The corridor trade area residents could support up to about 30,000 square feet of additional food and beverage stores. This is not sufficient for a full-service supermarket, the smallest of which might start at 50,000 square feet. Even the area within one and one half miles of the corridor would support additional retail building space in this category, but, once again, not a full-service supermarket. Planning for the corridor should consider the

potential for a small format grocery, like Fresh and Easy or Sprouts Farmers Market, which occupy 10–15,000 square feet, plus one or two small specialty grocers.

Consumer spending by trade area residents could also support a full-service pharmacy, which might occupy 10–12,000 square feet. Other health and personal care stores could round out the recommended square footage. Finally, consumer spending by corridor area residents could support up to 2,500 square feet of additional building space for personal services.

All of the remaining categories of convenience goods and services are already over-represented in the corridor’s trade area. Because there is excess building space in some of the categories, the analysis does not recommend planning to accommodate the full amount of supportable retail building space in the food and beverage stores and the health and personal care stores sectors. Over time, it is likely that some of the businesses in the other categories will vacate their retail space, either going out of business or relocating.

**Table 4: Projected Market Demand for Convenience Goods and Services (in building square footage), Base Line Corridor, 2016**

	Corridor Trade Area	Competitive Trade Area	Corridor Recommendation
Food and Beverage Stores	30,400	45,300	15–22,000
Health and Personal Care Stores	26,300	21,200	10–15,000
Gasoline Stations	-1,950	21,300	0
Miscellaneous Store Retailers	-660	5,470	0
Foodservice and Drinking Places	-31,200	-59,100	0
Personal Services	2,500	5,780	2,500
<b>Total</b>	<b>25,390</b>	<b>39,950</b>	<b>30–35,000</b>

Source: The Planning Center | DC&E, 2012, using data from the Nielsen Company, the Urban Land Institute, and the Census Bureau.

### Market Demand Summary: Comparison Goods

The analysis finds that there is very little unmet demand for comparison goods retail development. Indeed, the analysis suggests that overall; the area with five miles of the corridor has excess retail building space. In several of the categories, such as furniture and home furnishing, consumer spending within three miles of the corridor could support more businesses, but the surplus of businesses within five miles means that the local residents have sufficient choice within an adequate drive.

Clothing and clothing accessories stores is the one category that seems to under-represented. This, however, is not an unexpected finding. Most communities leak retail spending in this category.

Many of these businesses agglomerate in a few key destinations, and these tend to be in and around regional malls. Nevertheless, the scale of the unmet demand in this category suggests that some additional retailers could be attracted to Highland. Indeed, with local spending able to support 47,000 square feet of additional retail building space in this category, it might be worth exploring the potential to establish a clothing destination as a niche for the Highland Town Center, the Golden Triangle, or another Highland location. To keep expectations realistic, the analysis recommends planning Base Line Corridor for no more than 10,000 square of new retail building space for clothing businesses.

**Table 5: Projected Market Demand for Comparison Goods (in building square footage), Base Line Corridor, 2016**

	3-Mile Trade Area	5-Mile Trade Area	8-Mile Trade Area	Corridor Recommendation
Furniture and Home Furnishings Stores	16,200	-254,000	-610,000	0
Electronics and Appliance Stores	-31,000	-362,000	-426,000	0
Building Material, Garden Equip Stores	7,310	-4,930	144,100	0
Clothing and Clothing Accessories Stores	47,400	182,500	416,000	10,000
Sporting Goods, Hobby, Book, Music Stores	-940	-53,000	27,100	0
General Merchandise Stores	-160,100	-460,000	137,300	0
<b>Total</b>	<b>-121,130</b>	<b>-951,430</b>	<b>-311,500</b>	<b>10,000</b>

Source: The Planning Center|DC&E, 2012, using data from the Nielsen Company, the Urban Land Institute, and the Census Bureau.

Beyond the broad categories of retail, there are several types of retail stores that are underrepresented in the corridor and the comparison goods trade area. Because the broad retail categories for each of these types of stores has excess retail building space in the larger 5- and 8-mile radii trade areas, the analysis does not support new development to accommodate these businesses. Rather, the analysis recommends that these types of businesses could represent targets for business recruitment efforts to fill existing and future vacancies, as the market tries to reach equilibrium between supply and demand.

**Table 6: Potential Business Recruitment Targets, by Type of Store and Total Building Square Footage, Base Line Corridor, 2016**

Store Type	Potential Building Space Occupancy (sq. ft.)
Paint and Wallpaper Stores	2,000
Florists	900
Gift, Novelty and Souvenir Stores	2,000
Other Miscellaneous Store Retailers	7,000
Full-Service Restaurants	5,000

Source: The Planning Center | DC&E, 2012.

### **Retail Market Demand Findings**

The analysis finds relatively weak demand for new retail development along Base Line. The three categories worth exploring in more detail are: food and beverage stores; health and personal care stores; and clothing and clothing accessory stores.

The weak demand suggests that corridor planning could envision the redevelopment of some commercial properties without a substantial impact on the total amount of retail sales. When there is excess retail building space and an excess number of businesses, those businesses tend to dilute the total sales. Have a smaller number of businesses does not force local consumers to leave the community; they just end up spreading their spending across fewer local stores.

The weak demand also suggests that planning for Base Line Corridor should neither count on nor require vertical mixed use development. Rarely, if ever in Southern California, can retail pay its own way in mixed use projects. In all but the most lucrative markets, the residential or office uses on the upper stories subsidize ground-floor retail. In a weak retail market, that subsidy must be even larger. Requiring vertical mixed-use development would not only discourage new development but would likely inhibit it. That said, the retail market demand analysis offers no justification for prohibiting mixed-use development.

Finally, the relatively weak demand, although representative of the current and near-term economic conditions, suggests that the City should carefully evaluate its overall retail sales and services strategy. Clearly, it would benefit the City to retain its residents' con-

sumer spending that is currently leaking to Highland Avenue Plaza and Citrus Plaza. Nevertheless, from a developer and retailer perspective, having those shopping centers so close weakens the case for new retail development in Highland. With limited real potential for new retail, the City will have to decide how to position the Golden Triangle area, the proposed Highland Town Center, and Base Line Corridor so that these do not compete with each other. The recommendations in

Table 5 and Table 6 are based on limiting Base Line Corridor to serving primarily the convenience goods and services needs of the neighborhoods immediately adjacent to the corridor. Such a strategy would implicitly reserve comparison goods market potential for the Golden Triangle.



**APPENDIX B**

**TRAFFIC STUDY  
MEMORANDUMS**

**B**





## TECHNICAL MEMORANDUM

Date: August 29, 2012  
To: Mark Hoffman, The Planning Center|DC&E  
From: Chris Gray, Fehr & Peers  
Thao Pham, Fehr & Peers

**Subject: Base Line Corridor VMT to BRT Traffic Study Technical Memo**

IE11-0078

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Fehr & Peers has completed a review of existing transportation conditions for the Base Line Corridor Vehicle Miles Travelled (VMT) to Bus Rapid Transit (BRT) Project, located in the City of Highland, CA. The Project is being funded through the Southern California Association of Governments (SCAG) Compass Blueprint Program.

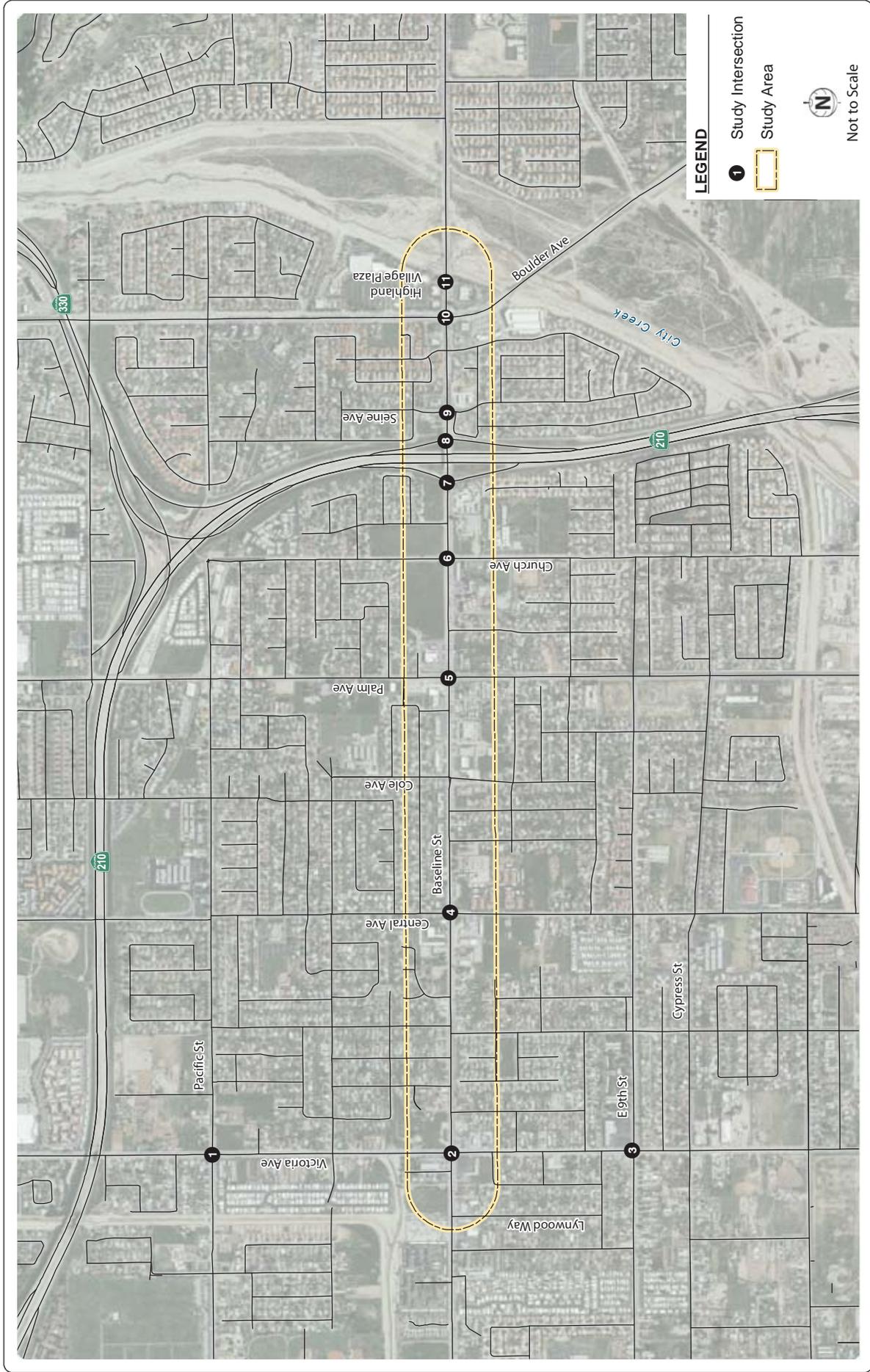
The purpose of this technical memorandum is to summarize the existing field conditions and existing traffic analysis for the project study area. In addition, required and desirable transit, pedestrian, and bicycle features as outlined in the City of Highland General Plan and Americans with Disabilities Act (ADA) have also been provided in creating a cohesive and appealing atmosphere for all users of the transportation system. Future conditions within the corridor will be provided in a separate document. The remainder of this memorandum is divided into the following sections: Study Area, Traffic Operations Methodologies and Assumptions, Existing Conditions (Roadway, Bus Transit, Pedestrian, and Bicycle), Existing Intersection Operations Analysis, Collision Data Review, and Conclusion.

### STUDY AREA

The project generally extends along Base Line from Lynwood Way to the City Creek in the City of Highland, CA. The study area extends from Pacific Street to the north, 9<sup>th</sup> Street to the south, the City Creek to the east, and Lynwood Way to the west. Eleven study intersections were selected for evaluation in this study in collaboration with the City of Highland Traffic Engineering staff. The study intersections and corridor are identified below and in Figure 1.

### *Study Intersections*

1. Victoria Avenue at Pacific Street
2. Victoria Avenue at Base Line
3. Victoria Avenue at 9<sup>th</sup> Street
4. Central Avenue at Base Line
5. Palm Avenue at Base Line
6. Church Avenue at Base Line
7. SR-210 Eastbound Ramps at Base Line
8. SR-210 Westbound Ramps at Base Line
9. Seine Avenue at Base Line
10. Boulder Avenue at Base Line
11. Highland Village Plaza at Base Line



## TRAFFIC OPERATIONS METHODOLOGIES AND ASSUMPTIONS

Intersection operations were evaluated using methodologies provided in the *Highway Capacity Manual* (HCM 2000) (Transportation Research Board, 2000), and are considered the state-of-the-practice methodologies for evaluating intersection operations. These methodologies are also consistent with the County of San Bernardino and San Bernardino Associated Governments Congestion Management Program (SANBAG CMP) analysis requirements.

The HCM 2000 methodology for signalized intersections estimates the average control delay for the vehicle at the intersection. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized intersections are provided in Table 1.

TABLE 1 - INTERSECTION LOS CRITERIA			
Level of Service	Description	Signalized Delay (Seconds)	Volume-to-Capacity (V/C) Ratio
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 15.0	0.000-0.600
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 15.0 to 25.0	0.601-0.700
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 25.0 to 35.0	0.701-0.800
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	0.801-0.900
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	0.901-1.000
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	Greater than 1.000

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

The *Guidelines for CMP Traffic Impact Analysis Report in San Bernardino County (San Bernardino County CMP, 2005 Update)* states the necessity of conducting a regional analysis to quantify potential impacts of the project on the CMP freeway monitoring locations and CMP arterial intersection monitoring stations. Cost estimates and estimated fair share contributions need also be prepared for any suggested improvements at CMP arterial intersections.

The CMP arterial monitoring intersections in the project study area are at the SR-210 eastbound and westbound ramps at Base Line.

Also in accordance with the *Guidelines for CMP Traffic Impact Analysis Report in San Bernardino County* are the following methodologies used to analyze intersection traffic operations:

- All intersection operations analyses were conducted using procedures and methodologies contained in the HCM 2000. These methodologies were applied using the Synchro version 6.0 software.
- For all study intersections, the overall average delay and LOS are reported.
- Lane configuration and roadway geometry were gathered from field observations.
- Existing peak hour factor (PHF) was based on intersection counts collected in September 2011.
- A two percent heavy vehicle percentage was used based on field observations.
- Existing saturation flow rates assumed to be:
  - 1800 for exclusive through and exclusive right
  - 1700 for exclusive left
  - 1600 for dual lefts
- Existing signal timings based on timing data received from City staff and Caltrans

The *2006 City of Highland General Plan* has identified a target LOS D as the acceptable level of service on roadway intersections within the City. Given the identified parameters, LOS D is the minimum acceptable operating level for all the study intersections.

The *City of Highland General Plan* and *Guidelines for CMP Traffic Impact Analysis Report in San Bernardino County* are provided in Appendix A.

## **EXISTING CONDITIONS**

This section discusses the existing transportation conditions in the project study area. This discussion addresses the roadway, transit, and pedestrian networks.

### ***Roadway Facilities***

The following roadways in the study area are classified in the *City of Highland General Plan* as follows:

- Base Line – Base Line is an east/west divided Major Highway with two lanes in each direction. From Lynwood Way to Church Avenue and from Boulder Way to the City Creek, Base Line is classified as a Major Highway. From Church Avenue to Boulder Avenue, Base Line is a Primary Arterial. It is a direct connector to the SR-210 freeway in the project study area. The posted speed limit on Base Line in the study area varies between 40 and 45 miles per hour (mph).
- Victoria Avenue – Victoria Avenue is a north/south Major Highway with two lanes in each direction. North of Base Line, Victoria Avenue is divided. South of Base Line, Victoria

Avenue is undivided. It extends from the mountains up north to 3<sup>rd</sup> Street to the south. The posted speed limit on Victoria Avenue in the study area varies between 40 and 45 mph.

- Central Avenue – Central Avenue is a north/south undivided Collector Street with one lane in each direction. It extends from Highland Avenue to the north and 3<sup>rd</sup> Street to the south. The posted speed limit on Central Avenue at Base Line is 25 mph.
- Palm Avenue – Palm Avenue is a north/south Special Collector Street north of Base Line and a Major Highway south of Base Line. North of Base Line, Palm Avenue is undivided with one lane in each direction. South of Base Line, Palm Avenue is divided with two lanes in each direction. It extends from Palm Crest Drive to the north and turns into Alabama Street and ends at Brookside Avenue to the south. Palm Avenue is a direct connector to the I-10 freeway south of the project study area. The posted speed limit on Palm Avenue is 25 mph north of Base Line and 45 mph south of Base Line.
- Church Avenue – Church Avenue is a north/south undivided Collector Street with two lanes in each direction. It extends from Pacific Street to the north and 5<sup>th</sup> Street to the south. At the Church Avenue and Pacific Street intersection, a pedestrian walkway connects the west and east side of Pacific Street over the SR-210 freeway. The posted speed limit on Church Avenue is 25 mph.
- Foothill (SR-210) Freeway – SR-210 is an east/west directional freeway that begins in the City of Pasadena and extends southeast through San Bernardino before terminating at its junction with the I-10 freeway in the City of Redlands. In the project study area, the SR-210 runs north/south and has two lanes in each direction. Access to the project area is provided at the Base Line interchange.
- Seine Avenue – Seine Avenue is a north/south undivided residential street with two lanes in each direction. It extends from 14<sup>th</sup> Street to the north and Stoney Creek Court to the south. The posted speed limit on Seine Avenue is 25 mph.
- Boulder Avenue – Boulder Avenue is a north/south Modified Primary Arterial. North of Base Line, Boulder Avenue is divided with two lanes in each direction. South of Base Line, Boulder Avenue is undivided with one lane in each direction. It extends from Highland Avenue to the north and continues southeast and turns into Alta Vista Drive, ending at Outer 10 Highway South in the City of Redlands. The posted speed limit on Boulder Avenue in the study area varies between 40 and 45 mph.
- Pacific Street – Pacific Street is an east/west Secondary Highway. East of Victoria Avenue, Pacific Street is undivided with one lane in each direction. West of Victoria Avenue, Pacific Street is divided with two lanes in each direction. It extends from Perris Hill Park Road to the west and ends at Grove Avenue to the east. Pacific Street is connected on the east and west side of the SR-210 freeway by a passenger walkway.
- 9<sup>th</sup> Street – 9<sup>th</sup> Street is an east/west undivided Secondary Highway with one lane in each direction. It extends from west of Pennsylvania Avenue to Palm Avenue. The posted speed limit on 9<sup>th</sup> Street is 40 mph.

### ***Bus Transit Facilities***

There are three transit lines that currently operate in the study area. The lines, operated by Omnitrans, are described in detail below:

- Routes 3/4 – Routes 3/4 (Base Line-Highland-San Bernardino) run almost identical routes, but in the counter-clockwise direction on Route 3 and in the clockwise direction on Route 4. The bus route provides round-trip service along various roads in the City of San Bernardino and Highland that include Highland Avenue to the north, 2<sup>nd</sup> Street and Base Line to the south, Medical Center Drive to the west, and Boulder Avenue to the east. In the project study area, service runs along Base Line from Arrowhead Avenue to Boulder Avenue. Service is provided at 20-minute headways every day. Route 3 service runs from approximately 4:30 AM to 11:00 PM on weekdays and 6:00 AM to 7:00 PM on weekends, while Route 4 runs from approximately 4:30 AM to 11:00 PM on weekdays and 6:30 AM to 7:30 PM on weekends.
- Route 15 – Route 15 (Fontana-San Bernardino/Highland-Redlands) provides service from along various roads in Lynwood Drive diagonally southwest past the I-215 freeway to Valley Boulevard along various roads spanning the Cities of Fontana, Rialto, Colton, San Bernardino, Highland, and Redlands. The route starts in the City of Fontana to the west and generally travels east/west to the City of Highland. From the City of Highland, the route generally travels north/south to the City of Redlands. In the project study area, Route 15 runs east/west on 9<sup>th</sup> Street at Victoria Avenue and eventually continues on to Base Line from Palm Avenue to Church Avenue. Service is provided at 15- and 30-minute headways on weekdays and at 30-minute headways on weekends. Service runs from approximately 5:00 AM to 11:00 PM on weekdays and 6:30 AM to 7:30 PM on weekends.

Omnitrans provided bus ridership volumes for Routes 3/4 & 15 from July 2005 to September 2011. On average, Bus Route 3/4 services 68,500 riders on a monthly basis, with 70,500 riders on a monthly basis from January 2011 to September 2011. Bus Route 15 services approximately 63,500 riders on a monthly basis, with 63,800 riders on a monthly basis from January 2011 to September 2011.

Omnitrans also provided ridership survey data collected from December 2010 to October 2011 for Routes 3/4 & 15. For a typical weekday on Route 3/4, the maximum number of passengers on a bus was 43 riders in the AM peak hour, 64 riders in the midday, and 45 riders in the PM peak hour. Less riders were recorded travelling in the clockwise (Route 4) direction than counterclockwise (Route 3) direction. For a typical weekday on Route 15, the maximum number of passengers on a bus was 59 riders in the AM peak hour, 57 in the midday, and 47 riders in the PM peak hour.

Within the study area, the maximum number of riders at each of the following bus stops is listed as follows:

- Victoria Avenue: 26 riders on Route 3 in the midday
- Central Avenue: 25 riders on Route 4 in the midday
- Palm Avenue: 38 riders on Route 3 in the midday
- Church Avenue: 24 riders on Route 3 in the midday
- Boulder Avenue: 79 riders on Route 4 in the midday

With increasing numbers in bus ridership and plans for redevelopment in the study area, the bus facilities in the study area need to be better equipped in accommodating bus transit users. Desirable features to enhance the safety and appeal of bus transit facilities can include the following features:

- Provide benches and canopies at bus stops
- Provide pedestrian scale lighting at bus stops
- Position bus stops in visible areas
- Install bus pads or pockets at bus stops
- Provide safe loading/unloading platform for riders
- Ensure accessibility of elderly and disabled persons
- Increase the frequency of stops if demand is present
- Space bus stops within a half-mile distance of one another
- Coordinate bus rapid transit for high-ridership routes

A field survey was conducted in September 2011 in the study area to identify bus transit facilities. Table 2 is an inventory of bus facilities along Base Line. Figure 2 shows existing bus routes and stops along Base Line. Bus route schedules are provided in Appendix B.

<b>TABLE 2 – EXISTING BUS TRANSIT FACILITIES</b>		
<b>Location</b>	<b>Bus Route</b>	<b>Bus Facility</b>
Westbound – west of Victoria Avenue	4	Bus sign and shelter
Eastbound – east of Victoria Avenue	3	Bus sign and shelter
Westbound – west of Vine Street	4	Bus sign and shelter
Westbound – east of Central Avenue	4	Bus sign and shelter
Eastbound – east of Central Avenue	3	Bus sign and shelter
Eastbound – east of Lillian Lane	3	Bus sign and shelter
Westbound – east of Palm Avenue	4, 15	Bus sign and bench
Westbound – west of Church Avenue	4, 15	Bus sign and shelter
Eastbound – west of Stoney Creek Drive	3	Bus sign and shelter
Westbound – west of Stoney Creek Drive	4, 15	Bus sign and bench
Eastbound – east of Boulder Avenue	15	Bus sign and bench
Westbound – east of Boulder Avenue	15	Bus sign and bench
Source: Field survey conducted by Fehr & Peers in September 2011.		

***Pedestrian Facilities***

The pedestrian network in the study area consists of sidewalks, pedestrian crosswalks, and appropriate pedestrian crossing controls. The Federal Highway Administration (FHWA) and Americans with Disabilities Act (ADA) have set design standards for pedestrian facilities, which we have used to determine where potential improvements to sidewalks could be made.

An acceptable sidewalk will include the following features:

- A minimum of 44 inches of unobstructed sidewalk width
- A maximum of ½” of vertical obstruction (trip and fall hazards)
- Curb ramps at intersections and driveways
- Pedestrian push-buttons at intersections

Desirable features to enhance safety and appeal on sidewalks can include any of the following features:

- Landscaping on both sides of a sidewalk with trees for shade
- Install raised medians where appropriate to reduce exposure to cross traffic at street crossings
- Create a buffer from on-street parking
- Provide trashcans along arterials
- Provide pedestrian scale lighting along sidewalks
- Provide signalized crosswalks

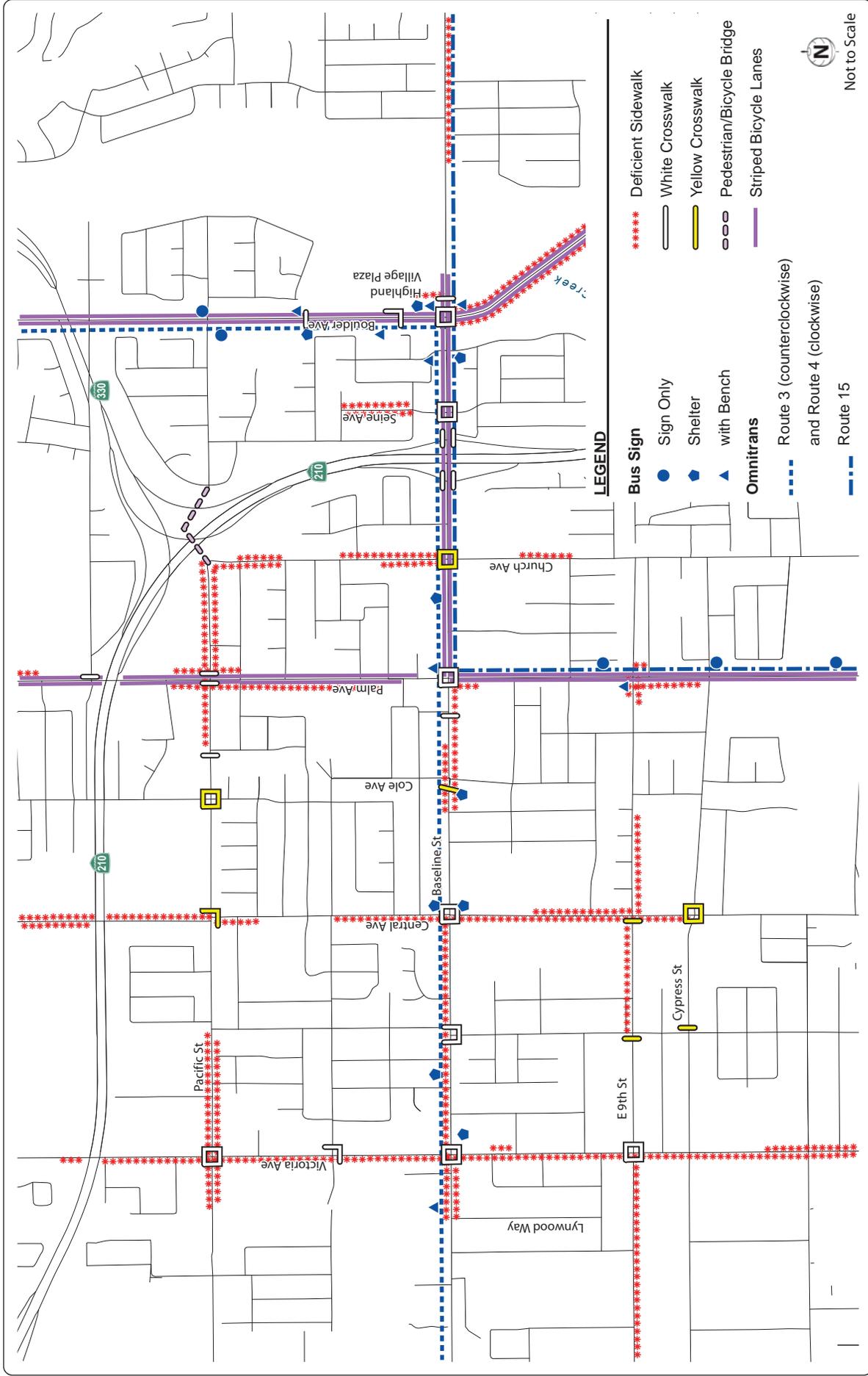
A deficient sidewalk can include any of the following features:

- Less than 44” of unobstructed sidewalk width
- Greater than ½” of vertical obstruction (trip and fall hazards)
- Missing or non-continuous sidewalks, including unpaved areas, potholes, and uprooted sidewalks
- No curb ramps at intersections and driveways
- No pedestrian push-buttons at intersections

A field survey was conducted in September 2011 in the study area to identify deficient areas of pedestrian facilities based on the above characteristics. Table 3 contains a list of deficient sidewalk segments on Base Line. Figure 2 shows existing crosswalk locations and areas of deficient sidewalks in the study area.

<b>TABLE 3 – EXISTING PEDESTRIAN FACILITY DEFICIENCIES ON BASE LINE</b>	
<b>Location</b>	<b>Deficiency</b>
Base Line – north and south side - from Lynwood Way to Victoria Avenue	Broken sidewalk, obstructions in sidewalk
Base Line – north side - from Victoria Avenue to Central Avenue	Areas of broken and unpaved sidewalk, obstructions in sidewalk
Base Line – north and south side - from Lillian Lane to east of Cole Avenue	Areas of broken and unpaved sidewalk, obstructions in sidewalk
Base Line – south side - from Cole Avenue to Palm Avenue	Areas of broken and unpaved sidewalk
Base Line at SR-210 EB Ramps	No northbound and southbound crosswalks
Base Line at SR-210 WB Ramps	No northbound and southbound crosswalks
Base Line at Highland Village Plaza	No southbound, eastbound, and westbound crosswalks
Source: Field survey conducted by Fehr & Peers in September 2011.	

There are three school-related crosswalks across Base Line, at Cole Avenue, Reedy Avenue, and Church Avenue. The crosswalk at Cole Avenue is yellow and diagonal, connecting the offset entrances of north and south Cole Avenue. This crosswalk is a direct connector to Cole Elementary School, located on Cole Avenue, north of Base Line. The crosswalk has pedestrian signage for both directions of traffic on Base Line, but is not a flashing crosswalk. The crosswalk at Reedy Avenue is white and is an indirect connector to Cole Elementary School. The crosswalk has pedestrian signage for both directions of traffic on Base Line, but is not a flashing crosswalk. The crosswalk at Church Avenue is yellow and a direct connector to Saint Adelaide School on the southwest corner Church Avenue and Base Line. The crosswalk does not have pedestrian signage for vehicular traffic, but is located at a signalized intersection.



### ***Bicycle Facilities***

The bicycle network in the study area consists of dedicated bicycle facilities. The City of Highland has three classifications of bikeways. A Class I Bike Path is separated from roadway traffic. A Class II Bike Lane delineates right-of-way for bicyclists and motorists and usually separated by striping. A Class III Bike Route is designated using signage along the roadway without special striping and provides continuity to other bicycle facilities. The *City of Highland General Plan* identifies Base Line, Palm Avenue, and Boulder Avenue in the study area as Class II Bike Lanes (On Street). Victoria Avenue is identified as a Class III Bike Route (Signage).

Desirable features to enhance safety and the accommodation of cyclists include the following features:

- Acquire public right-of-way to install additional bikeways along high activity centers such as schools, shopping centers, and employment centers
- Provide connectivity between bikeways
- Provide safe and secure bike racks on public arterials

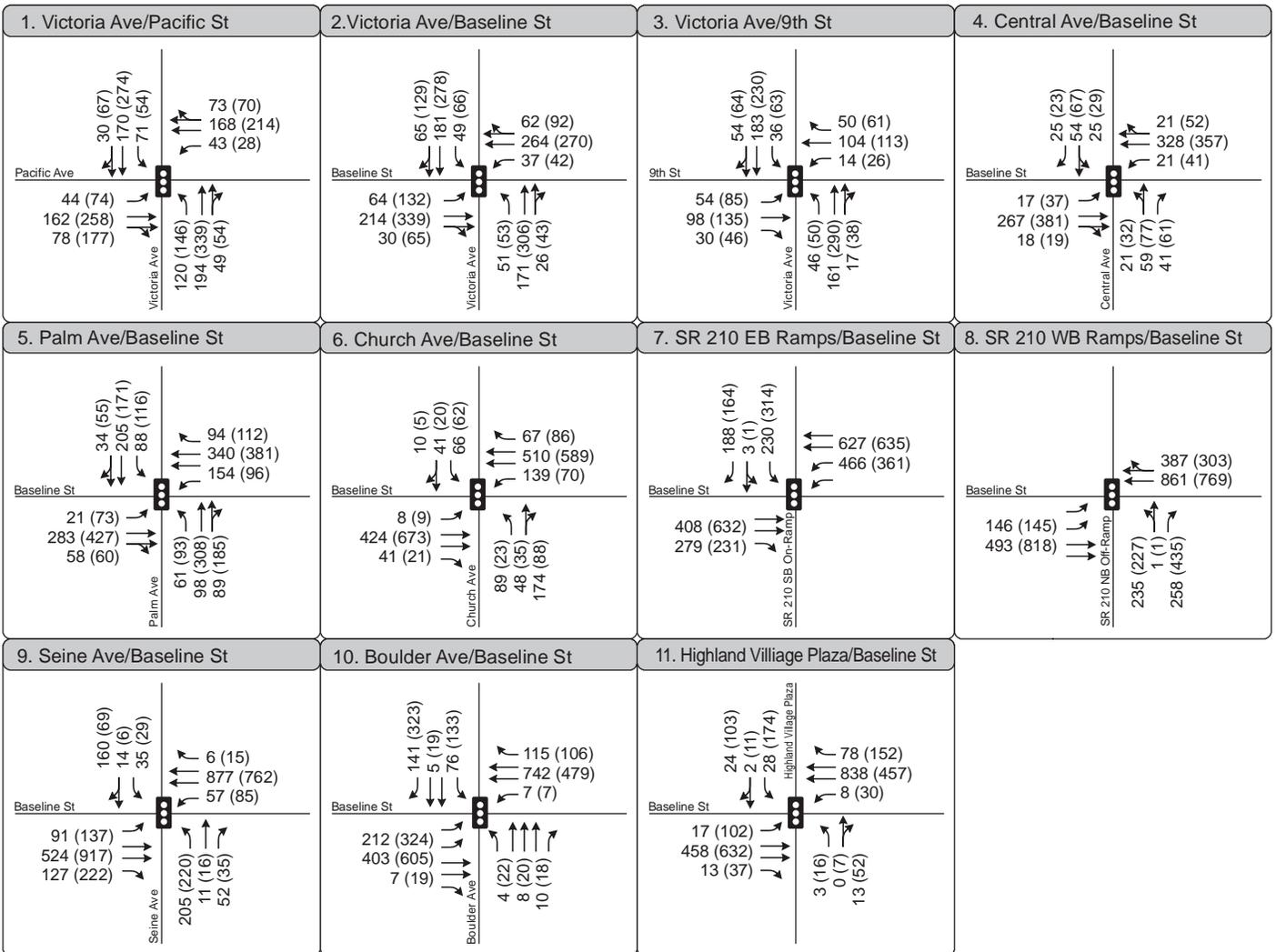
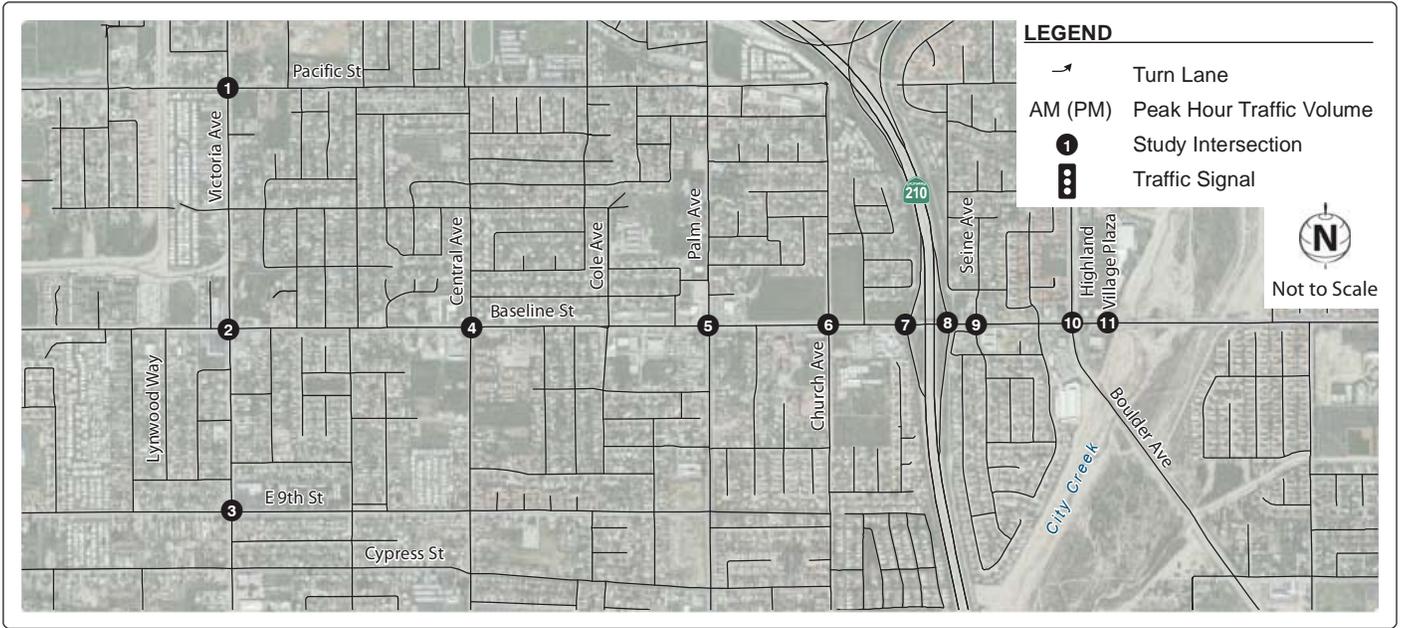
A field survey was conducted in September 2011 along Base Line to inventory bicycle facilities. The survey found that bicycle lanes are striped from between Palm Avenue and the City Creek on Base Line. Bicycle lanes are also striped on Palm Avenue and Boulder Avenue in the study area. No bicycle racks were observed during the survey.

Figure 2 shows existing bicycle facilities in the study area.

### ***Traffic Volumes and Lane Configurations***

Existing traffic counts were collected at the 11 study intersections on Thursday, September 15, 2011 during the AM (7:00 to 9:00 AM) and PM (4:00 to 6:00 PM) peak hours. Figure 3 shows the existing lane configurations and traffic volumes. Existing traffic counts are provided in Appendix C.

Signal timing information for the 11 study intersections were provided by the City of Highland and Caltrans. Signal timing parameters were provided for the AM and PM peak hours.



**EXISTING CONDITIONS  
PEAK HOUR TRAFFIC VOLUMES  
AND LANE CONFIGURATIONS**

### EXISTING INTERSECTION OPERATIONS ANALYSIS

The existing traffic volumes, lane configurations, and signal timing data were used to evaluate traffic operations at the study intersections for the existing AM and PM peak hours. The results are summarized in Table 4. The technical calculations are provided in Appendix E.

TABLE 4 - INTERSECTION LEVEL OF SERVICE				
EXISTING CONDITIONS				
Intersection	AM Peak Hour		PM Peak Hour	
	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS
1. Victoria Avenue at Pacific Street	14.8	B	16.3	B
2. Victoria Avenue at Base Line	23.7	C	25.3	C
3. Victoria Avenue at 9 <sup>th</sup> Street	8.0	A	7.7	A
4. Central Avenue at Base Line	13.8	B	17.2	B
5. Palm Avenue at Base Line	26.2	C	30.2	C
6. Church Avenue at Base Line	22.1	C	11.2	B
7. SR-210 EB Ramps at Base Line <sup>2</sup>	16.1	B	15.4	B
8. SR-210 WB Ramps at Base Line <sup>2</sup>	17.4	B	18.1	B
9. Seine Avenue at Base Line	20.0	B	21.3	C
10. Boulder Avenue at Base Line	25.9	C	26.0	C
11. Highland Village Plaza at Base Line	7.1	A	19.0	B

Notes:  
 1- Delay for intersections based on application of 2000 Highway Capacity Manual methodology. Delay was calculated using Synchro 6.0 software.  
 2- Intersection controlled by Caltrans  
 Source: Fehr & Peers, 2011

As shown in Table 4, all of the study intersections operate at LOS C or better in the City of Highland during the AM and PM peak hours.

#### Collision Data Review

Ten years of collision data from Year 2000 to 2009 for the City of Highland was collected from the Statewide Integrated Traffic Records System (SWITRS) for this collision review. The SWITRS database contains data gathered from a collision scene. The data used for this review was separated between bicycles and pedestrians, and vehicles.

A total of 722 collisions involving pedestrians, bicyclists, and vehicles occurred in the City, averaging 72 collisions per year. Victoria Avenue and Base Line account for the highest number of collisions, accounting for 87 and 172, respectively. This collision data review focuses on the Base Line corridor.

A total of 19 pedestrian and bicycle collisions have occurred on the Base Line corridor. Of the 19 collisions, 17 have resulted in minor injury, one has resulted in severe injury, and one has resulted in a fatality. Nine of the collisions occurred at mid-block locations, eight of which resulted in minor injuries and one resulted in a fatality. The number of collisions that occurred at study intersections on Base Line are summarized below:

1. Palm Avenue at Base Line: 1 minor collision

2. Seine Avenue at Base Line: 1 minor collision
3. Boulder Avenue at Base Line: 3 minor collisions

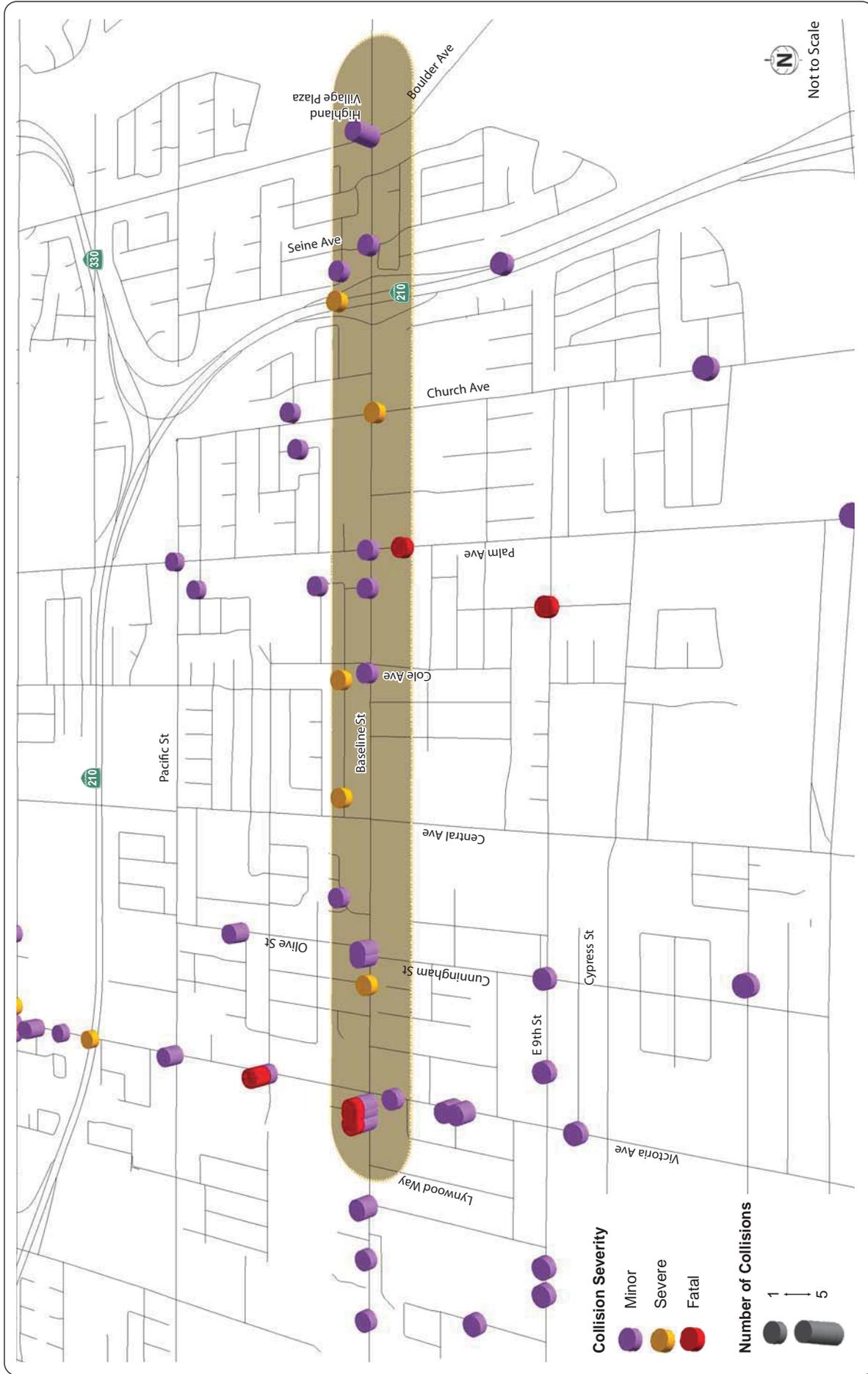
A total of 56 vehicle collisions have occurred on the Base Line corridor, 54 of which resulted in minor injuries and two resulted in severe injuries. Twenty-five of the collisions occurred at mid-block locations, of which 24 resulted in minor injuries and one resulted in severe injuries. The number of collisions that occurred at study intersections on Base Line are summarized below:

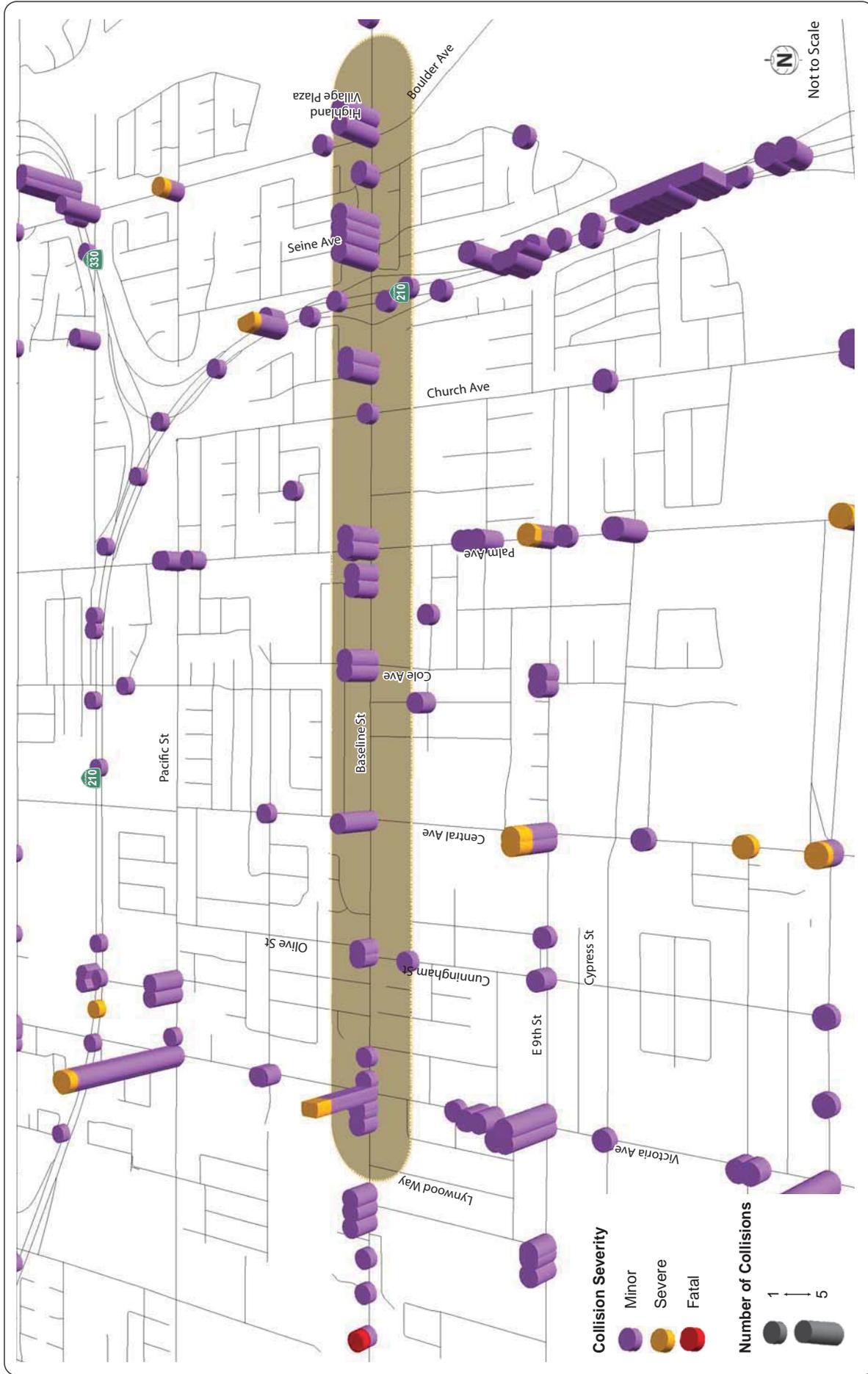
1. Victoria Avenue at Base Line: 13 collisions
2. Central Avenue at Base Line: 5 collisions
3. Palm Avenue at Base Line: 4 collisions
4. Church Avenue at Base Line: 3 collisions
5. Seine Avenue at Base Line: 1 collision
6. Boulder Avenue at Base Line: 4 collisions

Figure 4 shows pedestrian and bicycle collisions by severity in the study area. Figure 5 shows vehicle collisions by severity in the study area.

### ***Conclusion***

All 11 study intersections in the study area currently operate at LOS C or better. To further enhance the City's appeal to residents, tourists, and developers, many features of its transportation network should be prioritized. Raised medians and landscaping along sidewalks will create an attractive atmosphere, welcoming nicer development and increasing safety along the Base Line corridor. Creating a pedestrian network that in addition to meeting ADA safety and design standards, provides extra amenities is crucial in facilitating pedestrian travel. Enhanced crosswalks with pedestrian signals is a good measure that increases pedestrian visibility and safety. The City should also take the initiative in expanding its bicycle network by completing gaps in existing bikeways and providing connectivity between major bikeways. Providing secure bicycle racks at high activity centers also influences travelers' decisions to bike instead of drive. Considering enhancements to bus facilities, such as installing shelters or additional signage at bus stops will also encourage the use of transit in the study corridor. The City also has the opportunity to expand on its bus transit amenities by increasing service or providing bus rapid transit along needed corridors. All of the transportation-related measures to enhance the Base Line corridors listed in this memorandum can help create a multi-use and travel center and should be targeted for areas of development or redevelopment activity.







## TECHNICAL MEMORANDUM

Date: August 29, 2012

To: Mark Hoffman, The Planning Center|DC&E

From: Chris Gray, Fehr & Peers  
Thao Pham, Fehr & Peers

**Subject: Base Line Corridor VMT to BRT Build Out and Roundabout Analysis**

□□□□□□□□

As a final task of our work on the Base Line Corridor Vehicle Miles Travelled (VMT) to Bus Rapid Transit (BRT) Project, Fehr & Peers has completed a project build out analysis of the study area and a roundabout analysis for the intersection of Victoria Avenue and Base Line Street.

The purpose of this technical memorandum is to summarize the traffic analysis results for the project study area. In addition, recommendations in mitigating project impacts are also provided. The remainder of this memorandum is divided into the following sections: Summary of Results, Traffic Operations Methodologies and Assumptions, Intersection Operations Analysis, and Roundabout Analysis.

### SUMMARY OF RESULTS

Nine of the 11 study intersections are projected to operate at LOS D or better under Build Out Conditions. The intersections of SR-210 WB Ramps at Base Line and Boulder Avenue at Base Line operate deficiently during the PM peak hour. Mitigations have been provided in the City of Riverside project to improve these intersections to within acceptable operating levels and no further mitigations are needed as part of this project. The proposed roundabout at Victoria Avenue and Base Line Street is also projected to operate acceptably under Build Out Conditions, therefore, we can conclude that build out of the project will not significantly impact the study area.

### TRAFFIC OPERATIONS METHODOLOGIES AND ASSUMPTIONS

Intersection operations were evaluated using methodologies provided in the City of Riverside Congestion Management Program (HCM 2000) (Transportation Research Board, 2000), and are considered the state-of-the-practice methodologies for evaluating intersection operations. These methodologies are also consistent with the County of San Bernardino and San Bernardino Associated Governments Congestion Management Program (SANBAG CMP) analysis requirements.

The HCM 2000 methodology for signalized intersections estimates the average control delay for the vehicle at the intersection. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized intersections are provided in Table 1.

After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized intersections are provided in Table 1.

TABLE 1 - INTERSECTION LOS CRITERIA		
Level of Service	Description	Signalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 15.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 15.0 to 25.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 25.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual (Transportation Research Board, 2000).

The California Air Resources Board (CARB) 2000 report on the California Air Resources Board (CARB) 2000 report states the necessity of conducting a regional analysis to quantify potential impacts of the project on the CMP freeway monitoring locations and CMP arterial intersection monitoring stations. Cost estimates and estimated fair share contributions need also be prepared for any suggested improvements at CMP arterial intersections.

The CMP arterial monitoring intersections in the project study area are at the SR-210 eastbound and westbound ramps at Base Line.

Also in accordance with the California Air Resources Board (CARB) 2000 report on the California Air Resources Board (CARB) 2000 report are the following methodologies used to analyze intersection traffic operations:

- All intersection operations analyses were conducted using procedures and methodologies contained in the HCM 2000. These methodologies were applied using the Synchro version 6.0 software.

- For all study intersections, the overall average delay and LOS are reported.
- Lane configuration and roadway geometry were gathered from field observations.
- Future peak hour factor (PHF) is 0.95.
- A 2% heavy vehicle percentage was used based on field observations.
- Future saturation flow rates are:
  - 1900 for exclusive through and exclusive right
  - 1800 for exclusive left
  - 1700 for dual lefts
- Future signal timings based on timing data received from City staff and Caltrans
- Uncoordinated signals are optimized by intersection split

The City Engineering Department has identified a target LOS D as the acceptable level of service on roadway intersections within the City. Given the identified parameters, LOS D is the minimum acceptable operating level for all the study intersections.

For the roundabout analysis at the intersection of Victoria Avenue and Base Line Street, the software used to analyze the capacity of the roundabout is Signalized and Unsignalized Intersection Design and Research Aid (SIDRA) which applies consistent methodologies to the Highway Capacity Manual (HCM) 2010 (Transportation Research Board). Operations of the roundabout were analyzed for the following scenarios:

- Existing (2011) AM and PM peak hour
- Build Out AM and PM peak hour

The following input parameters as is consistent with the Highway Capacity Manual (HCM) 2010 were used in analyzing the scenarios:

- Existing peak hour factors (PHF) were taken from counts collected in September 2011
- Future peak hour factor (PHF) is 0.95
- A 2% heavy truck vehicle percentage was applied to traffic volumes
- Pedestrian walkways are provided at each approach with an assumed 5 pedestrians/approach/60 minutes
- Average level-of-service (LOS) results are reported in seconds of delay

## INTERSECTION OPERATIONS ANALYSIS

The project land uses intensities are within the 2006 General Plan limits and analyzed in the City Engineering Department study prepared by Urban Crossroads on September 13, 2005. Six of the 11 study intersections for the project overlap with the Engineering Department study and are sourced accordingly. Traffic volumes for the remaining five study intersections were forecasted using an average growth rate developed between the General Plan 2030 and Existing

2011 conditions, then manually adjusted for balancing between intersections. Future lane configurations are consistent with existing lane configurations. As was analyzed for Existing Conditions, the study area was analyzed during the AM and PM peak hour under Future Conditions. Project Build Out volumes for the study area are shown on Figure 1. The LOS results are summarized in Table 2. The technical calculations are provided in Appendix A.

TABLE 2 - INTERSECTION LEVEL OF SERVICE						
FUTURE CONDITIONS						
Intersection	Without Mitigations				With Mitigations	
	AM Peak Hour		PM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS
1. Victoria Avenue at Pacific Street <sup>2</sup>	18.0	B	28.6	C		
2. Victoria Avenue at Base Line <sup>1</sup>	29.9	C	29.3	C		
3. Victoria Avenue at 9 <sup>th</sup> Street <sup>2</sup>	6.8	A	7.2	A		
4. Central Avenue at Base Line <sup>2</sup>	15.0	B	17.5	B		
5. Palm Avenue at Base Line <sup>1</sup>	32.3	C	31.5	C		
6. Church Avenue at Base Line <sup>1</sup>	24.0	C	22.6	C		
7. SR-210 EB Ramps at Base Line <sup>1,3</sup>	27.5	C	20.6	C		
<b>8. SR-210 WB Ramps at Base Line<sup>1,3</sup></b>	25.1	C	<b>&gt;80.0</b>	<b>F</b>	25.5	C
9. Seine Avenue at Base Line <sup>2</sup>	20.0	C	29.0	C		
<b>10. Boulder Avenue at Base Line<sup>1</sup></b>	45.9	D	<b>&gt;80.0</b>	<b>F</b>	41.3	D
11. Highland Village Plaza at Base Line <sup>2</sup>	10.2	B	34.4	C		

Notes:  
**Bold-italic** text indicates a project impact.  
 1- Data sourced from *City of Highland General Plan Update, September 13, 2005, Urban Crossroads*.  
 2- Delay for intersections based on application of 2000 Highway Capacity Manual methodology. Delay was calculated using Synchro 6.0 software.  
 3- Intersection controlled by Caltrans.  
 Fehr & Peers, 2012

As shown in Table 2, all of the study intersections operate at LOS D or better during the AM and PM peak hours with exception to the following locations. These locations were previously identified in the General Plan Traffic Study as deficient.

- SR-210 WB Ramps at Base Line (PM peak hour)
- Boulder Avenue at Base Line (PM peak hour)

Each impact is described in detail below and the following mitigation measures, as identified in the General Plan Traffic Study have been provided. No further mitigations are required with the implementation of the following measures.

SR-210 WB Ramps at Base Line (PM peak hour)

The intersection of SR-210 WB Ramps at Base Line experiences a volume 920 vehicles in the westbound right turn direction during the PM peak hour. Currently, the intersection provides a through and shared through-right turn lane in the westbound direction. Typically, a capacity threshold of 300 vehicles is designated for turn lanes. The General Plan recommended the addition of a westbound through lane and free right turn lane at this location to address the

impact. With the mitigations in place, the intersection operates at LOS C with 25.5 seconds of delay.

Boulder Avenue at Base Line (PM peak hour)

The intersection of Boulevard Avenue at Base Line experiences a volume of 563 vehicles in the southbound right turn direction and 724 vehicles in the northbound left turn direction during the PM peak hour. Currently, the intersection provides a right turn lane in the southbound direction and left turn lane in the northbound direction. The General Plan recommended providing an additional southbound right turn overlap phase. The General Plan also recommended that the intersection provide an additional northbound left turn lane. This mitigation will also require signal modification. With the mitigation in place, the intersection operates at LOS D with 41.3 seconds of delay.

**ROUNDAABOUT ANALYSIS**

The project proposes to construct a 2-lane circulating roundabout at the intersection of Victoria Avenue and Base Line. The roundabout will have a center island diameter of approximately 120 feet and an outside diameter of approximately 175 feet. The roundabout is also designed to remain consistent with current lane geometries on Victoria Avenue and Base Line Street, which both have two lanes in each direction with a center median.

Existing traffic volumes and lane configurations were used to evaluate existing traffic operations at the intersection of Victoria Avenue and Base Line during AM and PM peak hours. Future traffic volumes were developed using methods described in the previous section and were used to evaluate future traffic operations at the intersection. The results of the roundabout assessment are summarized in Table 3. The technical calculations are provided in Appendix B.

<b>TABLE 3 – ROUNDAABOUT ANALYSIS</b>				
<b>VICTORIA AVENUE AT BASE LINE STREET</b>				
<b>Intersection</b>	<b>AM Peak Hour</b>		<b>PM Peak Hour</b>	
	<b>Delay<sup>1</sup></b>	<b>LOS</b>	<b>Delay<sup>1</sup></b>	<b>LOS</b>
Existing Conditions	7.9	A	8.4	A
Build Out Conditions	9.7	A	10.0	A
Notes: 1- Delay for intersections based on application of 2000 Highway Capacity Manual methodology. Delay was calculated using SIDRA 5.0 software. Source: Fehr & Peers, 2012				

As shown in Table 3, the roundabout operates at LOS A under Existing and Build Out Conditions.

We hope you find this information helpful. If you require any additional information, please contact Thao or myself at 949-859-3200.



**APPENDIX C**  
**PUBLIC HEARING**  
**PRESENTATIONS**





# Base Line Corridor

## VMT to *BRT*

City of  
**Highland**

In partnership with:



May 15, 2012

## Welcome

- Introduction
- Outline of Tonight's Presentation
  1. *Project Specifics*
  2. *Intended Outcomes*
  3. *What are your thoughts?*



## Base Line Context

- Its History
  - Meridian and Base Line
  - Founding of Highland
  - Pacific Electric Railway
- Its Present
  - Center of Highland
  - Government Core
  - Key Transportation Route
- Its Future
  - Multi-modal route
  - New Town Center
  - Local source of pride



## SCAG Compass Blueprint

- In 2011, the City of Highland was awarded a Compass Blueprint Grant from SCAG
- Compass Blueprint Growth Vision responds to land use and transportation challenges and ways communities can help
- Key principles:
  - Mobility—Getting where we want to go
  - Livability—Creating positive cities
  - Prosperity—Promoting long-term health
  - Sustainability—Efficient use of resources



## Base Line and Transportation

- Base Line is a major highway. ADT west of I-210 is 13,000-25,000 vehicles any given day
- Base Line is served by three Omnitrans routes that carry over 65,000 riders/year.
- Planning Bus Rapid Transit (BRT) - an enhanced service that travels at faster speeds
- BRT attracts new investor interest to a service area and can be a catalyst



## Project Study Area

- Study focus: Base Line between Victoria Avenue and City Creek
- Greater context area is from 14<sup>th</sup> Street to 9<sup>th</sup> Avenue



## Policy Context

### Policy Areas

- General Plan established several Policy Areas where change (improvements) should be focused
- Three Policy Areas include sites within the Base Line BRT study area
  - Town Center
  - Base Line Corridor
  - Victoria Corridor
- General Plan provides a foundation for reinvestment in the study area



## Policy Context

### Town Center Policy Area

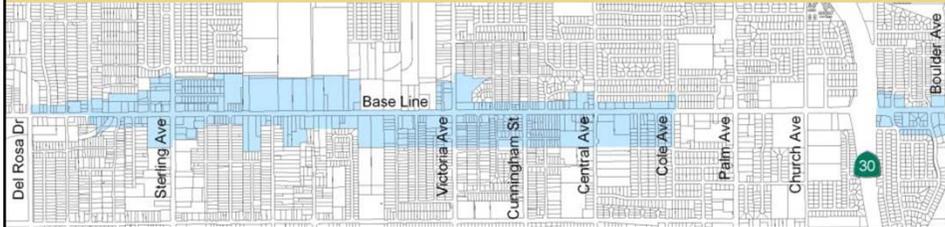
- Gateway to Highland
- Place to live, shop, work, recreate and socialize in a vibrant, safe and pedestrian-friendly environment.
- Provide safe and enjoyable route for travel – bicycling, walking, transit, etc.
- Allow a mix of uses to stimulate economic and social activity during the day and evening



## Policy Context

### Base Line Corridor Policy Area

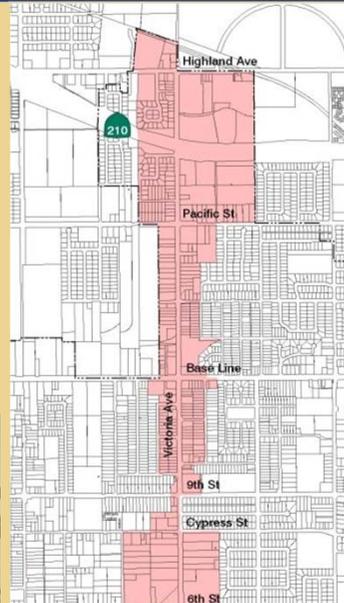
- Civic core
- Revitalize the Base Line Corridor
- Concentrate commercial uses at intersections
- Improve aging midblock housing
- Encourage lot consolidation to foster redevelopment of small, shallow lots
- Ensure quality commercial and residential development



## Policy Context

### Victoria Avenue Corridor Policy Area

- Corner of Victoria and Base Line is the western gateway into the study area
- Major entryway into the San Bernardino International Airport
- Links community to the San Manuel Casino
- Concentrate commercial uses at Base Line
- Encourage lot consolidation to foster redevelopment of small, shallow lots



## Project Objectives

Identify opportunities to create a more **vibrant, attractive, and economically viable** Base Line corridor that supports a **multi-modal Town Center** where the Highland community can **celebrate their local pride**.

### Key Components:

- High quality retail, mixed-uses and housing
- Economic vitality for local businesses
- Greater transportation choices
- Community gathering spaces and places
- Cohesive sense of place and pride



## Base Line Opportunities

- Planned public investment
- Strategic location near SR-210 & mountain resorts
- Considered the civic heart of the community
- Leverage social institutions (several dozen schools, churches, govt. entities)
- Served by 3 bus routes and future BRT service
- Vacant and underutilized sites ripe for development



## Base Line Constraints

- Aging buildings
- Lack of maintenance
- Inconsistent street furniture
- Incomplete sidewalks
- Lack of landscaping/lighting
- Designed for vehicles
- Pedestrians & cyclist safety
- Need to maintain SR-210 access
- Irregular lot size & multiple ownership
- Loss of redevelopment funds



## Stakeholder Input

- Revitalizing Base Line will require public and private investment
- Reach out to key local stakeholders:
  - Property owners
  - Private developers
  - Schools & religious institutions
  - Highland Chamber of Commerce
  - San Manuel Band of Mission Indians



## Top 10 Concerns Heard So Far

- Focus on family-oriented businesses (sit-down restaurants)
- Avoid new liquor stores, smoke shops, bars and fast food
- Attract a quality grocery store
- Create a public gathering space
- Need location for farmers' markets, street fairs, etc.
- Require better property and façade maintenance
- Improve traffic access at schools and religious institutions
- Make pedestrian friendly (crosswalks, bike lanes, sidewalks, etc.)
- Add more landscaping, lighting, and better signage
- Improve housing – must be high-quality



## Final Products

- Workbook summarizing conditions along Base Line
- Recommendations for improving the corridor
- Conceptual site plan of the Town Center
- Fly-through animation model to generate investor interest
- Tools to support other Highland projects



## What are Your Thoughts?

### At tonight's Workshop

- What do you wish would be improved along Base Line?
- What types of businesses would you like to see?
- What would make you feel safer on Base Line?



# Base Line Corridor VMT to *BRT*

City of  
**Highland**

In partnership with:



# Base Line Corridor

## VMT to *BRT*

City of  
**Highland**



August 14, 2012

## Welcome

- Project Overview
- Base Line 2012
- Base Line's Future
- Comments

## SCAG Compass Blueprint

- Project Background
  - Key General Plan Area
  - Change in Economy
  - Transportation Plans
- Moving Forward
  - City Awarded Compass Blueprint Grant
  - Addresses regional land use and transportation issues
  - Dovetails well with City's Plans for Base Line
- Compass Blueprint Principles
  - *Mobility*
  - *Livability*
  - *Prosperity*
  - *Sustainability*

## Base Line Context

- Its History
  - Meridian and Base Line
  - Founding of Highland
  - Pacific Electric Railway
- Its Present
  - Center of Highland
  - Government Core
  - Key Transportation Route
- Its Future
  - Multi-Modal Route
  - New Town Center
  - Local source of pride



## Base Line Transportation

- Base Line is a major highway. ADT west of SR-210 is 13,000-25,000 vehicles any given day
- Base Line is served by three Omnitrans routes that carry over 65,000 riders/year.
- Planning Bus Rapid Transit (BRT) - an enhanced service that travels at faster speeds
- BRT attracts new investor interest to a service area and can be a catalyst



## Project Study Area

- Study focus: Base Line between Victoria Avenue and City Creek
- Greater context area is from 14<sup>th</sup> Street to 9<sup>th</sup> Avenue



## Base Line Assets

- Planned public investment is changing the corridor
- Considered the civic heart of the community
- Leverage social institutions (schools, churches, govt.)
- Served by 3 bus routes and future BRT service
- Vacant and underutilized sites ripe for development



## Base Line Constraints

- Aging buildings
- Lack of maintenance
- Incomplete sidewalks
- Lack of landscaping/lighting
- Designed for vehicles
- Pedestrians & cyclist safety
- Need to maintain SR-210 access
- Irregular lots & multiple owners
- Loss of redevelopment funds
- Vagrancy/Crime



## Stakeholder Comments

- Attract sit-down restaurants and grocery stores;
- Avoid new liquor stores, smoke shops, bars and fast food
- Create a public gathering space
- Need location for farmers' markets, street fairs, etc.
- Require better property and façade maintenance
- Improve traffic access at schools and religious institutions
- Make pedestrian friendly (crosswalks, bike lanes, sidewalks, etc.)
- Add more landscaping, lighting, and better signage
- Improve housing – must be high-quality

## Planning Commission Comments

- Leverage BRT for new investment
- Improve aesthetics of corridor
- Use parkways to strategically slow traffic
- Create places for community gathering and special events
- Infrastructure for pedestrians and cyclists
- Increase activity and reduce crime
- Infrastructure costs
- Too many fast food restaurants
- Implementation tools and financial resources

## The Policy Context

- 2006 General Plan established Policy Areas to focus improvements
- Victoria Corridor, Base Line Corridor and Town Center Policy Areas



## Project Objectives

Identify opportunities to create a more **vibrant, attractive, and economically strong** Base Line corridor that supports **multi-modal transportation choices** and a **Town Center** where the Highland community can **celebrate local pride**.

### Big Picture Ideas:

- High quality retail, mixed-uses and housing
- Economic vitality for local businesses
- Rapid bus transit, pedestrian and bicycling
- Community gathering spaces and places
- Cohesive sense of place and pride

## Guiding Principles for Base Line

### Guiding Principles

- Improve the public realm – streetscape, walkways, parkways
- Create a pedestrian and cycling-friendly environment
- Require good design and architecture
- Rehabilitate residential projects where possible
- Buffer adjacent neighborhoods from traffic and noise
- Maintain functionality of roadway system
- Incorporate parks and open space
- Build on civic infrastructure and community organizations
- Focus on key intersections, activity centers and iconic structures

## Base Line Now – Victoria & Base Line



## Base Line's Future – Victoria & Base Line



## Base Line Now – Midblock Housing



## Base Line's Future – Midblock Housing



## Base Line Now – Civic Row



## Base Line's Future – Civic Row



## Base Line Now – Town Center



## Base Line's Future – Town Center



## Base Line's Future – Town Center

- Pedestrian-scale internal street
- Orient buildings away from established neighborhoods
- Public gathering spaces
- Slow internal traffic



## Base Line's Future – Town Center



## How do We get There

- | Recommendations                   | Why?                              |
|-----------------------------------|-----------------------------------|
| ▪ Consider Specific/Area Plan –   | to maximize long-term value       |
| ▪ Pedestrian Realm Standards –    | to make corridor walkable         |
| ▪ Festivals and Events –          | to bring people to the corridor   |
| ▪ Transit Station Design –        | to direct SANBAG & Omnitrans      |
| ▪ Lot Consolidation Ordinance –   | to encourage private investment   |
| ▪ Architectural Review & Design – | to get the most from projects     |
| ▪ Attraction Strategy –           | to bring the best to the corridor |
| ▪ Funding Mechanisms –            | to pay for public improvements    |
| ▪ Media Campaign –                | to get the good word out          |

## Final Products

- Workbook summarizing conditions along Base Line
- Recommendations for improving the corridor
- Conceptual site plan of the Town Center
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## What are Your Thoughts?

# Base Line Corridor VMT to *BRT*

City of  
**Highland**





# BASE LINE CORRIDOR FROM VMT TO BRT A VISION FOR SUSTAINABILITY





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CLEAN AIR BUS

CA EXEMPT  
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CNG

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