A APPENDIX A GLOSSARY

A GLOSSARY

DEFINITIONS

Accessory Building

A building or structure detached from a principal building located on the same lot, but incidental or subordinate to the principal building. Accessory buildings may include workshops, studios, greenhouses, guest houses (without cooking or kitchen facilities), detached garages and carports, covered and uncovered decks, and shade structures.

Affordable Housing Income Levels

The U.S. Department of Housing and Urban Development defines median income levels by state, county, and metropolitan area as the basis for determining low, very low, and extremely low income levels. In general, these income levels are defined as follows:

Low Income

Based on a four-person income limit equal to 80% of the estimated median family income for the area.

Very Low Income

Based on a four-person income limit equal to 50% of the estimated median family income for the area.

Extremely Low Income

Based on a four-person income limit equal to 30% of the estimated median family income for the area.

Architectural Features

Architectural features represent building design elements such as cornices, canopies, awnings, sills, bay windows, and chimneys.

Arterial Street

Per the *Sacramento County General Plan*, an arterial street is typically a four-lane roadway with a center turn lane or median and designated bicycle facilities. All arterials in the Corridor Plan incorporate Class II bicycle lanes.

Bicycle Lane, Class II

An on-street bicycle accessway in a separate lane designated by striping.

Bicycle Parking

Class I, Long-Term Bicycle Parking

Class I, long-term bicycle parking is intended to provide secure facilities for more than 2 hours for employees, residents, or visitors. These facilities may be one of the following types of long-term bicycle parking:

a bicycle locker;

a locked room or fenced, locked area with standard racks that is limited to bicyclists only; or

a secure area with standard racks that is subject to surveillance by video monitor or within the direct view of a security guard.

Class II, Short-Term Bicycle Parking

Class II, short-term parking is intended to provide secure facilities for 2 hours or less for customers, visitors, messengers, or service personnel. Short-term bicycle parking facilities must include:

A secure rack that allows the user to lock the bicycle and wheels to the rack with a high-security, U-shaped lock. The hitching post (also U-shaped) rack is a preferred design.

Bicycle/Pedestrian Trail, Class I

An off-street path intended for use by bicyclists and pedestrians. Class I trails are separated from the street or in their own right-of-way.

Bicycle Route, Class III

An on-street bicycle accessway in a travel lane shared with other vehicles and designated by signage.

Building Height

Building heights are measured from the finish grade of the ground floor to the midpoint of a pitched roof or the top of the parapet of a flat roof.

Bus Rapid Transit

Bus rapid transit (BRT) includes specialized buses that can function in regular travel lanes, dedicated bus lanes, or high-occupancy vehicle lanes. BRT service is intended for longer trips and typically provides frequent service with fewer stops than local bus transit service. BRT stations often allow for the prepayment of fares to facilitate boarding. The efficiency of BRT systems can be improved with queue jump lanes and transit signal prioritization (see below). BRT busses often exhibit modified design, with a lower profile to promote ease of access.

Collector Street

Per the *Sacramento County General Plan*, a collector street is typically a 2-lane roadway with designated bicycle facilities. All collector streets in the Corridor Plan incorporate Class II bicycle lanes and may or may not include on-street parking.

Density, Residential

The number of proposed units divided by the gross area of the parcel in acres.

Medium-Density Residential

Medium-density residential is applied to residential mixed-use areas in the Elkhorn and Town Center Districts and is prescribed in the Corridor Plan as 15-25 dwelling units per acre.

High-Density Residential

High-density residential is applied to the district centers, and is prescribed in the Corridor Plan as:

Elkhorn District Center – 25-40 dwelling units per acre

Triangle Gateway District Center – 25-65 dwelling units per acre

Floor Area Ratio

Floor area ratio (FAR) refers to the ratio between the gross floor space in a structure over the gross site area or lot area. The gross floor area includes the total floor area of each floor of all buildings on a site including internal circulation (hallways, lobbies, stairways, elevator shafts, covered porches, carports, and balconies.)

$$FAR = \frac{\text{Floor Area}}{\text{Site Area}}$$

Intelligent Transportation System

Intelligent transportation systems (ITS) use information technology to improve the flow of all modes of transportation, including transit, automobile, bicycle, and pedestrian. ITS systems are typically installed at signalized intersections or bicycle and pedestrian crossings.

Intensity, Nonresidential

The intensity of nonresidential uses is designated in the Corridor Plan by floor area ratio (see definition above). Minimum floor area ratios above .5 are typically necessary to support BRT, and are prescribed for the district centers in the Corridor Plan.

Landscape Coverage

The percentage of the total site area reserved for landscaping, pedestrian hardscape areas, and open space, computed at ground level. Landscape and hardscape areas include setback areas, parking islands, tree wells, entry features, decorative fountains, on-site surface drainage and retention areas, outdoor patios and plazas. Setback areas visible from public streets and drainage courses shall be landscaped.

Large-Format Retail

Also known as “big box,” “megastore,” or “superstore,” large-format retail buildings typically have a footprint greater than 100,000 square feet, which in the past have often been designed in a free-standing, single-story format. Large-format retailers may provide general merchandise (Target and Wal-Mart) or specialized merchandise (Lowe’s, Barnes and Noble, Home Depot). Large-format retailers are permitted in the Elkhorn District Centers and Triangle Gateway District if urban design standards are met, as described in Chapter 3. Design elements should include multiple stories within the required FAR ranges for each district center, elevations with street frontage offering pedestrian access, and reduced parking. This will not preclude single story, large-format retail development, subject to the review procedures of Section 2.6.6.

Level of Service

Level of service (LOS) refers to the speed and efficiency of traffic flow on roadways, ranging from LOS A, representing peak operating conditions, to LOS F, representing marginal operating conditions.

Lot Coverage

The percentage of the total site area occupied by buildings and structures, computed at ground level, including garages and carports, accessory buildings, covered decks, and other enclosed areas.

Mixed-Use

Vertical Mixed-Use

A development incorporating two or more distinct land uses (e.g., retail and residential) in which the uses are vertically stacked. Vertical mixed-use development typically has a ground floor use with other uses above.

Horizontal Mixed-Use

A development incorporating two or more distinct land uses (e.g., commercial, office, and residential) in which the uses are functionally integrated within the same site plan, but occupy separate building pads.

Multi-Use Bicycle/Pedestrian Trail

See “Bicycle/Pedestrian Trail, Class I” above.

Queue Jump Lanes

Queue jump lanes are short, specialized lanes at intersections that allow busses to move through signalized intersections independently of other vehicular traffic, permitting bus traffic to function more quickly and efficiently. Queue jump lanes are often used in combination with transit signal prioritization (see “Transit Signal Prioritization” on the following page).

Setback

Front Setback

Front setbacks are measured at right angles from the narrowest dimension of the front property line establishing a setback line parallel to the front property line.

Side Street Setback

Side street setbacks are measured at right angles from the street side property line establishing a setback line parallel to this side property line.

Side Interior Setback

Side interior setbacks are measured at right angles from the interior side property line establishing a setback line parallel to this side property line.

Rear Setback

Rear setbacks are measured at right angles from the rear property line establishing a setback line parallel to this rear property line.

Sharing Factor

A parking sharing factor permits a reduction in the parking requirement in mixed-use situations, defined for this purpose as two land use functions occurring within any two adjacent blocks. The parking reduction is calculated by adding the total number of spaces required by each separate land use and multiplying the total by a parking reduction factor indicated in the sharing factor matrix.

Signal Prioritization

Signal prioritization provides for a signal advantage for bus traffic at intersections that is often used in combination with a queue jump lane to allow busses to move through intersections more efficiently. Signal prioritization incorporates ITS technology (see above) to give busses an earlier or longer green light than other vehicular traffic to permit the bus to move ahead through the intersection more quickly.

Thoroughfare

Per the *County of Sacramento General Plan*, a thoroughfare is typically a six-lane roadway with a raised center median and designated bicycle facilities. Watt Avenue is a thoroughfare that includes six lanes (two designated transit lanes and two travel lanes) and Class II bicycle lanes. The Corridor Plan defers to General Plan standards for Elkhorn Boulevard, which is also a thoroughfare.

Traffic Calming

Traffic calming incorporates special street design to slow vehicular traffic and increase pedestrian safety and access.

Transit-Oriented Development

Transit-oriented development (TOD) is a smart growth development model that combines residential, employment, shopping, and services with transit opportunities to reduce automobile dependence. Residential densities and nonresidential floor area ratios shall comply with the minimum requirements of General Plan Policy LU-34 as specified in Table 8 in the Land Use Element. The TOD must be generously connected by pedestrian routes with landscaping and pedestrian amenities that create a desirable walking experience.

B APPENDIX B

Market Assessment and Land Use Distribution

DRAFT REPORT

North Watt Avenue Corridor Plan Market Assessment and Land Use Distribution

Prepared for:

EDAW and the County of Sacramento

August 2008

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I. Introduction

Seifel Consulting Inc. (Seifel) was retained by the County of Sacramento to conduct market analyses to inform the planning process of the North Watt Avenue Corridor Plan (Corridor Plan). For the Existing Conditions Memorandum of the Corridor Plan in May 2007, Seifel prepared a market study that analyzed household and worker demographic characteristics of the Market Area, built retail space, demand for new commercial services, and the marketability of infill housing.

This report takes the initial analysis a step further by providing Seifel's assessment of potential retail, residential and office development based on projected growth in households and employment in the area and recommending where development should be focused. This report is an appendix to the Corridor Plan and consists of the following sections:

- Market Area Definition
- Growth Projections
- Market Assessment
- Recommended Land Use Distribution

As the report indicates, growth in and around the North Watt Avenue Corridor (Corridor) will increase the market demand for retail, residential and office development along the Corridor. In order to accommodate the growth, development will need to be built at higher densities and intensities concentrated in the three planning districts which run north to south along the Corridor:

- Elkhorn District,
- North Highlands Town Center District, and
- Triangle Gateway District.

In addition to the planning districts, the Corridor is defined by geographic designations from east to west:

- Corridor Plan Area
- Corridor Plan Area of Influence, an area to the west of but not adjacent to North Watt Avenue, and
- The West of Watt area, located between the Plan Area and McClellan.

This report utilizes the same definitions of the planning districts and east to west geographic boundaries illustrated in Figure 1.6 in Chapter 1 of the Corridor Plan.

II. Market Area Definition

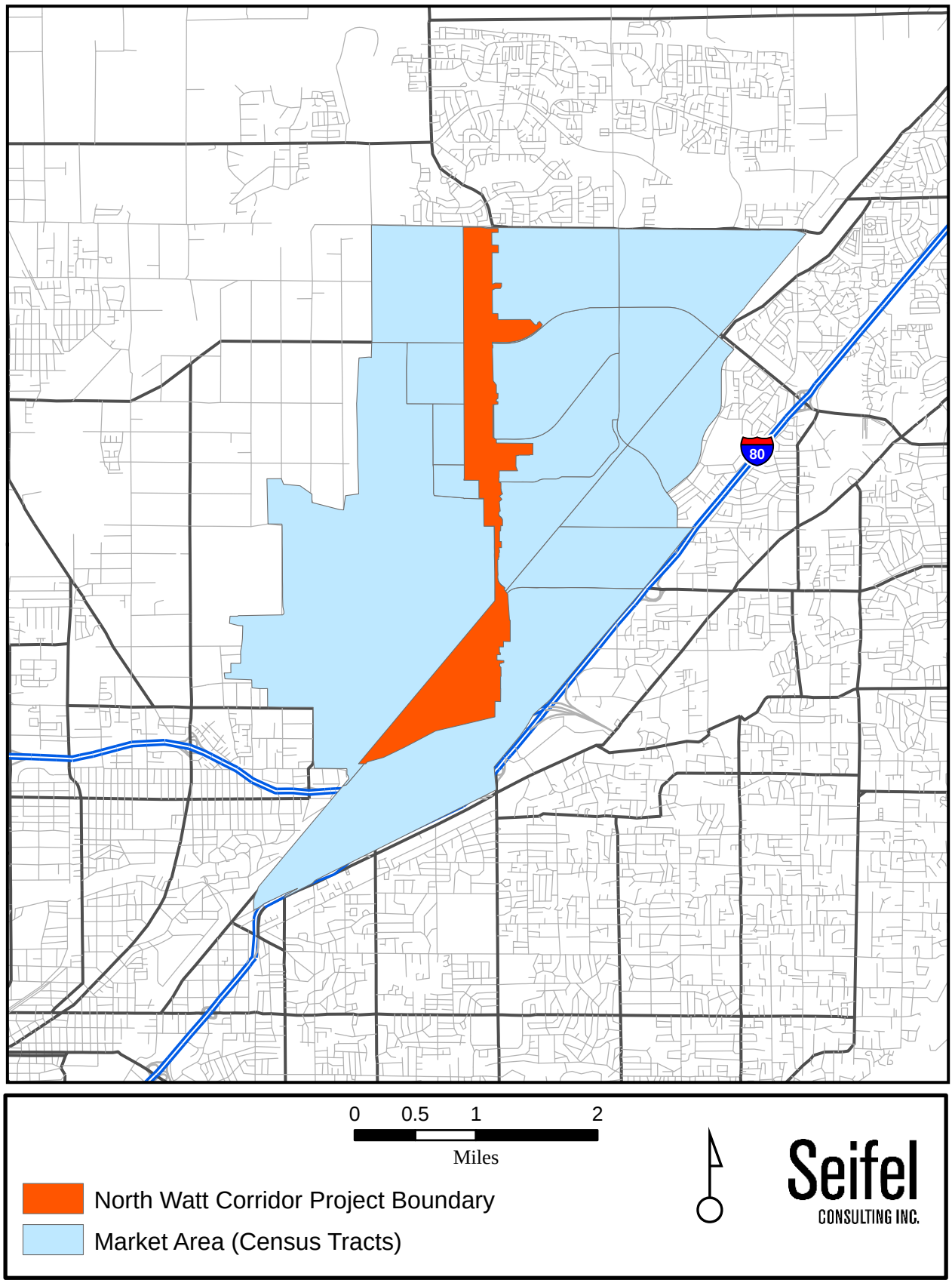
The North Watt Avenue Market Area (Market Area) is defined as the key area from which existing households and workers patronize North Watt Avenue retail establishments, where Corridor neighborhood retailers have a competitive advantage over neighborhood shopping districts away from the Corridor.

In order to establish the boundaries of the Market Area, Seifel examined the location of nearby supermarkets to determine where households travel to meet their basic shopping needs, given convenient travel times and accessibility. Raley's is located on the very northern portion of the Corridor and a Wal-Mart Supercenter is located on Antelope Road, just east of the Market Area. These shopping centers will serve most of the households north of the Corridor. A Grocery Outlet sits to the south of the Corridor, serving households south of Business 80.

The Market Area encompasses eleven census tracts that surround the Corridor. It is generally bounded by Antelope Road to the north, Highway 80 to the east, Business 80 to the south, and McClellan Business Park (McClellan) to the west, as shown in Figure 1.[1]

[1] The North Watt Market Area includes the following census tracts, all of which are within Sacramento County: 7300, 7402, 7403, 7404, 7406, 7413, 7414, 7416, 7423, 7424, and 7425.

Figure 1
Market Area
North Watt Corridor



III. Growth Projections

Building on the market analysis presented in the Existing Conditions Memorandum of the Corridor Plan, Seifel utilized Sacramento Area Council of Governments (SACOG) projections of household and employment growth in 2035 to determine the amount of retail square footage supportable by new development in the North Watt Corridor Market Area.

The Market Area had just over 21,000 households in 2005 as shown in Table 1.[2] By 2035, the Market Area is expected to contain nearly 40,000 households, for a gain of roughly 18,000 households. To arrive at this estimate of household growth, Seifel relied on SACOG Projections from February 2008. Seifel calculated the average annual growth rate for North Highlands from 2005 to 2035 and applied the annual rate to the Market Area from 2005 to 2035.[3] Although North Highlands is not contiguous with the Market Area, it does include a significant portion of the Market Area and has comparable growth features.

Sacramento County's draft General Plan indicates the North Watt Avenue commercial corridor and the West of Watt growth area together may gain approximately 10,000 new households by build out in 2030.[4] The General Plan does not show projected growth for all of the Market Area. Therefore, Seifel relied on SACOG Projections from February 2008, which allow for a more comprehensive calculation of Market Area growth.

Employment in the Market Area is projected to grow from just under 10,000 jobs to over 16,000 jobs, not taking into consideration McClellan Business Park.[5] McClellan employment projections are presented separately from the rest of the Market Area, given McClellan's unique situation as a major reuse project and the ongoing conversion of McClellan to civilian use. In McClellan Business Park, employment is projected to reach 35,000 jobs at full reuse.[6] Total new employment between 2005 and 2035 is over 30,000 jobs in the Market Area and McClellan.

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[2] Current demographic data on the Market Area is based on 2005 estimates from Geolytics Inc.

[3] Growth rate calculated from SACOG Modeling Projections for 2005, 2013, 2018 and 2035 (February 2008).

[4] County of Sacramento, Planning and Community Development Department, *Draft Land Use Element*, May 30, 2007.

[5] Employments estimates for the Market Area without McClellan are from SACOG Projections.

[6] For McClellan, employment growth projections are based on County projections.

Table 1
Household and Employment Projections, 2005–2035
North Watt Corridor Market Area[a]

	2005[b]	2035[c]	Projected Change 2005–2035	Projected Annual Rate of Change[c]
Households	21,215	39,574	18,400	2.1%
Employment, Market Area (not McClellan)	9,973	16,289	6,300	1.6%
Employment, McClellan	11,000	35,000	24,000	3.9%

a. North Watt Market Area estimates are based on census tract data. Area includes the following census tracts, all of which are within Sacramento County: 7300, 7402, 7403, 7404, 7406, 7413, 7414, 7416, 7423, 7424, 7425. See Figure 1.

b. 2005 household estimates are from Geolytics Inc. Employment estimates for the Market Area come from SACOG and McClellan estimates from County staff.

c. For household growth, Seifel calculated SACOG's 2008 average annual growth rate for North Highlands from 2005 to 2035 and applied that rate to the Market Area from 2005 to 2035. For employment, Seifel used SACOG Modeling Projections at the TAZ level for 2005 and 2035 for the Market Area, excluding McClellan Park. For employment growth in McClellan Park, 35,000 employees at build out were assumed as indicated by the County. McClellan build out is assumed to occur prior to 2035.

Source: Geolytics Inc., SACOG Modeling Projections for 2005, 2013, 2018 and 2035 (February 2008), Seifel Consulting Inc.

IV. Market Assessment

This section covers the market assessment of retail, residential, and non-retail land uses. Seifel focused primarily on the retail market analysis with an assessment of current retail space and calculations of future demand for retail space utilizing two methodologies showing a range of demand for retail space. The projected demand for residential units clearly indicates the need to build at higher densities to accommodate future growth. Demand for non-retail uses (office, industrial and public) is based on employment growth projections from SACOG, and shows the need for office space, but not for industrial or public space.

A. Retail Market Analysis

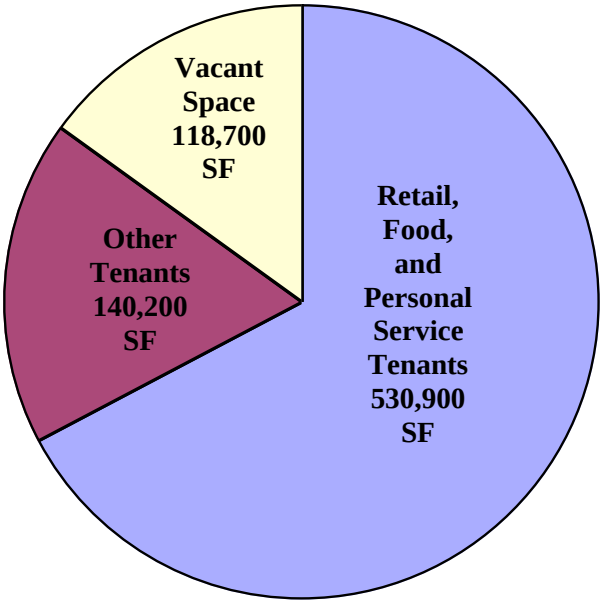
1. Current Retail Space

The current retail space along the North Watt Avenue Corridor consists of small shopping and strip centers staggered on the eastern and western sides of the street. The space was developed during the time that McClellan was an active air force base. At one point, up to 50,000 people lived and worked on McClellan air force base. The closure of the base in the 1990's brought an end to spending by Air Force service members and the civilian employees. Consequently, the viability of the retail space declined, and large amounts of vacant and underutilized space currently exist along the Corridor.

Figure 2 indicates that the Corridor has nearly 790,000 square feet of built retail space.[7] Retail, food and personal service establishments occupy approximately 530,000 square feet of space, and the remainder of the built space is either vacant or no longer used for retail purposes. The Corridor has 118,000 square feet of vacant space and 140,000 square feet of space occupied by establishments that have converted retail space to office uses, churches, or storage.

[7] Data collected by Seifel Consulting Inc. in April 2007. The data does not include the County service center, which was originally developed as a shopping center.

Figure 2
Built Retail Space
North Watt Avenue Corridor

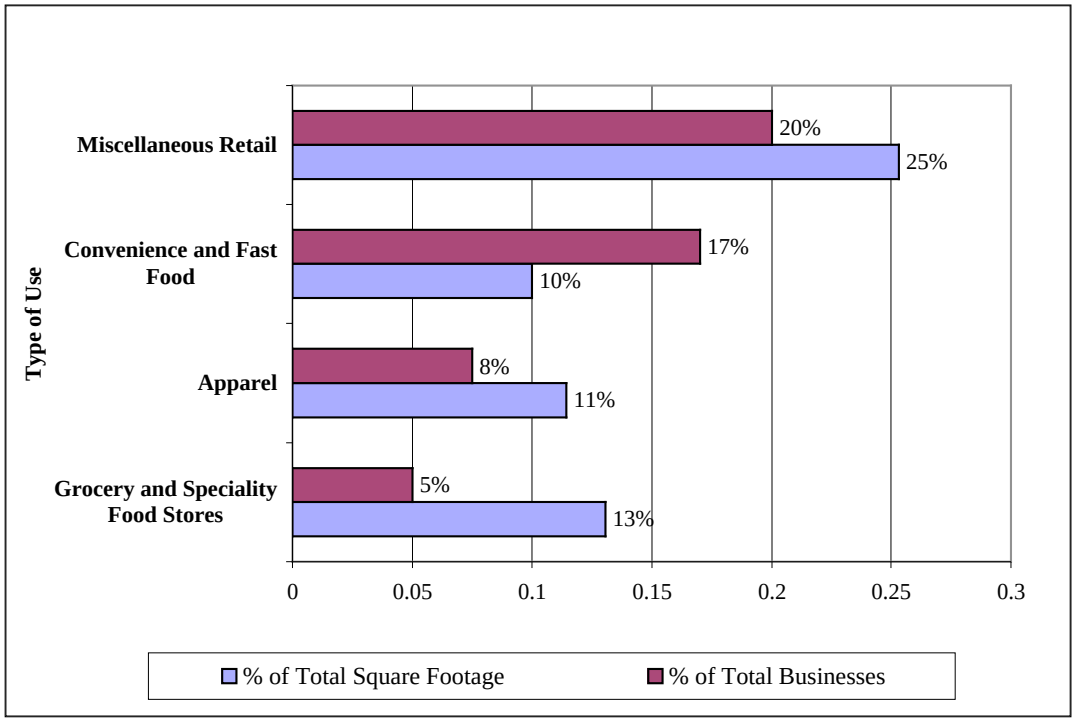


Source: Seifel Consulting Inc.

Small, independent retail establishments mixed together with national brand name fast food establishments dominate the retail character of the Corridor. As shown in Figure 3, approximately 20 percent of all retail establishments and 25 percent of the occupied space are categorized as miscellaneous retail, which includes auto supply, bookstores, drug stores, gift stores, hardware, jewelry, sporting goods, and others. The miscellaneous retail category also includes gift and apparel stores, video outlets, and music stores that serve Market Area immigrants from the Philippines, Vietnam, China, Korea, Mexico, Central America, Russia, and India.

Fast food and convenience stores account for about 17 percent of all Corridor establishments, but only 10 percent of the occupied retail space. The prominence, location and drive through conveniences offered by these stores present an image that fast food outlets dominate the Corridor. Small, independent apparel stores comprise 8 percent of the establishments. Grocery and specialty food stores account for 5 percent of the establishments and many cater to the consumer demand created by Market Area immigrants.

Figure 3
Largest Retail Store Types (Percent Total)
North Watt Avenue Corridor



Source: Seifel Consulting Inc.

2. Projected Future Retail Space

In order to understand how the retail market will grow on the Corridor, Seifel projected the demand for new retail space utilizing two different methods:

- Demand generated by the spending of new households and workers in the Market Area, and
- SACOG's projected growth in retail employment.

a. Expenditure Approach

Based on an analysis of projected spending from new households and workers, the North Watt Avenue Corridor can support an additional 580,000 square feet of retail in the Market Area and 163,000 square feet from McClellan, as shown below in Tables 2 and 3, respectively.

The analysis of supportable retail assumes retailers along the Corridor will capture 75 percent of Market Area household and worker spending and 50 percent of McClellan worker spending, as McClellan will likely offer some retail opportunities on site. Although the exact development composition on McClellan is uncertain at this time, the Corridor is unlikely to capture all of McClellan employee spending.

Annual retail spending figures for households are based on Seifel's retail model, which projects total spending by households based upon household income utilizing data from the U.S. Bureau of Labor Statistics. Employment spending is based on data from a study by the International Council on Shopping Centers, which adjusts for employee spending near employee's homes.

Total new supportable retail from both areas reaches 740,000 square feet in 2035, more than doubling the existing occupied retail space of 530,000 square feet.

Table 2
Supportable Retail Square Footage (SF) on the Corridor
North Watt Avenue Market Area, excluding McClellan Business Park
2035

	Households/ Employment 2035	**Annual Retail Spending[a]**	**Total Spending in 2035**
Households	39,574	$7,600	$300,766,105
Employment	16,289	$2,000	$32,578,517
Total[b]			$333,344,621
Supportable Retail SF[c]			1,111,149
Existing Retail SF			530,900
Net New Supportable Retail SF[d]			**580,000**

a. Household spending in the North Watt Market Area is based on Seifel's retail model assuming a 75% capture of spending within the Market Area. Employment spending is based on ICSC study of worker spending assuming a 75% capture of spending within the Market Area.
b. In constant 2005 dollars.
c. Assumes an average sales per square foot of $300.
d. Rounded to nearest thousand.
Source: 2004 ICSC Study on Worker Spending, Seifel Consulting Inc.

Table 3
Supportable Retail Square Footage (SF) on the Corridor
McClellan Business Park
2035

	Employment 2035	Annual Retail Spending[a]	Total Spending in 2035
Employment	35,000	$1,400	$49,000,000
Total[b]			$49,000,000
Net New Supportable Retail SF[c]			**163,000**

a. Employment spending is based on ICSC study of worker spending assuming a 50% capture of McClellan spending on the North Watt Avenue Corridor, as McClellan will offer retail opportunities on site.
b. In constant 2005 dollars.
c. Assumes an average sales per SF of $300. Rounded to nearest thousand.

Source: 2004 ICSC Study on Worker Spending, Seifel Consulting Inc.

b. SACOG Employment Growth

Based on SACOG's projected growth in employment, the Corridor will need an additional 1.9 million square feet of retail space to accommodate the almost 5,000 new retail jobs coming to Corridor by 2035.[8] Table 4 shows employment projections for retail and non-retail employment, including office, industrial, public and other uses. The change in employment from 2005 to 2035 is translated to new square feet by land use using an average square foot per employee for each land use.[9]

c. Recommended Retail Square Footage

The two projection approaches resulted in a wide range of new retail space needed on the Corridor, 740,000 square feet based on the expenditure analysis and 1.9 million square feet based on employment growth. Seifel assumed the Corridor would absorb 1.3 million square feet of retail, the midpoint between the two analyses.

The analysis conducted for the Existing Conditions Memo indicates market opportunities to attract small apparel stores, drug stores, all types of food stores and restaurants, home furnishings, household appliances and auto parts establishments along the Corridor.

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[8] Assumes the absorption of retail demand will occur along the Corridor, focused mostly in the districts and district centers, given the assessment of appropriate locations for retail. Discussed in more detail in Section V.

[9] Square-foot-per-employee assumptions are based on industry knowledge, Southern California Association of Government (SCAG) data, and environmental documentation from other California projects.

Table 4
Employment Projections and Projected Growth in Square Footage by Land Use
North Watt Avenue Market Area, excluding McClellan Business Park
2005–2035[a]

	Retail Employment	Non-Retail Employment				Total
		Office	Industrial	Public[b]	Non-Retail Total	
2005	3,287	3,389	2,376	922	6,686	9,973
2035	8,008	6,659	1,763	759	9,180	17,188
Change from 2005–2035	4,721	3,270	(613)	(163)	2,494	7,215
Average Annual Growth	3.0%	2.3%	-1.0%	-0.6%	1.1%	1.8%
SF/Employee	400	275	500	300	N/A	N/A
Total New SF Needed	**1,888,000**	**899,000**	**(307,000)**	**(49,000)**	**543,000**	**2,431,000**

a. From SACOG 2008 DRAFT Modeling Projections 2005 and 2035 for all TAZs in the Market Area, excluding McClellan Park. Market Area TAZs include: 314, 315, 316, 317, 318, 319, 320, 321, 330, and 331.

b. Includes employment in education and other public sector jobs. According to SACOG projections, public employment as a percentage of total employment is projected to decrease over the same time period County-wide.

Source: SACOG Modeling Projections for 2005, 2013, 2018 and 2035 (February 2008) and SCAG.

B. Residential

The development of infill housing should be an important component of the North Watt revitalization strategy given projected growth of households in the area. New infill housing and mixed-use development will help to transform the Corridor by generating demand for new retail services and create a sense of place for the Corridor. New households will provide a strong base that will help drive the retail growth in the area.

Table 1 shows household projections indicating demand for 18,000 new housing units in the North Watt Market Area from 2005 to 2035. For the land use distribution recommend below in Section V, Seifel assumed the three planning districts would absorb 80 percent of units or 15,000 housing units, with the remaining 20 percent occurring in McClellan Park and areas west of Watt Avenue not considered in this Corridor Plan.

Thus, future demand would be sufficient to absorb on average 600 new housing units per year through 2035. In the past, most household demand was for single-family homes. However, high density condominiums, town homes and/or apartments will likely comprise a growing proportion of future demand in Sacramento County, given current trends in development and available land. In order to accommodate household growth, higher density development is a necessity. Sacramento County recognizes the need to grow smart and specifically addresses this need in the Land Use Element of the County's Draft General Plan, by stating that the County intends to:

- Concentrate a portion of expected growth into previously urbanized areas;
- Grow intensively rather than extensively;
- Invest in and revitalize existing communities;
- Build stronger, more connected and balanced neighborhoods; and
- Protect the County's invaluable natural resources from urban encroachment.

C. Non-Retail Land Uses

As shown above in Table 4, SACOG projections indicate a growth of 3,300 office jobs from 2005 to 2035, resulting in the need for an additional 900,000 square feet of office space assuming 275 square feet per employee.

The projected decrease in industrial employment is congruent with a net decline in demand for industrial space throughout the region; therefore, this analysis did not focus on industrial space. While SACOG projects a net decrease in industrial demand for the Market Area, McClellan Business Park may include some industrial and research and development growth.

Public uses include employment in education and other public sector jobs, which are projected to decline in the Market Area. According to SACOG projections, public employment as a percentage of total employment is expected to decrease Countywide over the same time period.

V. Recommended Land Use Distribution

Based on the existing conditions and market analysis described above, Seifel proposes land use distributions for residential, retail, office and other land uses within each of the three districts, Elkhorn District, North Highlands Town Center District, and Triangle Gateway District. In addition to the districts, which run north to south along the Corridor, the land use distribution is guided by geographic designations from east to west, the Corridor Plan Area, the Area of Influence and West of Watt.

The following objectives guided the proposed distribution of land uses:

- Concentrate retail uses at the District Centers within the Corridor Plan Area to create a critical mass of retailers and a stronger sense of place.
- Accommodate 15,000 households by allowing the highest densities in the District Centers (greater than 30 dwelling unit/acre), and densities of 30, 25 and 20 dwelling units per acre in the Corridor Plan Area, Area of Influence, and West of Watt, respectively.
- Allow for office development at greater intensities (from 0.5 FAR to 1.5 FAR) than authorized by current zoning.

Table 5 shows land uses by district. The North Highlands Town Center is included in the land use distribution as it is part of the Market Area, although the *North Highlands Town Center Development Code* has already addressed the vision for the North Highlands Town Center. Table 6 summarizes the proposed land use distribution for all districts combined.

The recommended dwelling units and square footage showed in Tables 5 and 6 are provided as a policy framework and logical priorities for land use, not absolute units or square footage for each district. The recommendations within each district are discussed below.

A. Elkhorn District

In the Elkhorn District, Seifel recommends concentrating retail uses north of I Street, along Elkhorn Boulevard from Watt Avenue to 34th Street, which will provide easy and walkable access to new residents in the District. Residential development in the Elkhorn District should be spread relatively evenly from West of Watt to the Corridor Plan Area, focusing higher density residential development in the Elkhorn District Center. The majority of office uses within the Elkhorn District should be located in the Corridor Plan Area, which could have a local-serving focus, including medical office and other neighborhood-serving businesses.

B. North Highlands Town Center District

Seifel recommends concentrating retail within the North Highlands Town Center, and along Watt Avenue from Peacekeeper to James Way. This area will serve the growing McClellan employee population, providing workers easy access to restaurants and retail needs. Residential units should be focused mostly in the Corridor Plan Area and Area of Influence. Office uses in the North Highlands Town Center and District could be focused on business services and other support for growing McClellan businesses, given proximity to McClellan.

Table 5
Proposed Land Use Distribution by District
North Watt Corridor Plan
2035

	Elkhorn District Antelope Road to I Street						North Highlands Town Center District I Street to Peacekeeper						Triangle Gateway District Peacekeeper to I-80						Total	
	Entire District		District Center		Remainder of District		Entire District		District Center		Remainder of District		Entire District		District Center		Remainder of District[a]			
	% of Total	DU/SF	DU/SF	Acreage	DU/SF	Acreage	% of Total	DU/SF	DU/SF	Acreage	DU/SF	Acreage	% of Total	DU/SF	DU/SF	Acreage	DU/SF	Acreage	DU/SF	% of Grand Total
Corridor Plan Area																				
Residential Units	35%	2,363	709	24	1,654	55	40%	2,280	1,140	38	1,140	38	100%	2,550	765	26	1,785	71	7,200	48%
Retail	75%	292,500	175,500	8	117,000	5	90%	292,500	29,250	1	263,250	12	100%	585,000	117,000	5	468,000	21	1,170,000	90%
Office	70%	220,255	198,230	9	22,026	1	60%	134,850	26,970	1	107,880	5	100%	359,600	71,920	3	287,680	13	714,700	79%
Area of Influence																				
Residential Units	30%	2,025	810	27	1,215	49	40%	2,280			1,140	46	0%	-					4,300	29%
Retail	25%	97,500	73,125	3	24,375	1	10%	32,500				-	0%	-					130,000	10%
Office	30%	94,395	84,956	4	9,440	0	40%	89,900				-	0%	-					184,300	21%
West of Watt																				
Residential Units	35%	2,363	945	32	1,418	71	20%	1,140			1,140	57	0%	-					3,500	23%
Retail	0%	-					0%	-					0%	-					-	0%
Office	0%	-					0%	-					0%	-					-	0%
District Totals																			**DU/SF Grand Total**	
Residential Units	45%	6,750					38%	5,700					17%	2,550					**15,000**	100%
Retail[b]	30%	390,000					25%	325,000					45%	585,000					**1,300,000**	100%
Office	35%	314,650					25%	224,750					40%	359,600					**899,000**	100%
Total Acreage																				
Available Acreage				144		225				54		229				48		135		835
Total Planned Acreage				121		205				46		189				39		120		719
Residential[c]				82		175				38		141				26		71		532
Non-Residential[d]				24		8				3		17				9		35		95
Other Uses[e]				14		23				5		31				5		14		92

a. Assumed 1/2 of the Triangle Gateway District will be redeveloped.
b. Assumed 1.3 million SF of retail, the midpoint between the analysis presented in Tables 2 and 3 (740,000 SF) and Table 4 (1.9 million SF).
c. Assumed 30 du/acre in District Centers and 30, 25 and 20 du/acre in the remainder of districts for the Area of Influence, Corridor Plan Area and West of Watt, respectively. Projections assume 80% of residential unit growth in the Market Area will occur in the Districts, with the remaining 20% occuring in west of Watt areas not considered in this plan and McClellan Park.
d. Assumed .50 FAR for both retail and office.
e. Other uses include parks, public open space, and other public uses. Assumed at 10% of available acreage, except for the 30.9 acre park space designated in the North Highlands Town Center District.

Source: Seifel Consulting Inc.

C. Triangle Gateway District

The entirety of the Triangle Gateway District is located within the Corridor Plan Area. The Triangle Gateway District is home to the County's Waste Management North Area Recovery Station, which the County plans to keep active.

In order to accommodate household growth in the Market Area, residential uses are projected for the Triangle Gateway District. However, residences would need to be located away from the Recovery Station or protected by barriers or other measures. The Corridor Plan shows a buffer for the Recovery Station with a street and an open space corridor.

In the Triangle Gateway District, retail could be located in the McClellan noise contour area so as to preserve the unaffected areas for residential. Seifel recommends concentrating the bulk of office uses in the Triangle Gateway due to good accessibility via I-80.

Visitor services may work in the Triangle Gateway District given its good access to I-80 and McClellan Business Park. However, no demand for visitor services in the area is currently projected, according to the Sacramento Convention and Visitors Bureau. Seifel recommends a more thorough market analysis to determine if visitor services are needed given the expected growth in residential, retail and office development.

Table 6
Projected Land Use Distribution
North Watt Avenue Corridor Plan
All Districts
2035

	Corridor Plan Area All Districts	
	DU/SF	% of Grand Total
Corridor Plan Area		
Residential Units	7,200	48%
Retail	1,260,000	90%
Office	714,700	79%
Area of Influence		
Residential Units	4,300	29%
Retail	140,000	10%
Office	184,300	20%
West of Watt		
Residential Units	3,500	23%
Retail	-	0%
Office	-	0%
District Totals	**Grand Total**	
Residential Units	**15,000**	100%
Retail[a]	**1,400,000**	100%
Office	**900,000**	100%
Total Acreage		
Available Acreage		835
Total Planned Acreage		724
Residential[b]		532
Non-Residential[c]		100
Other Uses[d]		92

a. Assumed 1.4 million SF of retail, the midpoint between the analysis presented in Tables 2 and 3 (770,000 SF) and Table 4 (1.9 million SF).
b. Assumed 30 du/acre in District Centers and 30, 25 and 20 du/acre in the remainder of districts for the Corridor Plan Area, Area of Influence and West of Watt, respectively. Projections assume 80% of residential unit growth in the Market Area will occur in the Districts, with the remaining 20% occuring in west of Watt areas not considered in this plan and McClellan Park.
c. Assumed .50 FAR for both retail and office.
d. Other uses include parks, public open space, and other public uses. Assumed at 10% of available acreage, except for the 30.9 acre park space designated in the North Highlands Town Center District.

Source: Seifel Consulting Inc.

APPENDIX C

Watt and 34th Long Term Circulation Alternatives

C WATT AND 34TH LONG TERM CIRCULATION ALTERNATIVES

C.1 INTRODUCTION

This section focuses on the potential for bus rapid transit service on either North Watt Avenue or 34th Street in the long-term. As the Corridor Plan area and areas to the north (Placer County) and west (West of Watt) experience new development, the potential of these streets to accommodate regional transportation needs will become increasingly important. When development has progressed sufficiently to result in traffic congestion that can no longer be addressed through the signalization, lane, and pedestrian improvements identified in the near-term alternative, then one of the three long-term alternatives identified in this section should be implemented.

Growth in communities to the north, such as Placer Vineyards, will affect the need for transit and automobile capacity.

The three long term alternative concepts differ on their relative emphasis on Watt Avenue and 34th Street, and the respective placement of travel lanes, dedicated bus rapid transit lanes, and corresponding transit stations, as identified in the descriptions that follow. However, all three alternatives seek to:

- provide local access to destinations along the corridor;
- respond to expected development in new communities in Placer County, such as Placer Vineyards, Sierra Vista, and Riolo Vineyards, by maximizing regional automobile and transit capacity;
- accommodate additional traffic from anticipated employment growth in McClellan Business Park;
- extend streetscape improvements throughout the length of Watt Avenue and 34th Street;
- accommodate bus rapid transit in dedicated lanes with transit stations offering advance ticket payment; and
- include on-street bicycle lanes and pedestrian walkways separated from the street by landscape strips.

Streetscape improvements will be extended to portions of North Watt Avenue with limited existing facilities.

Example of bus rapid transit (Photo courtesy of Las Vegas Metropolitan Area Express)

C.2 LONG- TERM CIRCULATION ALTERNATIVES

Watt Avenue would continue to serve as the primary route for automobile through-traffic in Alternative 1.

Long-Term Alternative 1 Overview

Long-Term Alternative 1 addresses local and regional capacity by utilizing both Watt Avenue and 34th Street. Alternative 1 preserves the County's investment in streetscape improvements on Watt Avenue, which would continue to carry the majority of automobile through-traffic, with 34th Street serving as a four-lane arterial supporting local auto access, local bus service, and bus rapid transit service (see Figure C.1, "Long-Term Alternative 1 Location Map"). This alternative is consistent with the approved *North Highlands Town Center Development Code*, which envisions the intersection of 34th Street/Dudley Drive and Freedom Park Drive as the central hub of a pedestrian-oriented mixed-use district. More specific descriptions of Watt Avenue and 34th Street are provided on the following pages.

Existing streetscape improvements on Watt Avenue would be retained in Alternative 1.

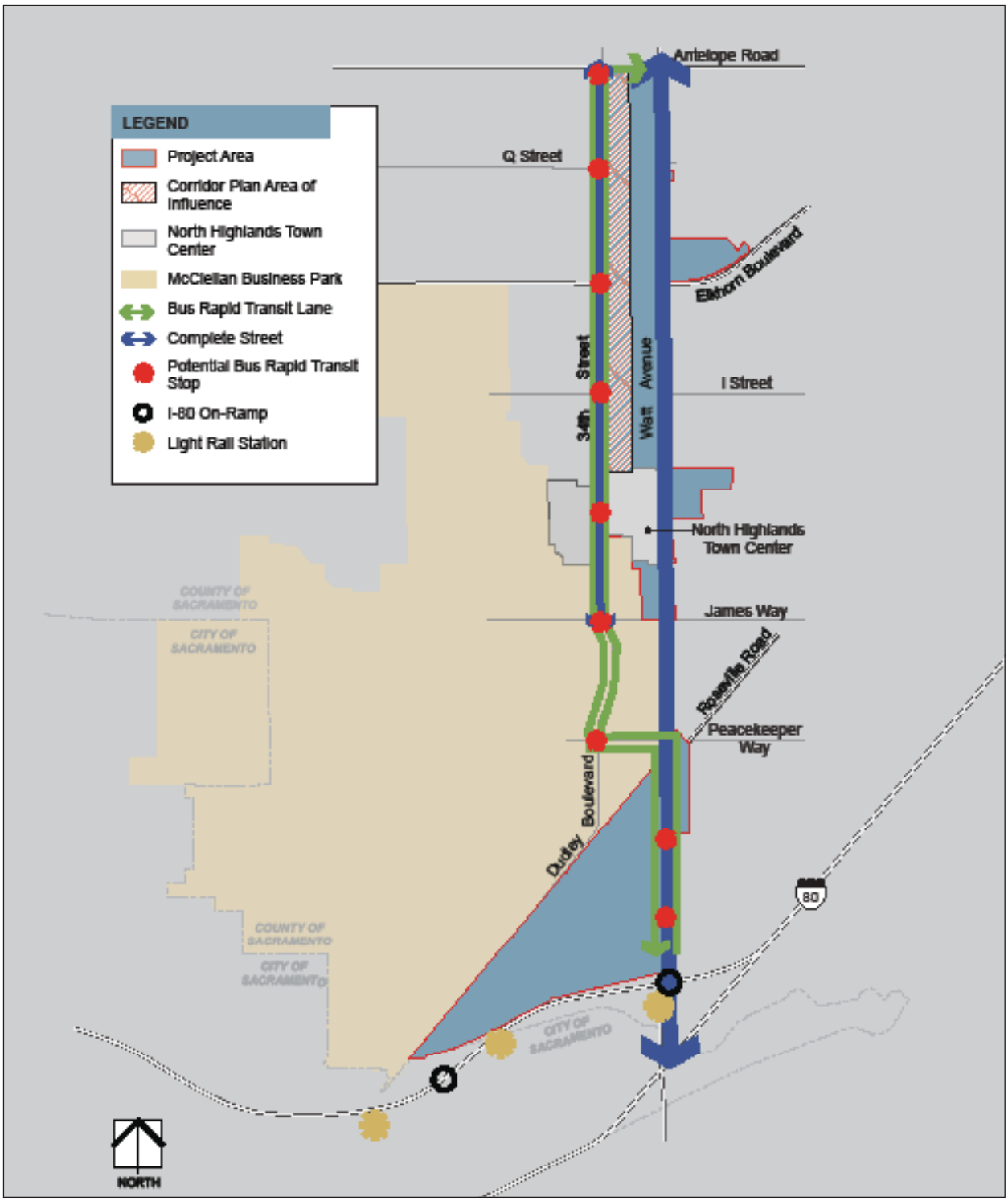


Figure C.1—Long-Term Alternative 1 Location Map

Pedestrian, bicycle, and bus transit improvements currently underway would continue to serve travelers on North Watt Avenue under Long-term Alternative 1.

Long-Term Alternative 1, Watt Avenue

Watt Avenue would continue to serve as a major thoroughfare with six mixed-flow vehicle lanes providing local access to adjacent homes and businesses and carrying regional through-traffic. No additional construction would be necessary for Alternative 1. Mixed-flow travel lanes would continue to carry local bus service. At this point, the Watt Avenue streetscape would be completed, as shown in Figure C.2, "Long-Term Alternative 1, Watt Avenue Illustration." Existing streetscape improvements would include on-street Class II bicycle lanes, a landscape strip separating the sidewalks, and a raised landscaped median (see Figure C.3, "Long-Term Alternative 1, Watt Avenue Section," and Figure C.4, "Long-Term Alternative 1, Watt Avenue Concept Plan," on the following page). On-street parking would be prohibited. The crossing distance at intersections would be approximately 130 feet, and mid-block crossings would be approximately 96 feet.

Figure C.2—Long-Term Alternative 1, Watt Avenue Illustration

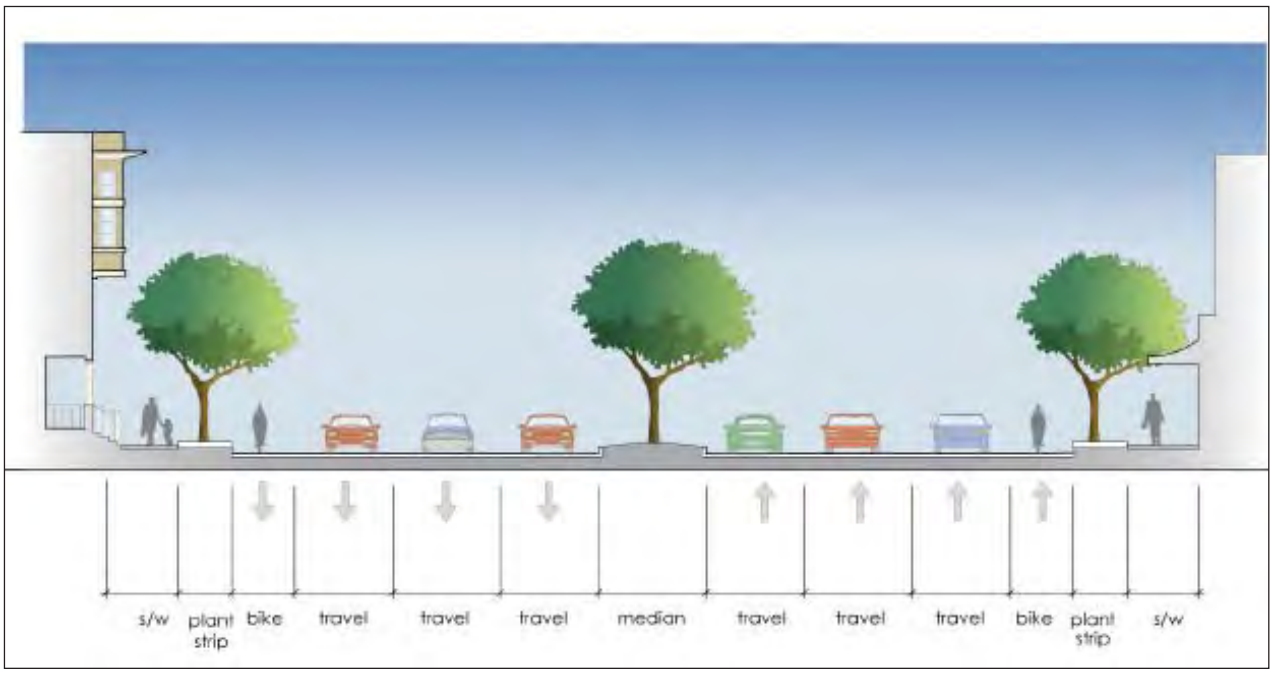


Figure C.3—Long-Term Alternative 1, Watt Avenue Section

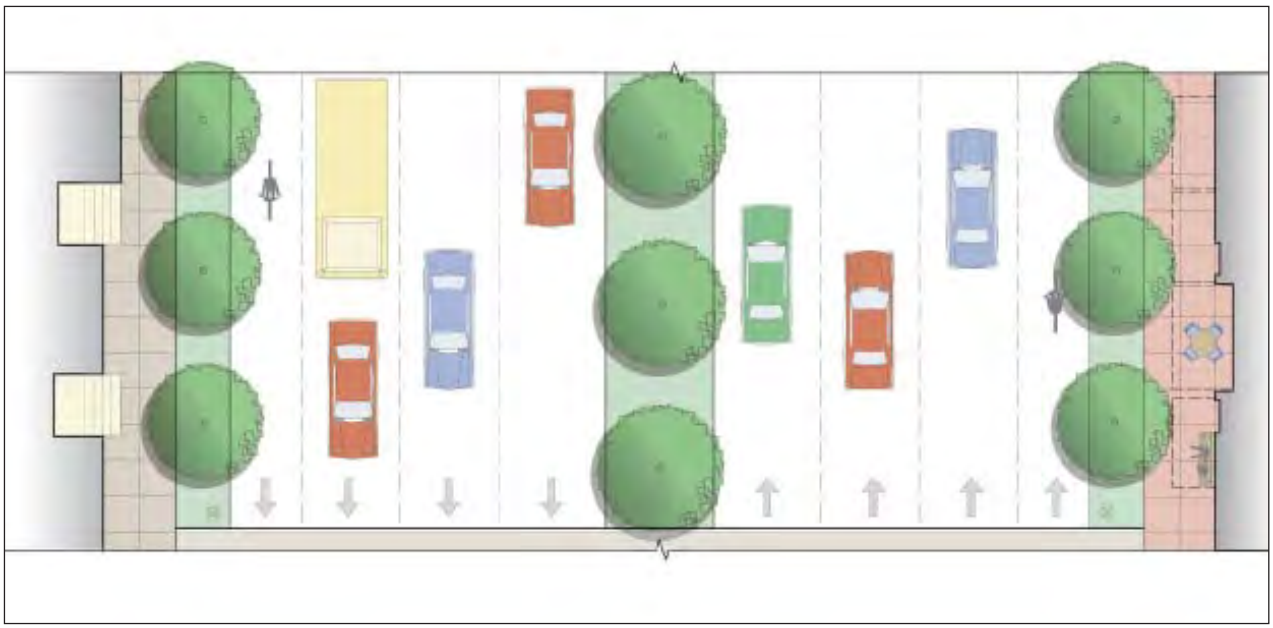


Figure C.4—Long-Term Alternative 1, Watt Avenue Concept Plan

Example of bus rapid transit (Photo courtesy of Las Vegas Metropolitan Area Express)

Long-term Alternative 1, 34th Street

Long-term Alternative 1 would provide for the development of 34th Street as a four-lane arterial with exclusive bus rapid transit lanes (see Figure C.5, "Long-Term Alternative 1, 34th Street Illustration"). Long-Term Alternative 1 designates these four lanes as two mixed-flow travel lanes and two exclusive bus rapid transit lanes (see Figure C.6, "Long-Term Alternative 1, 34th Street Section" and Figure C.7, "Long-Term Alternative 1, 34th Street Concept Plan" on the following page). Improvements on 34th Street would also include on-street, Class II bicycle lanes, a planting strip with street trees, and sidewalks. The crossing distance would be approximately 70 feet at intersections, and 58 feet at mid-block crossings. Figure C.5, "Long-Term Alternative 1, 34th Street Illustration," graphically depicts improvements for this alternative.

Extension of these improvements to 34th Street would be based on development within the Corridor Plan area and continued employment growth in McClellan Business Park. Development in the North Highlands Town Center and Elkhorn District Centers would also have progressed sufficiently to make the provision of bus rapid transit service on 34th Street desirable.

Figure C.5—Long-Term Alternative 1, 34th Street Illustration

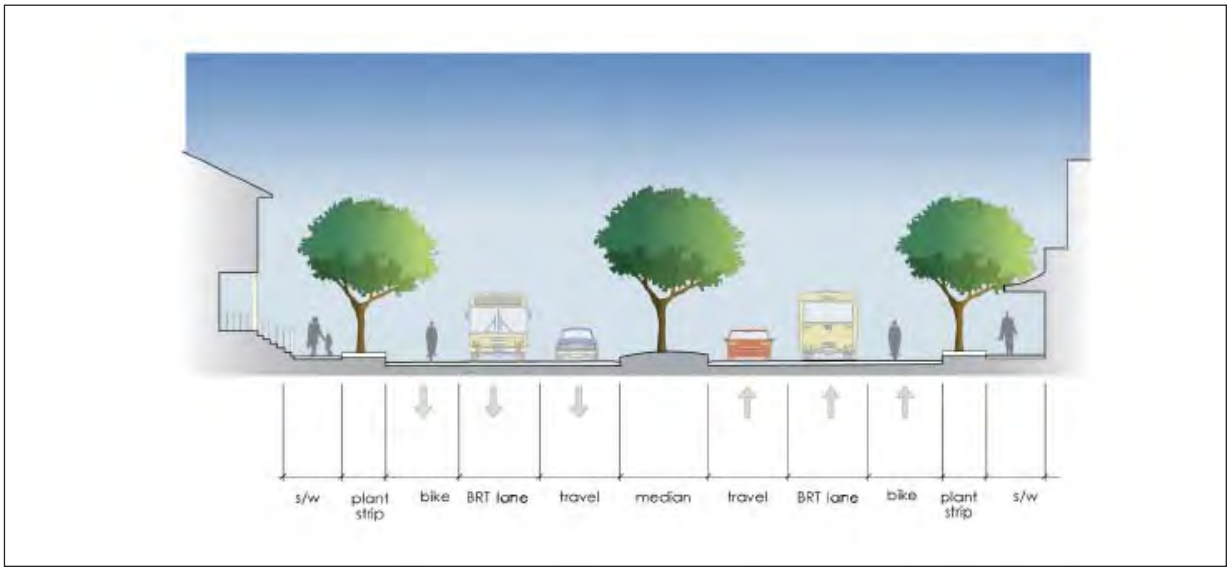


Figure C.6—Long-Term Alternative 1, 34th Street Section (with exclusive bus rapid transit lanes)

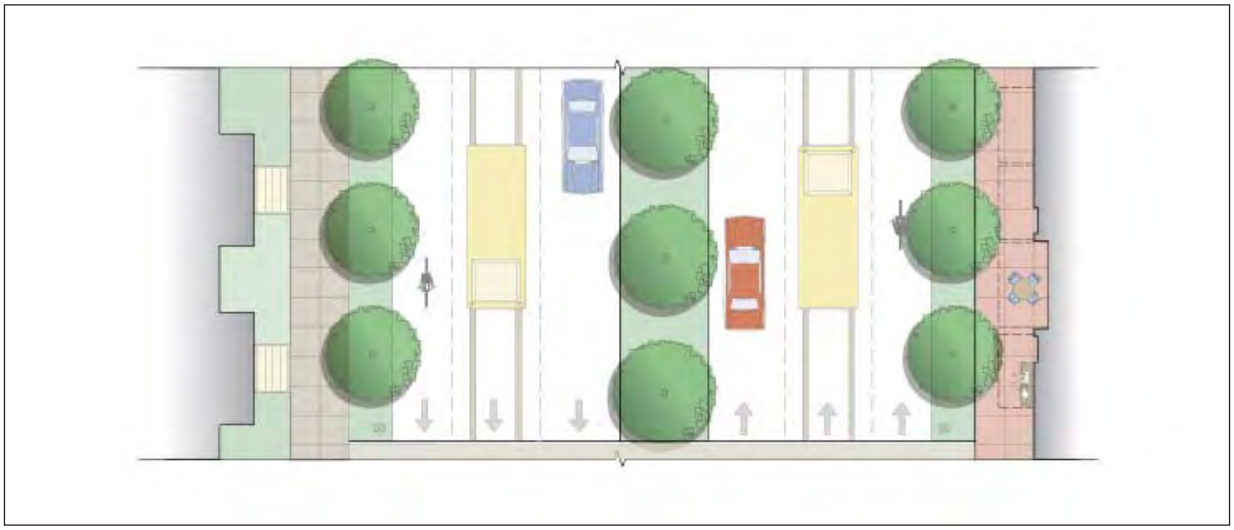


Figure C.7—Long-Term Alternative 1, 34th Street Concept Plan (with exclusive bus rapid transit lanes)

In Long-Term Alternative 2, Watt Avenue and 34th Street are parallel, one-way streets.

Long-Term Alternative 2 Overview

Long-term Alternative 2 is a couplet, with one-way, northbound traffic on Watt Avenue between James Way and Antelope Road, and one-way, southbound traffic on 34th Street (see Figure C.8, "Long-Term Alternative 2 Location Map"). An exclusive, one-way bus rapid transit lane would be included on both Watt Avenue and 34th Street. The streets would also be designed as complete streets, with Class II bi-cycle lanes, street trees in landscape strips, and sidewalks. Long-Term Alternative 2 is designed to maximize regional automobile and transit capacity, and respond to anticipated growth north and west of Watt Avenue.

Example of a one-way street with transit and auto traffic in Portland, Oregon

Figure C.8—Long-Term Alternative 2 Location Map

Long-Term Alternative 2, Watt Avenue

Long-Term Alternative 2, Watt Avenue has four northbound lanes between James Way and Antelope Road: three travel lanes and one exclusive bus rapid transit lane. Figure C.9, “Long-Term Alternative 2, Watt Avenue Illustration,” graphically depicts the streetscape. The bus rapid transit lane would be located on the west side of the street, separated from the vehicle travel lanes by a raised, landscaped median (see Figure C.10, “Long-Term Alternative 2, Watt Avenue Section,” and Figure C.11, “Long-Term Alternative 2, Watt Avenue Concept Plan,” on the following page).

A northbound Class II bicycle lane would be located on both the east and west sides of the existing median on Watt Avenue, as shown in Figure C.10. Sidewalks would be constructed on both sides of the street, detached from it by a landscaped planting strip. The crossing distance at intersections and mid-block locations would be 71 feet. North of Antelope Road and south of James Way, Watt Avenue would be a six-lane thoroughfare conforming to County standards, with bus rapid transit operating in mixed-flow lanes. Local bus service would

Figure C.9—Long-Term Alternative 2, Watt Avenue Illustration

operate in the mixed-flow lanes along the entire length of Watt Avenue and 34th Street in the study area. Transit improvements on those sections would include bus signal priority at traffic signals, queue-jump lanes, and bus turnouts at the far side of signalized intersections.

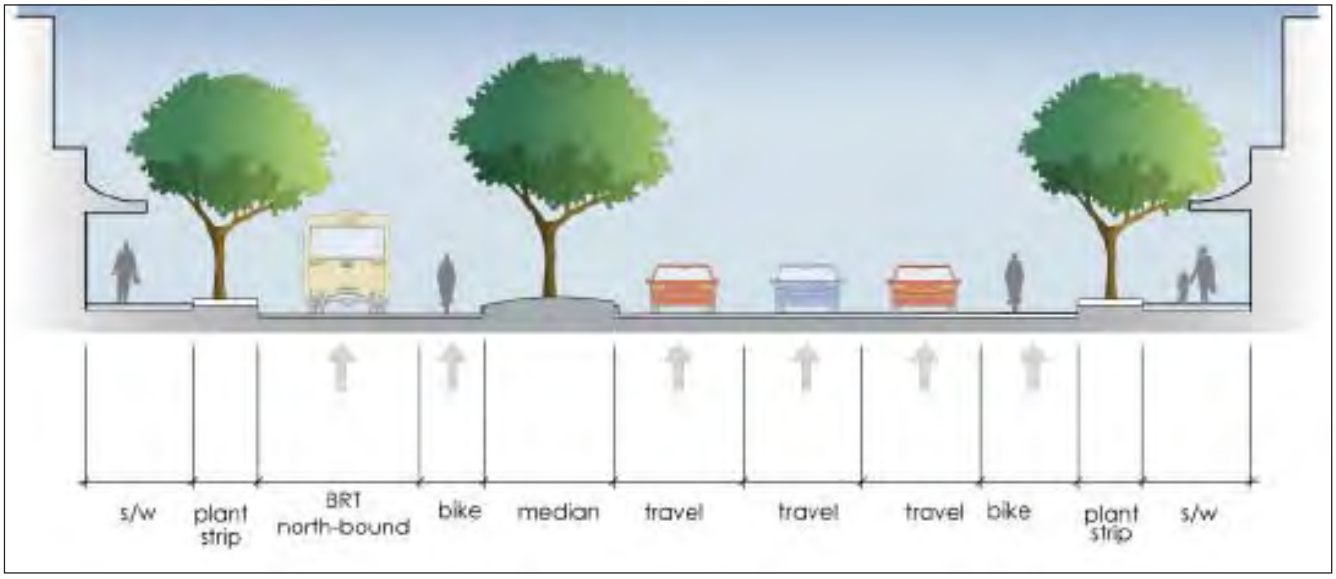


Figure C.10—Long-Term Alternative 2, Watt Avenue Section (with exclusive bus rapid transit lanes)

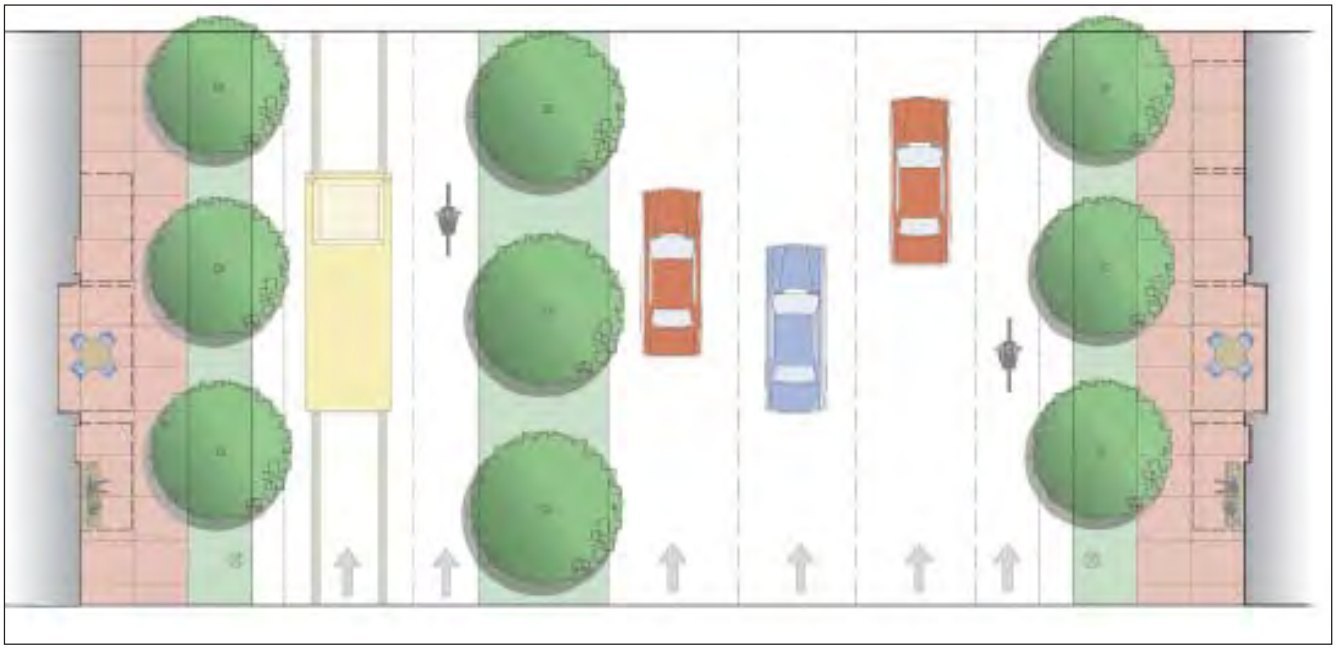


Figure C.11—Long-Term Alternative 2, Watt Avenue Concept Plan (with exclusive bus rapid transit lanes)

Long-Term Alternative 2, 34th Street

The southbound section of the couplet would be located on 34th Street and would be the mirror image of the Watt Avenue segment (see Figure C.12, “Long-Term Alternative 2, 34th Street Illustration,” Figure C.13, “Long-Term Alternative 2, 34th Street Section,” and Figure C.14, “Long-Term Alternative 2, 34th Street Concept Plan”). The proposed street section would include a southbound bus rapid transit lane; a raised, landscaped median; three travel lanes; and southbound Class II bike lanes on the east and west sides of the street. Sidewalks would be located on both sides of the street, separated by a landscaped strip. The crossing distance would be 71 feet throughout.

Figure C.12—Long-Term Alternative 2, 34th Street Illustration

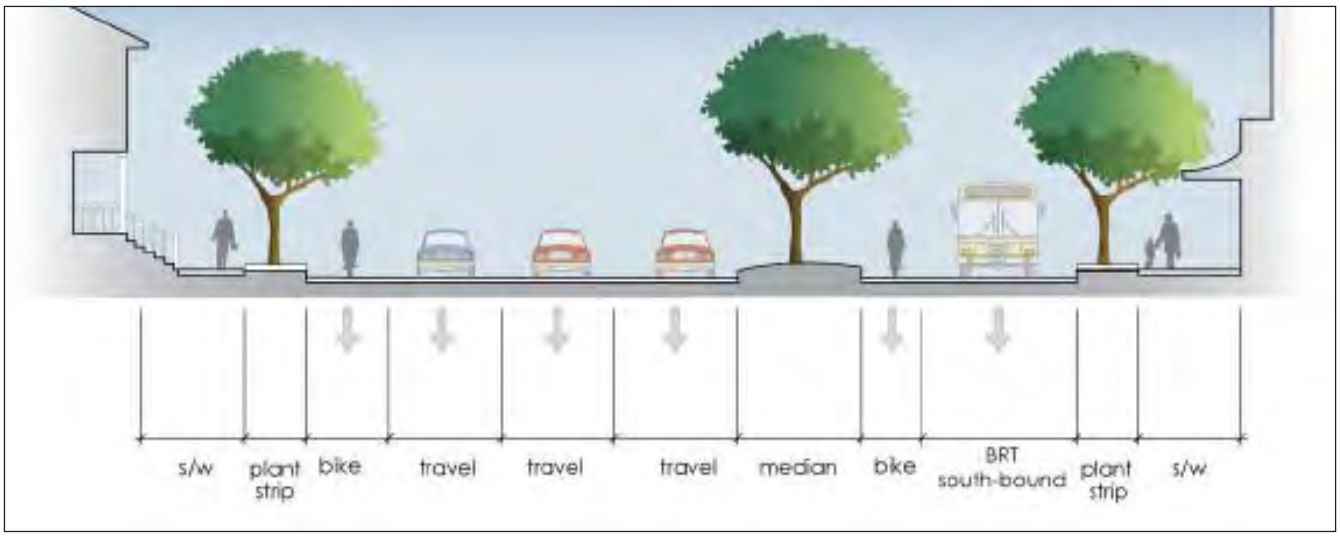


Figure C.13—Long-Term Alternative 2, 34th Street Section (with exclusive bus rapid transit lanes)

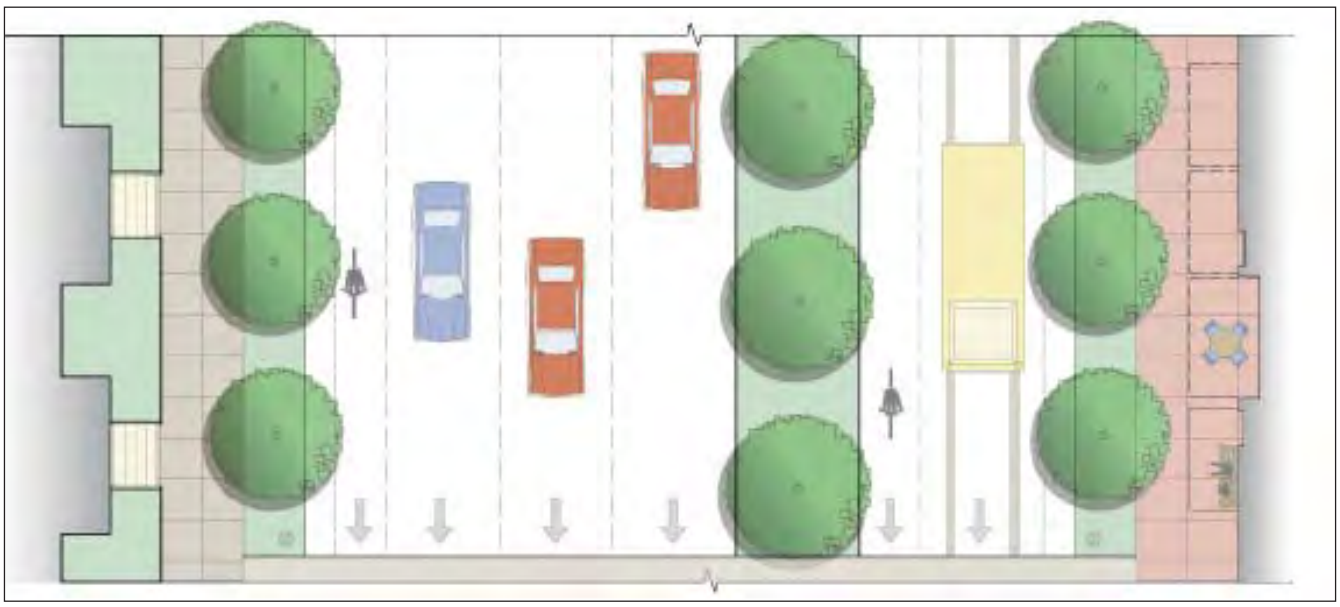


Figure C.14—Long-Term Alternative 2, 34th Street Concept Plan (with exclusive bus rapid transit lanes)

Eugene/Springfield in Lane County, Oregon, places bus rapid transit and associated stations in the center median for a portion of its route.

Long-Term Alternative 3 Overview

Alternative 3 places the focus entirely on Watt Avenue. Watt Avenue would include six mixed-flow travel lanes, with bus rapid transit and associated transit stations located in two exclusive center lanes (see Figure C.15, "Long-Term Alternative 3 Location Map").

The configuration of 34th Street in Alternative 3 is identical to the Near-Term Alternative described in Chapter 4, "Circulation," and includes two travel lanes, two Class II bicycle lanes, and sidewalks on both sides of the street. On-street parking could be allowed. Local bus service would operate in the mixed-flow lanes.

Example of bus rapid transit lanes and station located in the center median in Jakarta, Indonesia

Figure C.15—Long-Term Alternative 3 Location Map

Long-Term Alternative 3, Watt Avenue

Watt Avenue would include six mixed-flow travel lanes that would accommodate local bus service. Figure C.16, “Long-term Alternative 3, Watt Avenue Illustration,” graphically depicts the streetscape. The existing median described in the Near-Term Alternative would be replaced by two bus rapid transit lanes (see Figure C.17, “Long-Term Alternative 3, Watt Avenue Section,” and Figure C.18, “Long-Term Alternative 3, Watt Avenue Concept Plan”). A wider median would be necessary to accommodate stations located between the two dedicated bus lanes. The installation of the bus rapid transit lanes in the median will require moving the frontage improvements along Watt Avenue. The location and extent of the required widening will be determined in a later phase of the project. On-street parking would be prohibited.

Two Class II bicycle lanes would be located at the eastern and western sides of the street. Sidewalks would be located on both sides of the street, separated by a landscaped strip. The crossing distance at intersections would be approximately 155 feet, and at mid-block crossings, approximately 109 feet.

Figure C.16—Long-Term Alternative 3, Watt Avenue Illustration

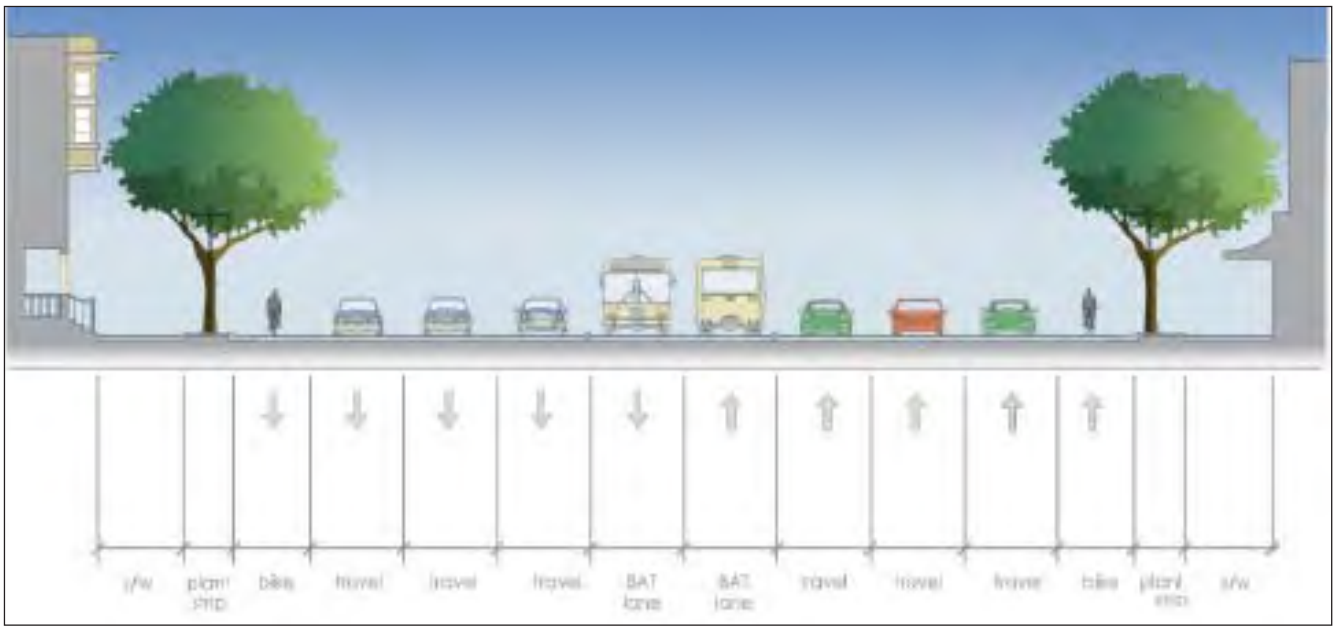


Figure C.17—Long-Term Alternative 3, Watt Avenue Section (with exclusive bus rapid transit lanes)

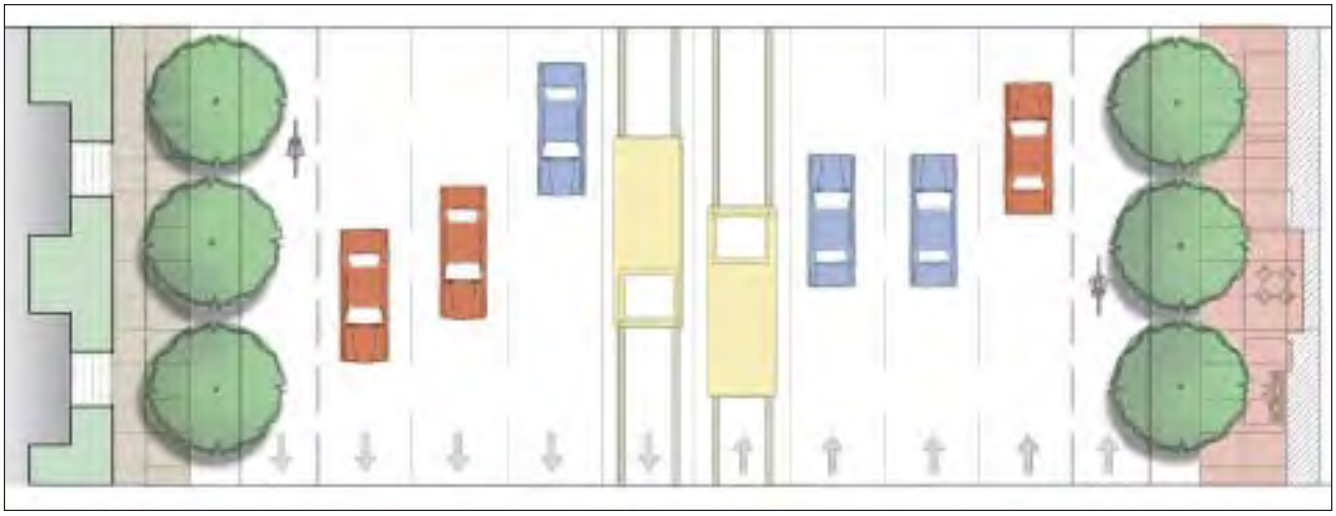


Figure C.18—Long-Term Alternative 3, Watt Avenue Concept Plan (with exclusive bus rapid transit lanes)

C.2.1 Summary Analysis of Long-Term Alternatives

This section briefly summarizes the opportunities and constraints associated with each of the long-term alternatives described above.

Alternative 1

Alternative 1 would continue the operation of Watt Avenue as a major thoroughfare, and locate bus rapid transit on 34th Street.

Roadway and Intersection Operations

- Alternative 1 would meet through-traffic capacity requirements, but it would operate less efficiently than Alternative 2 because of vehicular and transit conflicts at critical intersections.
- The bus rapid transit route has multiple options: remain restricted to the segment of 34th Street between Q and James Streets; continue south on Dudley Boulevard to Peacekeeper Way; or continue south on Dudley Boulevard to Winona Way or one of the other streets in the Triangle Gateway District, if a grade-separated crossing of the Union Pacific Railroad tracks were constructed.
- A roundabout at 34th Street and Freedom Park Drive could be utilized with this alternative.

Land Use

- New development would focus on vacant and underutilized parcels between Watt Avenue and 34th Street, allowing for adequate development to support bus rapid transit.

Access

- Center medians with limited access to parcels on both sides of Watt Avenue and 34th Street would be provided in Alternative 1.

Alternative 2

Alternative 2 would treat Watt Avenue and 34th Street as northbound and southbound one-way streets with a dedicated bus rapid transit lane on each.

Roadway and Intersection Operations

- Alternative 2 would provide the greatest roadway capacity and best intersection operations.
- The planned roundabout at Freedom Park Drive and 34th Street would need to be removed with this alternative.

Land Use

- New development would be focused on vacant and underutilized parcels between Watt Avenue and 34th Street, allowing for adequate development to support bus rapid transit, similar to Alternative 1. However, automobile dependent development may be affected by access constraints (see the next page).

Access

- The presence of dedicated bus rapid transit lanes adjacent to the west side of Watt Avenue and the east side of 34th Street would limit access to parcels in the area between Watt Avenue and 34th Street to signalized intersections or east-west streets like Freedom Park Drive, James Way, Elkhorn Boulevard, and Q Street. Access would be supplemented from an internal roadway network between Watt Avenue and 34th Street.
- The separation of northbound and southbound bus rapid transit lines could result in longer walking distances for transit users on one end of their trip.
- A couplet design may be possible that provides local business access and parking, in addition to through-lanes and bus rapid transit lanes.

Alternative 3

Alternative 3 would locate dedicated bus rapid transit lanes in the center median of Watt Avenue, with 34th Street developed as a local arterial.

Roadway and Intersection Operations

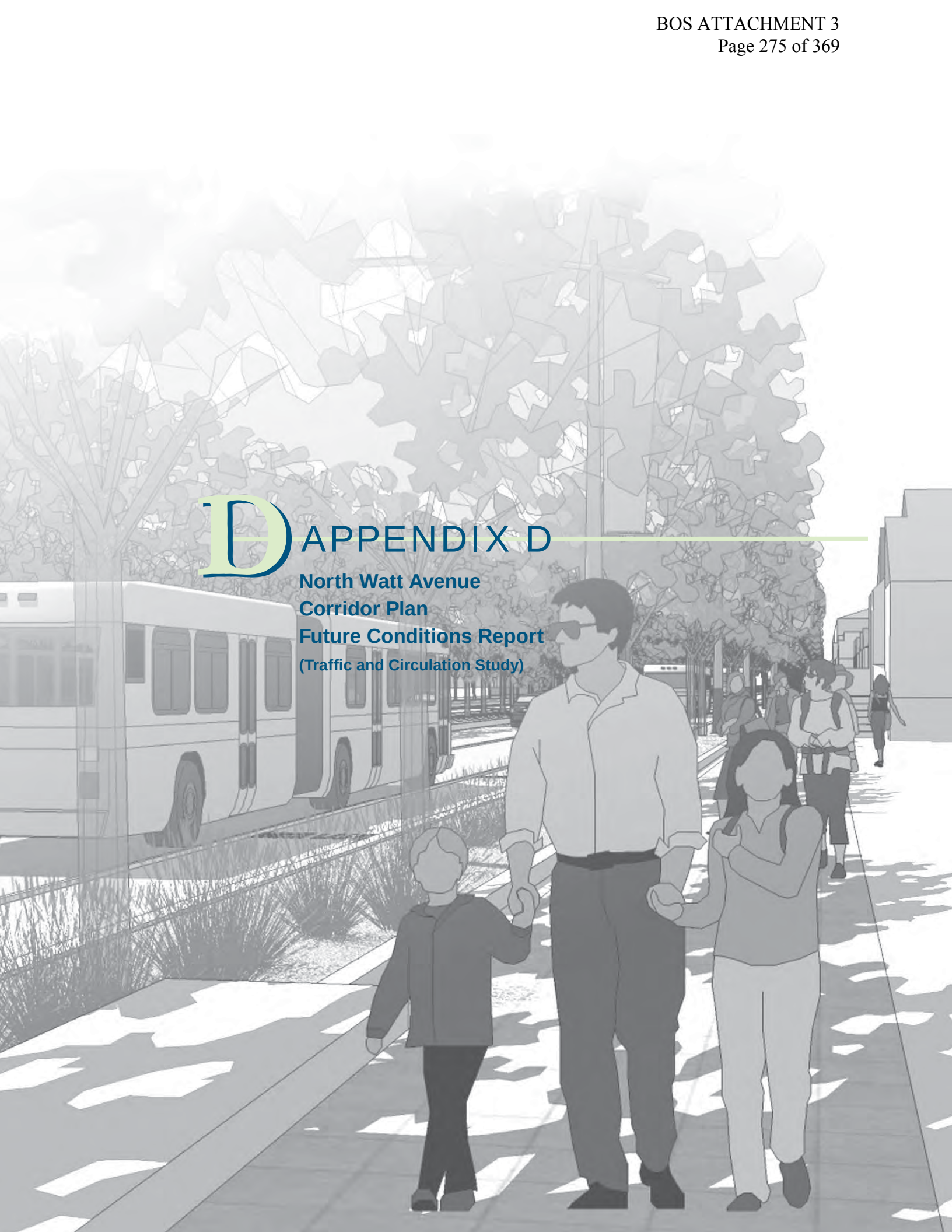
- Roadway and intersection traffic operations and capacity would be reduced due to the conflicting vehicular and transit movements at critical intersections as a result of the operation of bus rapid transit in the median of Watt Avenue.
- The installation of bus rapid transit in the median would require Watt Avenue to be widened from I-80 to Elverta Road and the existing landscaped median to be removed, as well as the reconstruction of frontage improvements.
- A roundabout at 34th Street and Freedom Park Drive could be utilized with this alternative.

Land Use

- With bus rapid transit in the median on Watt Avenue, new transit-supportive development would be limited to the west side of Watt Avenue for most of the Corridor Plan area.

Access

- Alternative 3 would limit left-turn access to parcels on Watt Avenue to signalized intersections or east-west streets like Roseville Road, Winona Way, Orange Grove Avenue, Peacekeeper Way, Palm Street, Freedom Park Drive, James Way, Elkhorn Boulevard, and Q Street.



D APPENDIX D

North Watt Avenue Corridor Plan Future Conditions Report

(Traffic and Circulation Study)

FEHR & PEERS
TRANSPORTATION CONSULTANTS

NORTH WATT AVENUE CORRIDOR PLAN FUTURE CONDITIONS REPORT

August 15, 2008
Prepared for:
Sacramento County

SA07-0083

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1. INTRODUCTION

This study describes the future transportation and circulation system for the North Watt Avenue corridor from Interstate 80 (I-80) north to the Sacramento County line. The analysis provides information on the transportation network; vehicle, transit, pedestrian, and bicycle within the study area. Specifically, Fehr & Peers evaluated future conditions for the following areas:

- Roadway configuration and level of service
- Intersection operations and level of service
- Transit services and facilities (including access to light rail stations)
- Pedestrian facilities (including crossing distances and connectivity)
- Bicycle facilities
- Access to adjoining land uses
- On Street Parking
- Constructability and phasing of improvements

STUDY AREA

Fehr & Peers evaluated operating conditions at the following study intersections and roadways:

Study Intersections

1. Dudley Boulevard/James Way
2. Elkhorn Boulevard/34th Street
3. Elkhorn Boulevard/North Watt Avenue
4. Don Julio Boulevard/North Watt Avenue
5. Freedom Park Drive/North Watt Avenue
6. James Way-A Street/North Watt Avenue
7. Palm Street/North Watt Avenue
8. Airbase Drive/North Watt Avenue
9. Peacekeeper Way/North Watt Avenue
10. Roseville Road/North Watt Avenue
11. I-80 Westbound Off-Ramp/North Watt Avenue
12. I-80 Eastbound Off-Ramp/North Watt Avenue
13. Q Street/North Watt Avenue
14. U Street – Antelope Road/North Watt Avenue
15. Q Street – 34th Street

Study Roadway Segments

1. North Watt Avenue: PFE Road to Auburn Boulevard
2. Q Street: 34th Street to North Watt Avenue
3. Elkhorn Boulevard: 34th Street to North Watt Avenue
4. James Way: Dudley Boulevard to North Watt Avenue
5. Palm Street: Dudley Boulevard to North Watt Avenue
6. Peacekeeper Way: Dudley Boulevard to North Watt Avenue
7. 34th Street-Dudley Boulevard: Winters Street to Elkhorn Boulevard

PROJECT ALTERNATIVES

This study evaluated one near-term alternative and four long-term alternatives for the roadway cross-section. The alternatives cover different combinations of travel lanes and high capacity transit lanes (Bus Rapid Transit (BRT) and Business Access Transit (BAT)) on 34th Street and Watt Avenue. All alternatives include sidewalks and on-street bicycle lanes (Class II).

The near-term alternative is a first phase for the long-term alternatives and will provide an improved transportation system until the planned land uses are developed in the study area.

Figure 1 presents the near-term and long-term alternative cross-sections for both Watt Avenue and 34th Street.

Near-term Alternative

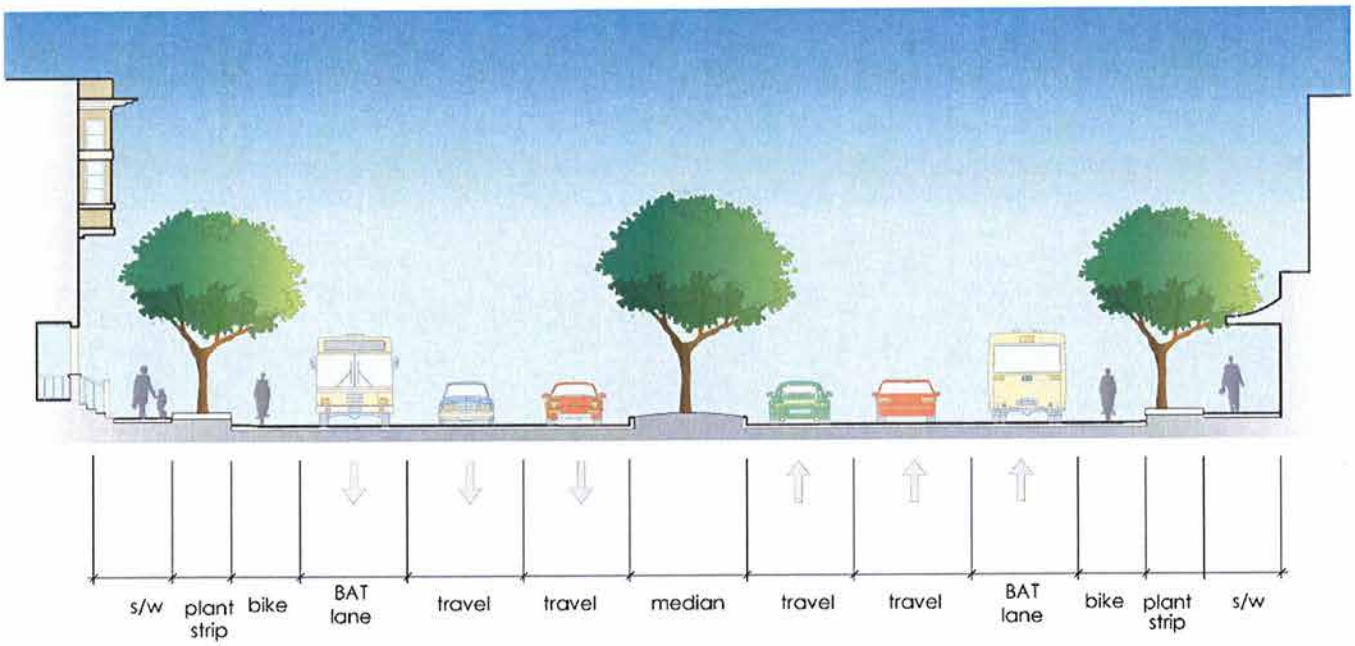
In this alternative, Watt Avenue would be widened to six lanes, with the curb lane being a BAT lane. A BAT lane is an exclusive transit lane that allows automobiles to make right turns into and out of fronting development. Transit improvements would also include bus pre-emption at traffic signals and bus turnouts at the far side of signalized intersections. Sidewalks, Class II bicycle lanes, and a raised landscaped median would be installed along the entire length of Watt Avenue in the study area. On-street parking would be prohibited. 34th Street would be widened to accommodate two-travel lanes, two Class II bicycle lanes, and sidewalks separated from the street by a landscaped strip.

The following images show a before-and-after example of BAT lanes in Shoreline, Washington.

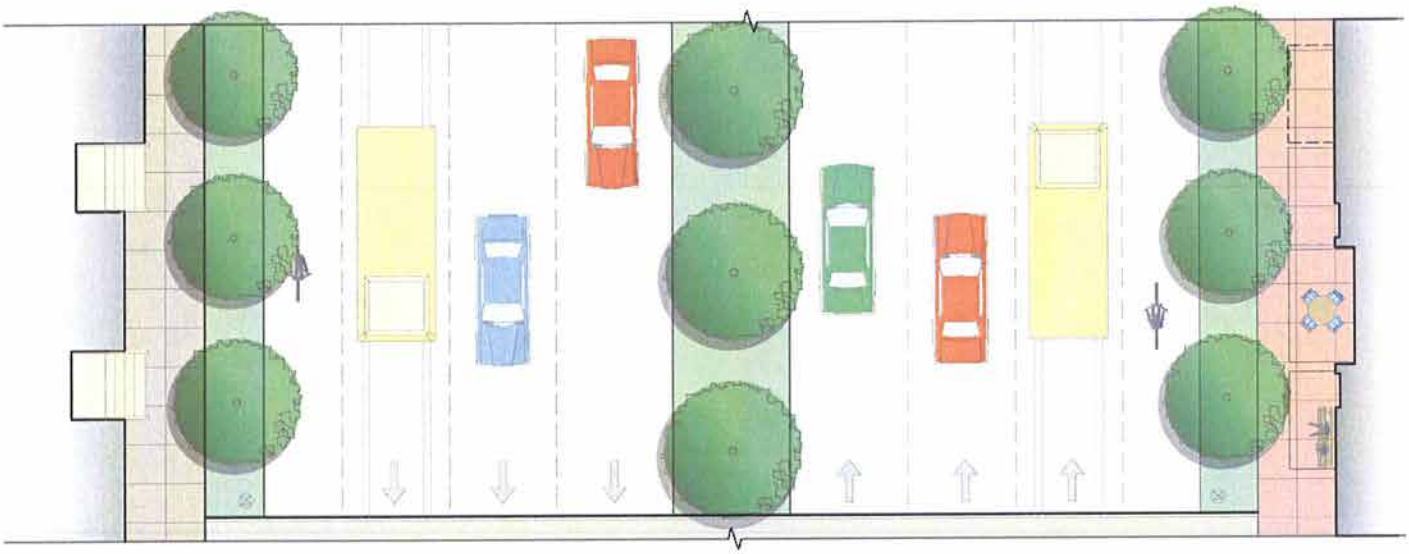
BAT lanes on Aurora Boulevard in Shoreline, Washington

Source: Aurora Corridor Project website (http://www.cityofshoreline.com/cityhall/projects/aurora/index.cfm).

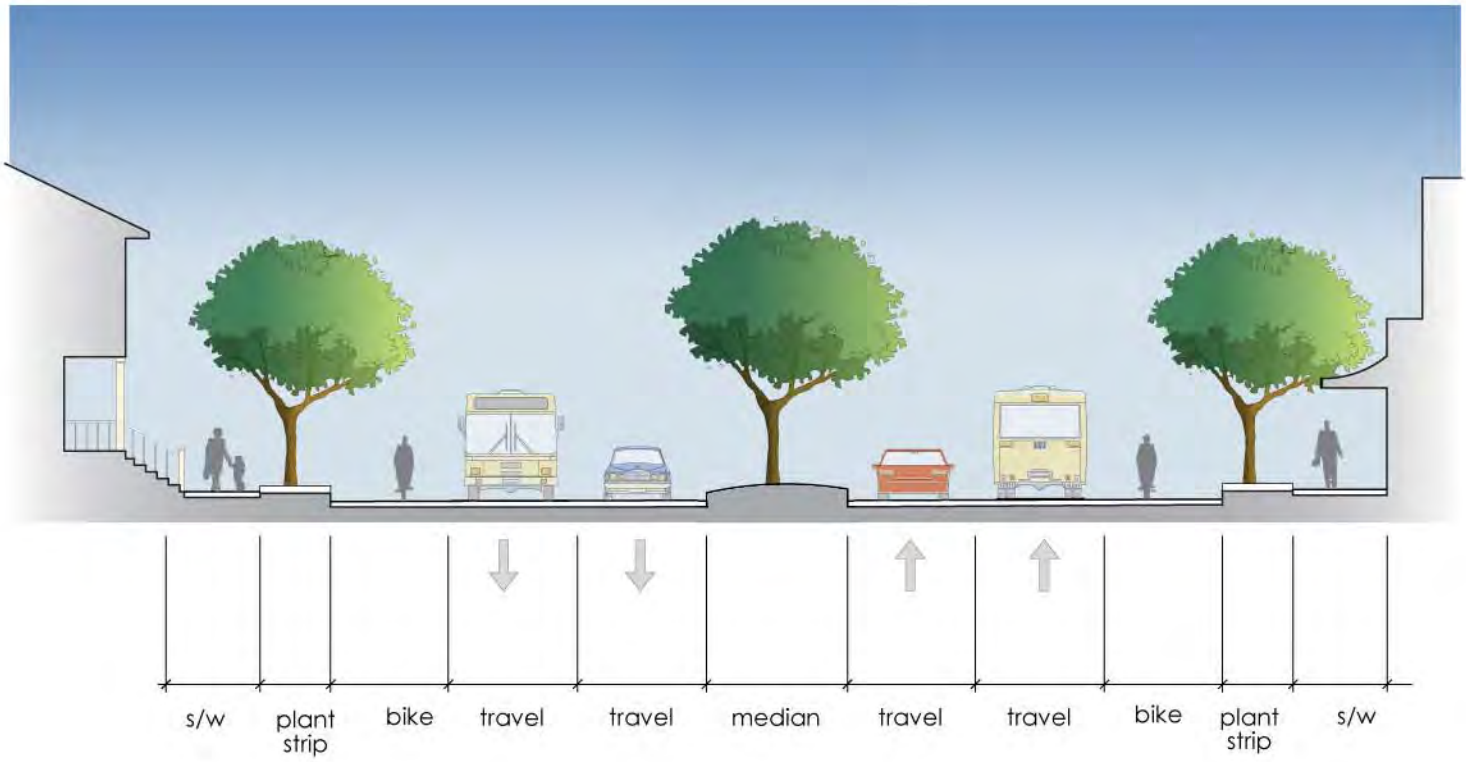
Near Term Improvements - 6 Lanes on Watt (2 BAT)



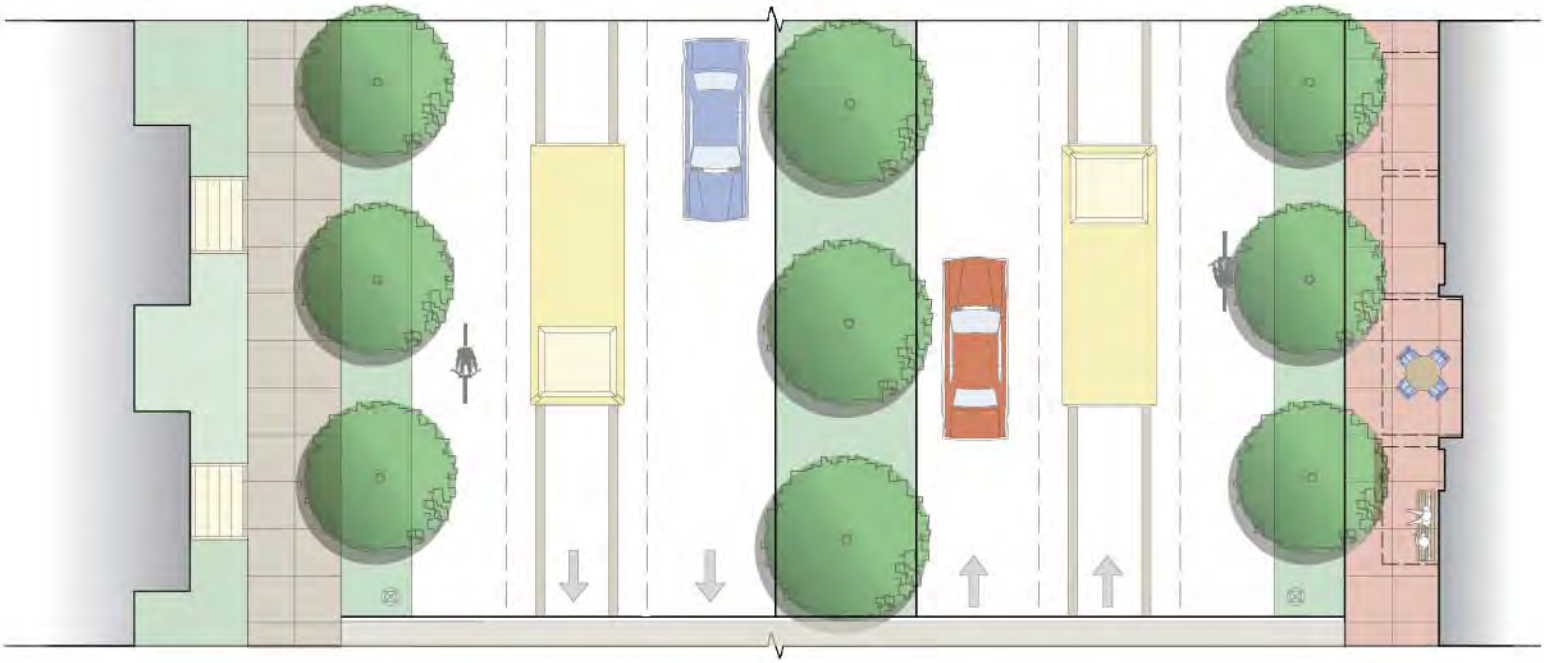
Watt Avenue



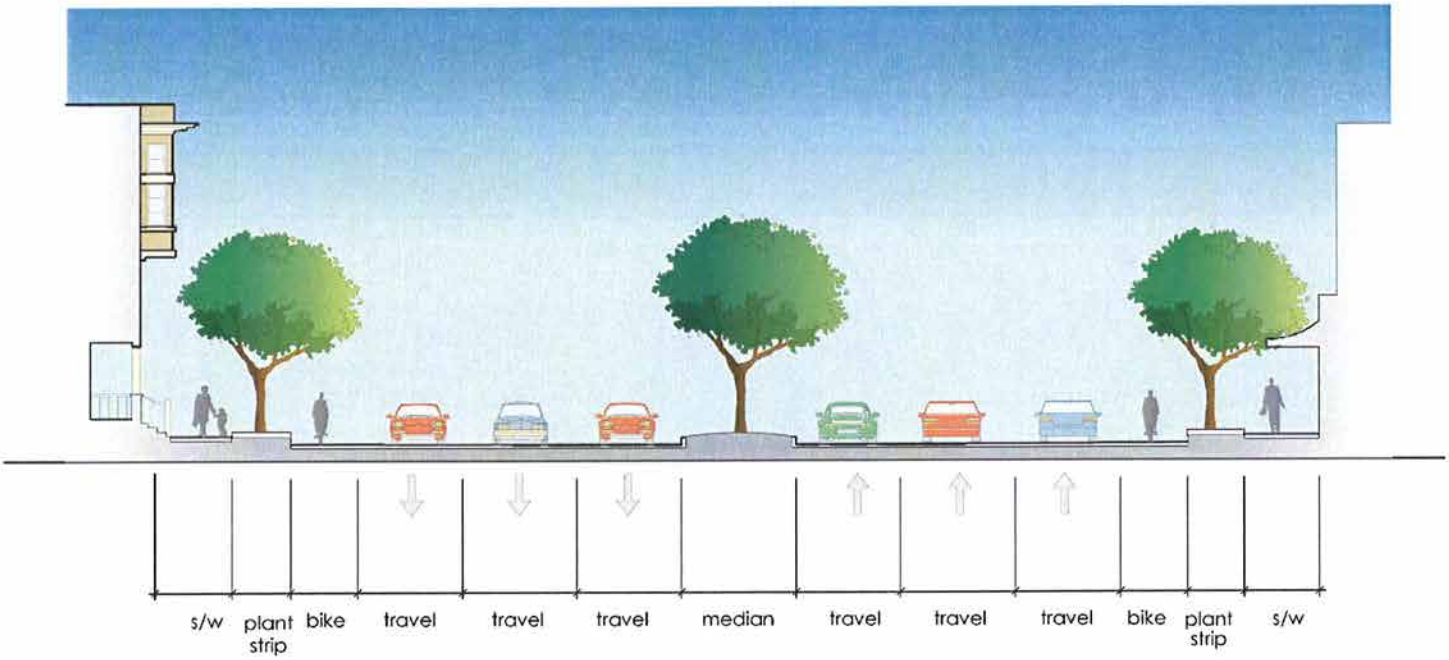
Long Term Improvements - 4 Lanes on 34th (2 BRT)



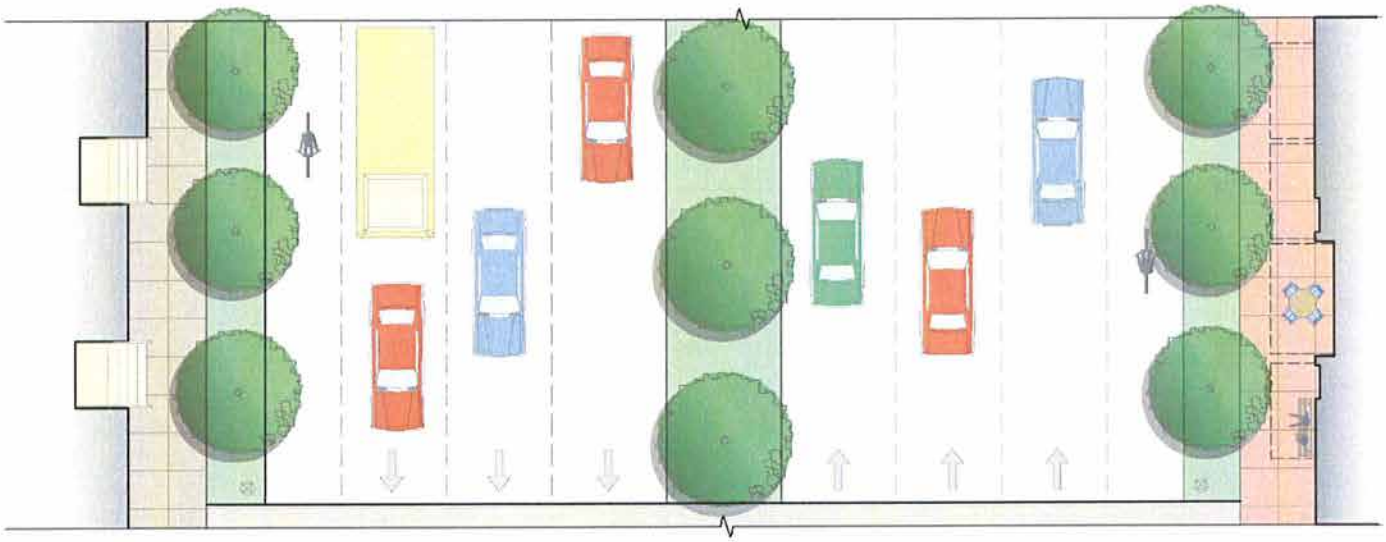
34th Street



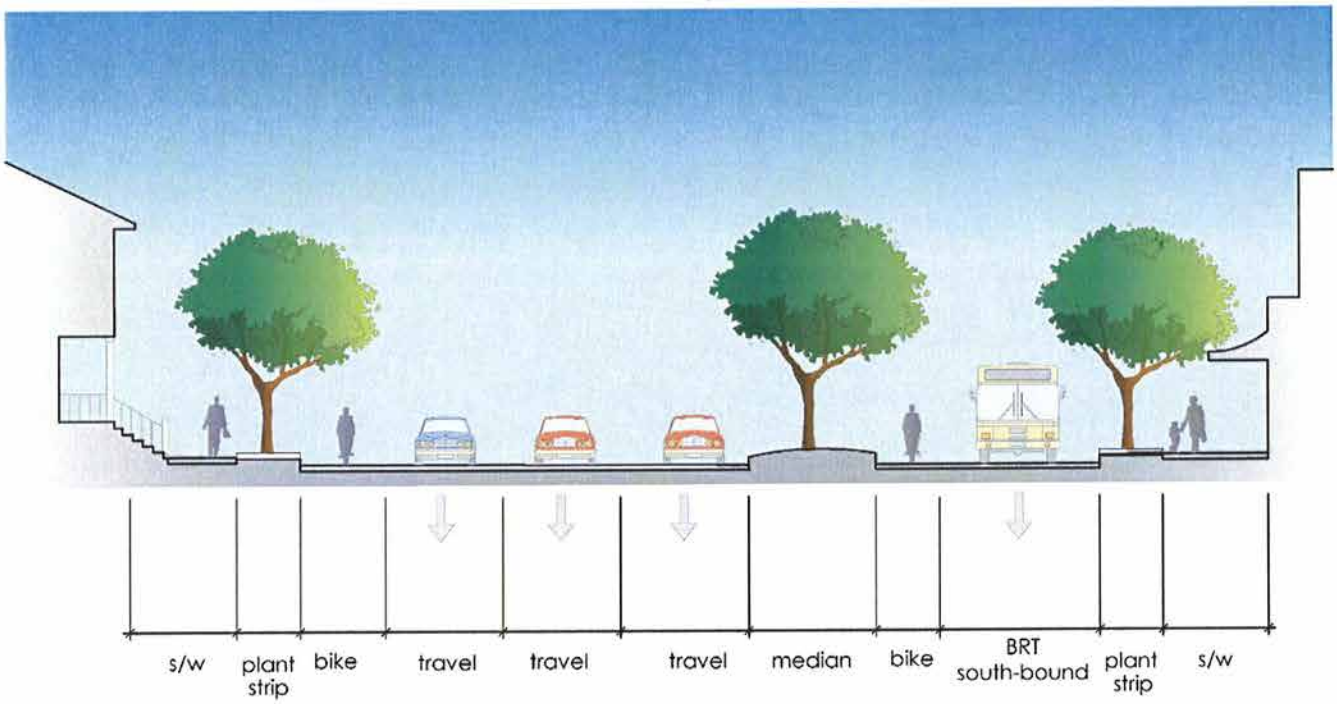
Long Term Improvements - 6 Lanes on Watt



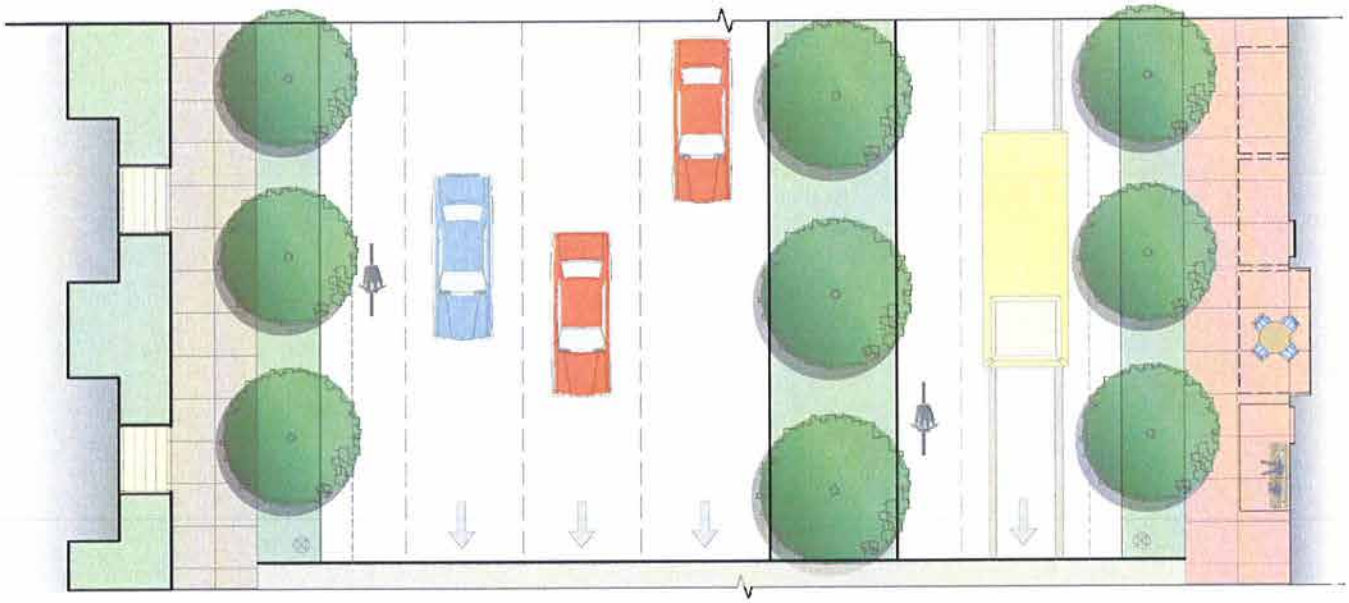
Watt Avenue



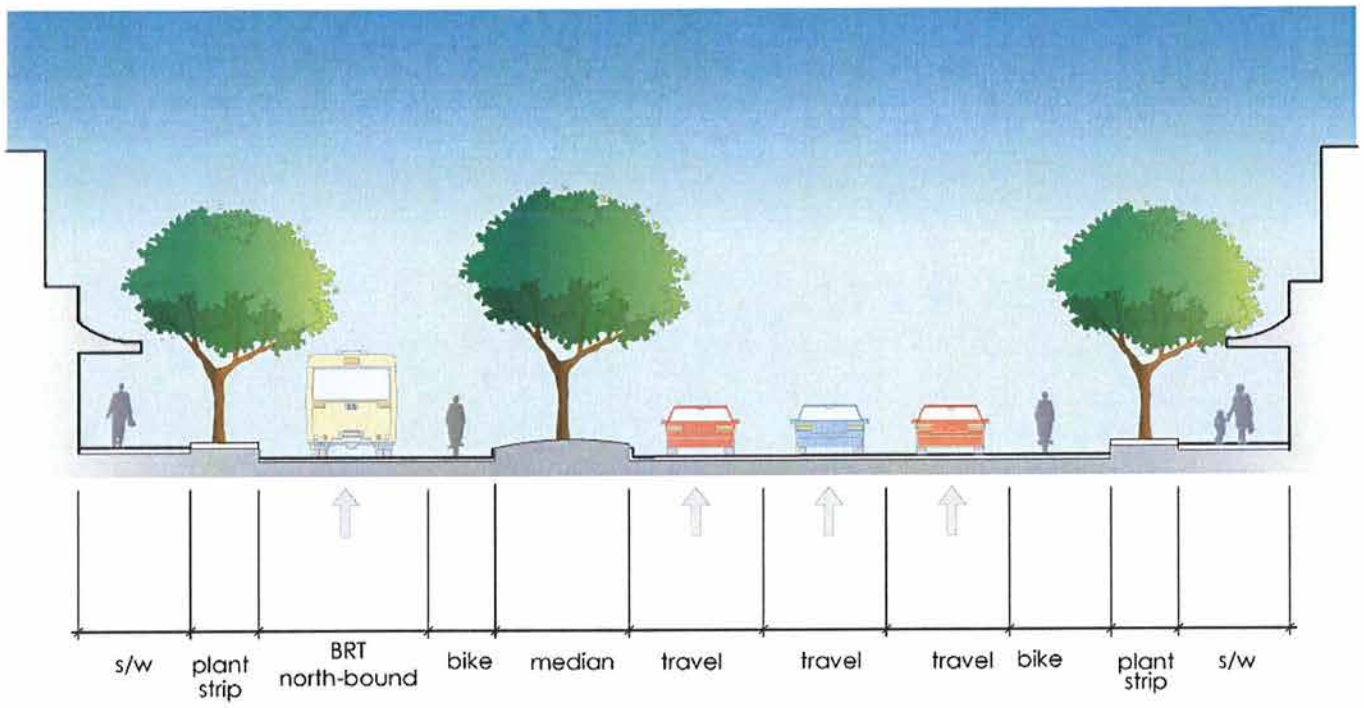
Couplet - 3 Lanes on 34th + 1 BRT



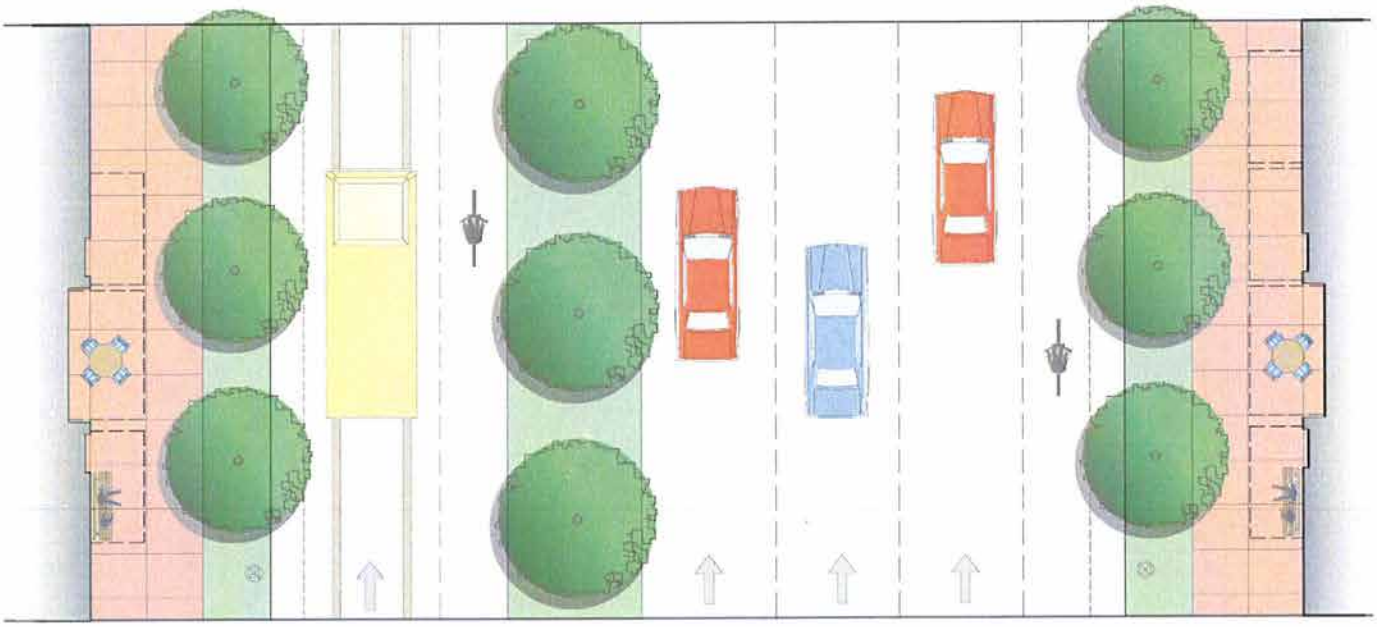
34th Street



Couplet - 3 Lanes on Watt + 1 BRT



Watt Avenue



Long-term Alternatives

No Project Alternative

The no project alternative assumes that both Watt Avenue and 34th Street would be modified to the current County of Sacramento General Plan designations. Watt Avenue is designated as a six-lane thoroughfare. This cross-section includes six travel lanes, a raised landscaped median, Class II bicycle lanes, and sidewalks. On-street parking is prohibited.

34th Street is not designated on the current General Plan, but has been assumed a two-lane major residential street with two travel lanes, sidewalks, Class III bicycle facilities, and on-street parking allowed.

Alternative 1

This alternative modifies Watt Avenue to include six mixed-flow vehicle lanes, Class II bicycle lanes, sidewalks, and a raised landscaped median. On-street parking would be prohibited.

34th Street would be modified to include two mixed-flow travel lanes, two BRT lanes (exclusive transit lanes), Class II bicycle lanes, and sidewalks.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. The northbound section of the couplet would have three mixed-flow travel lanes on the east side of the existing median on Watt Avenue. This section would include a northbound Class II bicycle lane and a sidewalk. The existing lanes west of the median would be converted into a northbound BRT lane, a southbound Class II bicycle lane, and a sidewalk. The BRT lane and travel lanes would be separated by a raised landscaped median.

34th Street would be modified to accommodate three mixed-flow southbound travel lanes, a southbound Class II bicycle lane, and a sidewalk on the west side of the street. A southbound BRT lane, northbound Class II bicycle lane, and sidewalk would be constructed on the east side of the street. The travel lanes and BRT lane would be separated by a raised landscaped median.

On-street parking would be prohibited on both Watt Avenue and 34th Street in the study area.

Alternative 3

This alternative modifies Watt Avenue to include six mixed-flow travel lanes, Class II bicycle lanes, and sidewalks. The median would be constructed to accommodate two BRT lanes. The median would need to be widened further to accommodate stations.

34th Street would be modified to accommodate two travel lanes, sidewalks, Class II bicycle lanes, and on-street parking.

REPORT ORGANIZATION

The remainder of this report includes the following chapters:

- Chapter 2 – Vehicular Circulation: For each proposed project alternative, this section describes the measures of effectiveness related to vehicle circulation in the study area, including operations at the study intersections and roadway segments.
- Chapter 3 – Transit Facilities: This section describes transit-related options and considerations for each of the proposed project alternatives.
- Chapter 4 – Pedestrian Facilities: This section discusses pedestrian facilities for each of the proposed project alternatives.
- Chapter 5 – Bicycle Facilities: This section discusses bicycle facilities for each of the proposed project alternatives.
- Chapter 6 – Access Options: For each proposed project alternative, this section describes roadway and fronting land use access options and considerations for vehicles traveling in the project area.
- Chapter 7 – Project Constructability: This section briefly describes the construction concerns and considerations for each proposed project alternative.

2. VEHICULAR CIRCULATION

This chapter describes the measures of effectiveness related to vehicle circulation in the study area, including operations at the study intersections and roadway segments.

ROADWAY SYSTEM ALTERNATIVES

Near-term Alternative

In this alternative, Watt Avenue would be widened to six-lanes with the curb lane being a Business Access Transit (BAT) lane. A BAT lane is an exclusive transit lane that allows automobiles to make right turns into and out of fronting development. Transit improvements would also include bus pre-emption at traffic signals and bus turnouts at the fair side of signalized intersections. Sidewalks, Class II bicycle lanes (7-foot), and a raised landscaped median would be installed along the entire length of Watt Avenue in the study area. Travel lanes on Watt Avenue would be a minimum of 11 feet wide to accommodate trucks and busses. On-street parking would be prohibited.

34th Street would be widened to accommodate two travel lanes (10-foot), two Class II bicycle lanes (7-foot), and sidewalks separated from the street by a landscaped strip.

Long-term Alternative

No Project Alternative

The no project alternative assumes that both Watt Avenue and 34th Street would be modified to the current County of Sacramento General Plan designations. Watt Avenue is designated as a six-lane thoroughfare. This cross-section includes six travel lanes, a raised landscaped median, Class II bicycle lanes (7-foot), and sidewalks. Travel lanes on Watt Avenue would be a minimum of 11 feet wide to accommodate trucks and busses. On-street parking would be prohibited.

34th Street is not designated on the current General Plan, but has been assumed a two-lane major residential street with two travel lanes (10-foot), sidewalks, and Class III bicycle facilities. On-street parking would be allowed.

Alternative 1

This alternative modifies Watt Avenue to include six mixed-flow vehicle lanes, Class II bicycle lanes, sidewalks, and a raised landscaped median. On-street parking would be prohibited. Travel lanes on Watt Avenue would be a minimum of 11 feet in width. This is to accommodate trucks and busses, which are 10 feet or more in width.

34th Street would be modified to include two mixed-flow travel lanes, two BRT lanes (exclusive transit lanes), Class II bicycle lanes (7-foot), and sidewalks. On-street parking could be allowed on sections where the BRT lanes are in or adjacent to the median. Travel lanes on 34th Street would be a minimum of 11 feet wide to accommodate trucks and busses.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. The northbound section of the couplet would have three mixed flow travel lanes on the east side of the existing median on Watt Avenue. This section would include a northbound Class II bicycle lane (7-foot) and a sidewalk. The existing lanes west of the median would be converted into a northbound BRT lane and southbound on-street Class II bicycle lane (7 foot) and a sidewalk. The BRT lane and travel lanes would be separated by a raised landscaped median. Travel lanes would be a minimum of 11 feet wide to accommodate trucks and busses.

34th Street would be modified to accommodate three mixed-flow southbound travel lanes, a southbound on-street bicycle lane (7-foot), and a sidewalk on the west side of the street. A southbound BRT lane, northbound Class II bicycle lane (7-foot), and sidewalk would be constructed on the east side of the street. The travel lanes and BRT lane would be separated by a raised landscaped median. Travel lanes on Watt Avenue would be a minimum of 11 feet wide to accommodate trucks and busses.

On-street parking would be prohibited on both Watt Avenue and 34th Street in the study area.

Alternative 3

This alternative modifies Watt Avenue to include six mixed-flow travel lanes, Class II bicycle lanes, and sidewalks. The median would be constructed to accommodate two BRT lanes (25 feet). At station locations, the median would need to be widened further. Travel lanes on Watt Avenue would be a minimum of 11 feet wide to accommodate trucks and busses. On-street parking would be prohibited.

34th Street would be modified to accommodate two travel lanes (10-foot), sidewalks, and Class II bicycle lanes (7-foot). On-street parking could be allowed.

Traffic Volumes

Future traffic volumes were developed using a modified version of the Sacramento Council of Governments (SACOG) regional transportation demand model (SACMET). The model was modified to provide more detail in the study area, including more traffic analysis zones and updated land uses, and additional roadways. The SACMET model was used to forecast intersection turning movements for the AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hours and Average Daily Traffic (ADT) data for the study area intersections and roadway segments. Figure 2 displays the daily roadway segment traffic volumes, and Figures 3 through 6 show the AM and PM peak hour intersection turning movement volumes and lane configurations for the four long-term project alternatives.

LEVEL OF SERVICE

Level of service (LOS) is a qualitative measure describing the operating condition of intersections and roadways from the perspective of motorists and passengers. LOS ranges from A through F, which represents driving conditions from best to worst, respectively. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions.

Analysis Methodology

Traffic operations on study roadway segments and at study intersections were analyzed in accordance with Sacramento County's *Traffic Impact Analysis Guidelines,* (July 2004). The following summarizes the methodologies utilized for study roadway segments and intersections.

Roadway Segments

Roadway segments were analyzed by comparing the average daily traffic volume to daily volume thresholds for various facility types. These thresholds are used as guidelines by the county to identify the need for new or upgraded facilities based on daily traffic volumes.

TABLE 1:
ROADWAY SEGMENT DAILY VOLUME THRESHOLDS

Facility Type	Number of Lanes	Daily Volume Threshold				
		LOS A	LOS B	LOS C	LOS D	LOS E
Arterial, low access control	2	9,000	10,500	12,000	13,500	15,000
	3	13,500	15,750	18,000	20,250	22,500
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial, moderate access control	2	10,800	12,600	14,400	16,200	18,000
	3	16,200	18,900	21,600	24,300	27,000
	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Arterial, high access control	2	12,000	14,000	16,000	18,000	20,000
	3	18,000	21,000	24,000	27,000	30,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	42,000	48,000	54,000	60,000
Rural, 2-lane highway	2	2,400	4,800	7,900	13,500	22,900
Rural, 2-lane road, paved shoulders	2	2,200	4,300	7,100	12,200	20,000
Rural, 2-lane road, no shoulders	2	1,800	3,600	5,900	10,100	17,000

Source: *Traffic Impact Analysis Guidelines* (County of Sacramento, July 2004).

Signalized and Unsignalized Intersections

Per the County's direction, the study intersections were analyzed using the Synchro software. This software applies the methodology presented in the *Highway Capacity Manual* (Transportation Research Board, 2000). The HCM methodology determines the LOS at signalized intersection by comparing the average control delay per vehicle at the intersection to the thresholds shown in Table 2. At two-way or

side-street stop-controlled intersections, LOS is calculated for each movement rather than for the intersection as a whole. If an approach consists of a single lane from which vehicles can make multiple movements, the LOS is based on the average control delay for all movements from that approach. The LOS reported at side-street stop-controlled intersections is for the maximum control delay experienced on a specific approach for movement.

TABLE 2:
LEVEL OF SERVICE DEFINITIONS FOR STUDY INTERSECTIONS

Level of Service	Average Control Delay (seconds/vehicle)	
	Signalized	Unsignalized
A	≤ 10.0	≤ 10.0
B	10.1 – 20.0	10.1 – 15.0
C	20.1 – 35.0	15.1 – 25.0
D	35.1 – 55.0	25.1 – 35.0
E	55.1 – 80.0	35.1 – 50.0
F	> 80.0	> 50.0

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

Analysis Evaluation Criteria

Consistent with the County's *Traffic Impact Guidelines*, Sacramento County defines the minimum acceptable operation level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. Since the study roadway segments and intersections are located within the county's Urban Service Boundary, LOS E is applied to identify existing operational deficiencies.

Traffic Operations

Following are discussions of existing traffic operations of the study roadways and intersections.

Roadway Segments

The daily volumes shown in Figure 2 were compared to the capacity criteria for arterial roadway segments presented above. Table 3 presents the study roadway segment operations. Implementation of Alternative 2 will result in the least number of roadway segments (3) operating at unacceptable levels of service (LOS F). The No Project Alternative, Alternative1, and Alternative 3 result in 6 roadway segment operating at LOS F.

TABLE 3:
ROADWAY SEGMENT LEVEL OF SERVICE – FUTURE CONDITIONS

Roadway	Segment	No Project		Alternative 1		Alternative 2		Alternative 3	
		Volume	V/C (LOS)	Volume	V/C (LOS)	Volume	V/C (LOS)	Volume	V/C (LOS)
Watt Ave.	Elverta Rd. to Antelope Rd.	57,100	**1.06(F)**	57,100	**1.06(F)**	54,900	**1.02(F)**	57,100	**1.06(F)**
Watt Ave.	Antelope Rd. to Q St.	56,400	**1.04(F)**	56,400	**1.04(F)**	50,000	0.92(E)	56,400	**1.04(F)**
Watt Ave.	Q St. to Elkhorn Blvd.	58,100	**1.07(F)**	58,100	**1.07(F)**	34,500	**1.15(F)**	58,100	**1.07(F)**
Watt Ave.	Elkhorn Blvd. to I St.	57,700	**1.07(F)**	57,700	**1.07(F)**	29,600	0.99(E)	57,700	**1.07(F)**
Watt Ave.	I St. to Don Julio Blvd.	47,700	0.88(D)	47,700	0.88(D)	28,100	0.93(E)	47,700	0.88(D)
Watt Ave.	Don Julio Blvd. to Freedom Park Dr.	50,100	0.93(E)	50,100	0.93(E)	28,700	0.96(E)	50,100	0.93(E)
Watt Ave.	Freedom Park Dr. to James Way	50,700	0.94(E)	50,700	0.94(E)	27,100	0.90(E)	50,700	0.94(E)
Watt Ave.	James Way to Palm Ave.	54,000	1.00(E)	54,000	1.00(E)	41,200	0.76(C)	54,000	1.00(E)
Watt Ave.	Palm Ave. to Airbase Dr.	59,100	**1.09(F)**	59,100	**1.09(F)**	48,900	0.91(E)	59,100	**1.09(F)**
Watt Ave.	Airbase Dr. to Peacekeeper Way	49,200	0.91(E)	49,200	0.91(E)	43,200	0.80(C)	49,200	0.91(E)
Watt Ave.	Peacekeeper Way to Roseville Rd.	56,200	**1.04(F)**	56,200	**1.04(F)**	45,600	0.84(D)	56,200	**1.04(F)**
Watt Ave.	Roseville Rd. to I-80	49,700	0.92(E)	49,700	0.92(E)	48,400	0.90(D)	49,700	0.92(E)
34th St.	U St. to Q St.	8,200	0.48(D)	8,200	0.48(D)	7,700	0.45(D)	8,200	0.48(D)
34th St.	Q St. to Elkhorn Blvd.	15,000	0.88(E)	15,000	0.83(D)	30,600	**1.02(F)**	15,000	0.88(E)
34th St.	Elkhorn Blvd. to I St.	7,700	0.90(D)	7,700	0.43(A)	27,000	0.90(D)	7,700	0.90(D)
Dudley Blvd.	Freedom Park Dr. to James Way	9,000	0.60(A)	9,000	0.60(A)	20,300	0.68(B)	9,000	0.60(A)
Dudley Blvd.	James Way to Palm Ave.	14,100	0.39(A)	14,100	0.39(A)	12,900	0.36(A)	14,100	0.39(A)
Q St.	34th St. to Watt Ave.	9,500	0.48(D)	9,500	0.53(A)	24,200	0.67(B)	9,500	0.48(D)
Elkhorn Blvd.	34th St. to Watt Ave.	47,700	0.88(D)	47,700	0.88(D)	46,300	0.86(D)	47,700	0.88(D)
Freedom Park Dr.	34th St. to Watt Ave.	9,600	0.53(A)	9,600	0.53(A)	6,000	0.33(A)	9,600	0.53(A)
James Way	34th St. to Watt Ave.	9,300	0.31(A)	9,300	0.31(A)	19,500	0.65(B)	9,300	0.31(A)
Palm Ave.	34th St. to Watt Ave.	7,100	0.24(A)	7,100	0.24(A)	9,900	0.33(A)	7,100	0.24(A)
Peacekeeper Way	34th St. to Watt Ave.	22,600	0.75(C)	22,600	0.75(C)	18,600	0.62(B)	22,600	0.75(C)

Notes: Bold text indicate unacceptable operations.
Source: Fehr & Peers, 2008

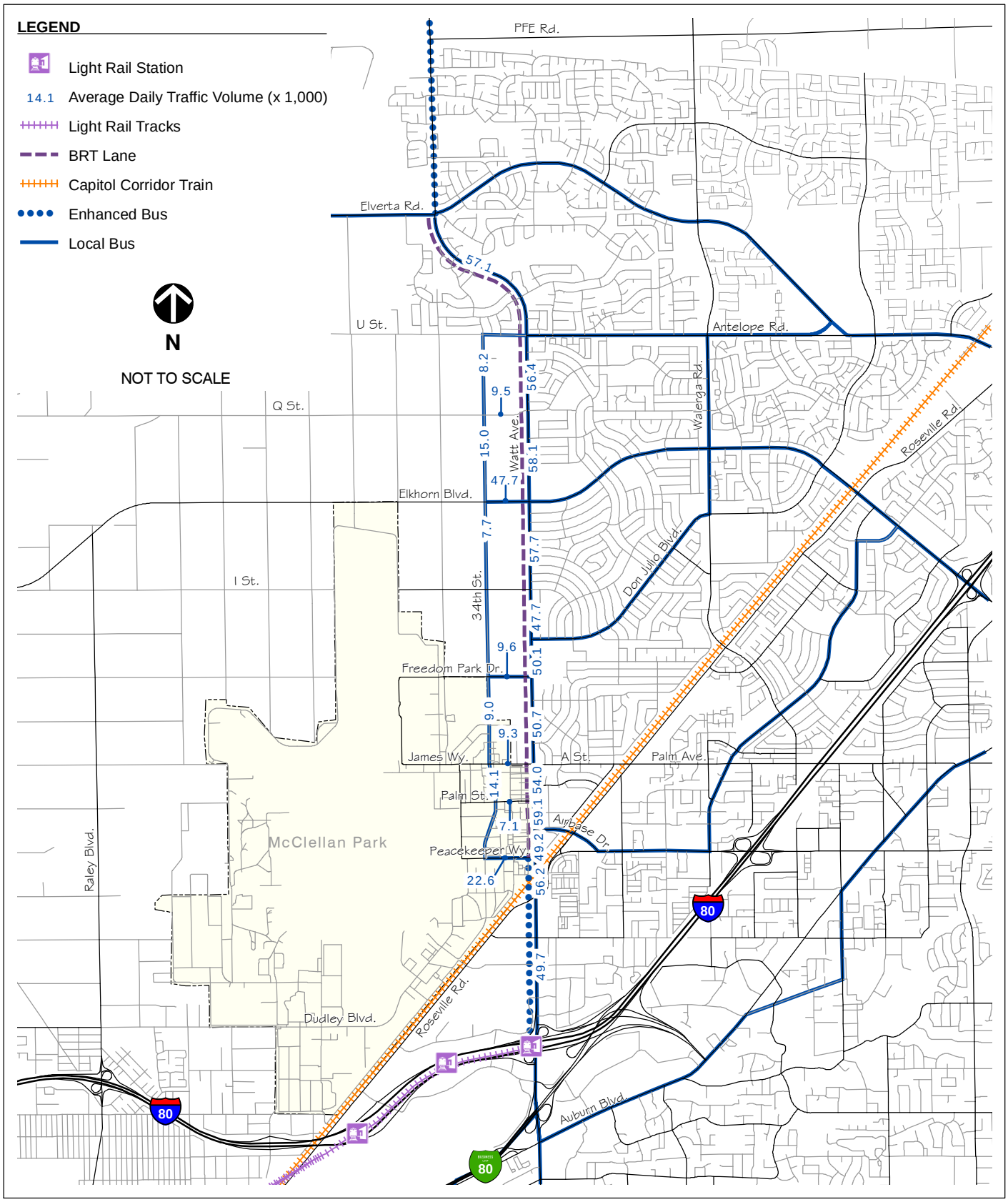
Study Intersections

Figures 3 through 6 present AM and PM peak hour intersection turning movement volumes and lane configurations for each project alternative. The traffic volumes in the figures were used to calculate levels of service at the study intersections based on the methodology presented above. Table 4 summarizes the LOS for each study intersection. Alternative 2 has the least number of intersections that an unacceptable LOS during either the AM or PM peak hour (5 intersections). The No Project Alternative has the most intersections operating at an unacceptable LOS in either the AM or PM peak hour (7 intersections).

TABLE 4:
INTERSECTIONS LEVEL OF SERVICE – FUTURE CONDITIONS

Intersection	Traffic Control	No Project		Alternative 1		Alternative 2		Alternative 3	
		AM	PM	AM	PM	AM	PM	AM	PM
1. Dudley Blvd. / James Way	Multi-Way Stop	30/D	49/E	35/C[1]	27/C[1]	20/B[1]	24/C[1]	30/D	49/E
2. Elkhorn Blvd. / 34th St.	Signal	74/E	**101/F**	60/E	**93/F**	**105/F**	**165/F**	74/E	**101/F**
3. Elkhorn Blvd. / Watt Ave.	Signal	**122/F**	**139/F**	**128/F**	**140/F**	61/E	**131/F**	**122/F**	**140/F**
4. Don Julio Blvd. / Watt Ave.	Signal	**117/F**	**140/F**	**112/F**	**142/F**	29/C	61/E	**117/F**	**140/F**
5. Freedom Park Dr. / Watt Ave.	Signal	26/C	39/D	28/C	31/C	8/A	34/C	26/C	39/D
6. James Way-A St. / Watt Ave.	Signal	**130/F**	**176/F**	**96/F**	**133/F**	78/E	**111/F**	**130/F**	**173/F**
7. Palm St. / Watt Ave.	Signal	18/B	17/B	16/B	15/B	19/B	21/C	18/B	19/B
8. Airbase Dr. / Watt Ave.	Signal	53/D	62/E	74/E	68/E	47/D	62/E	64/E	65/E
9. Peacekeeper Way / Watt Ave.	Signal	33/C	47/D	40/D	42/D	44/D	38/D	33/C	47/D
10. Roseville Rd. / Watt Ave.	Signal	59/E	69/E	65/E	61/E	60/E	54/D	59/E	71/E
11. I-80 Westbound Off Ramp / Watt Ave.	Signal	17/B	19/B	18/B	22/C	26/C	24/C	17/B	19/B
12. I-80 Eastbound Off Ramp / Watt Ave.	Signal	37/D	37/D	40/B	38/D	39/D	36/D	37/D	37/D
13. Q St. / Watt Ave.	Signal	**87/F**	72/E	79/E	51/D	58/E	46/D	78/E	76/E
14. U St. – Antelope Rd. / Watt Ave.	Signal	43/D	**98/F**	41/D	**115/F**	62/E	**136/F**	43/D	**124/F**
15. Q St. / 34th St.	Multi-Way Stop	**83/F**	**111/F**	**92/F**[1]	79/E[1]	**152/F**[1]	**145/F**[1]	**83/F**	**111/F**

Notes:1 = Signalized intersection control.
Bold text indicates unacceptable operations.
Source: Fehr & Peers, 2008



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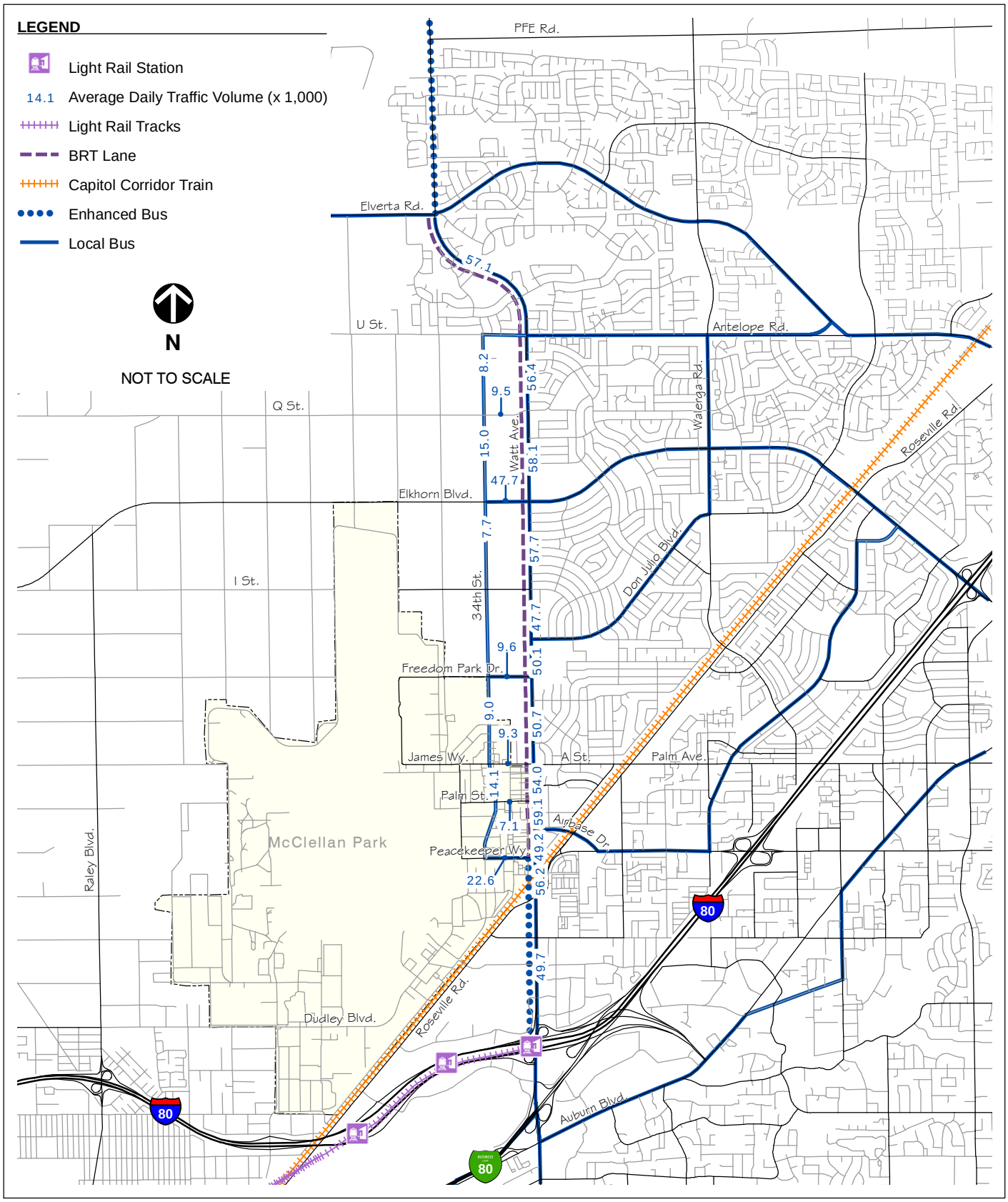
AVERAGE DAILY TRAFFIC VOLUMES - NO PROJECT

FIGURE 2A



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AVERAGE DAILY TRAFFIC VOLUMES - ALTERNATIVE 1

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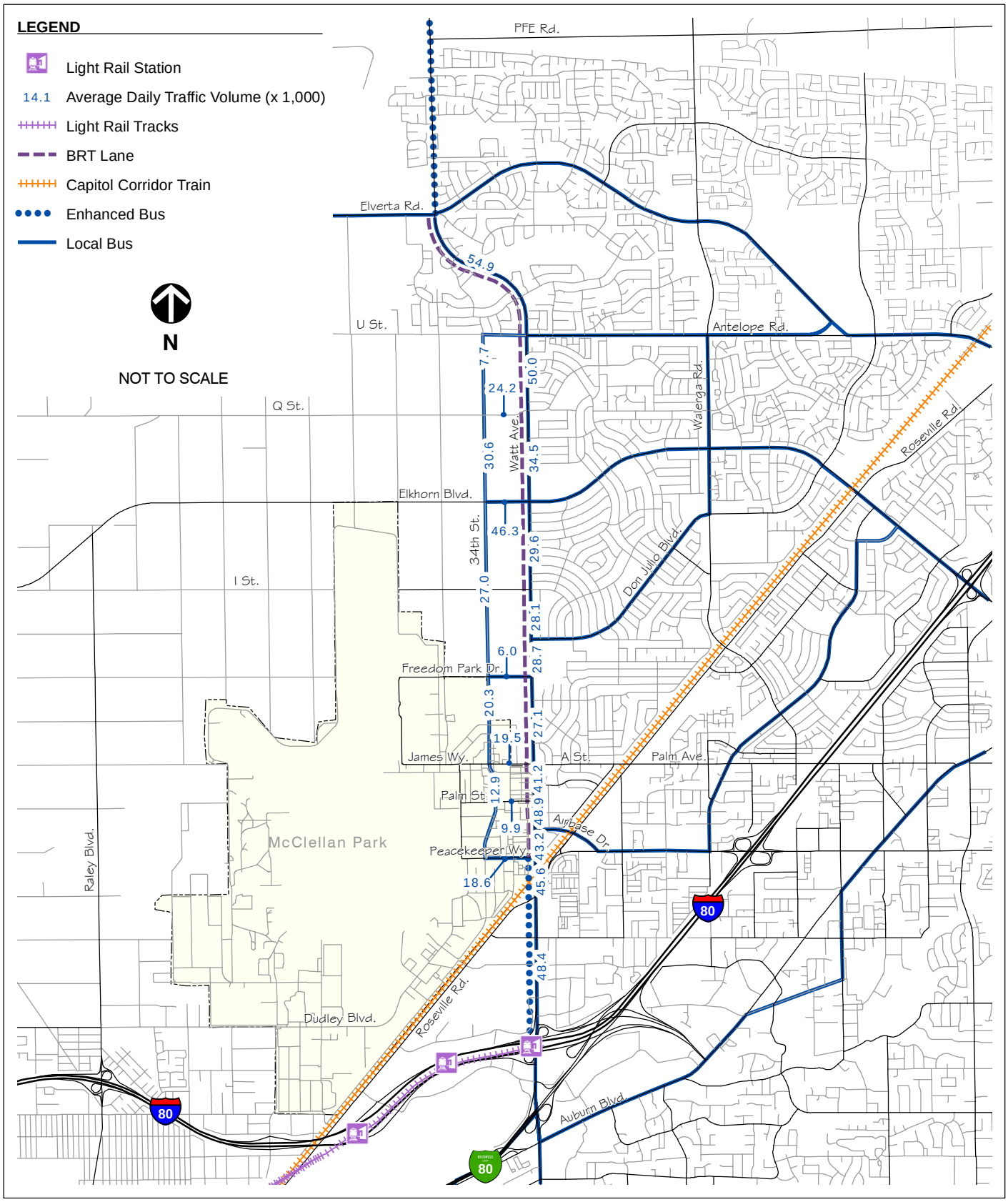
FIGURE 2B



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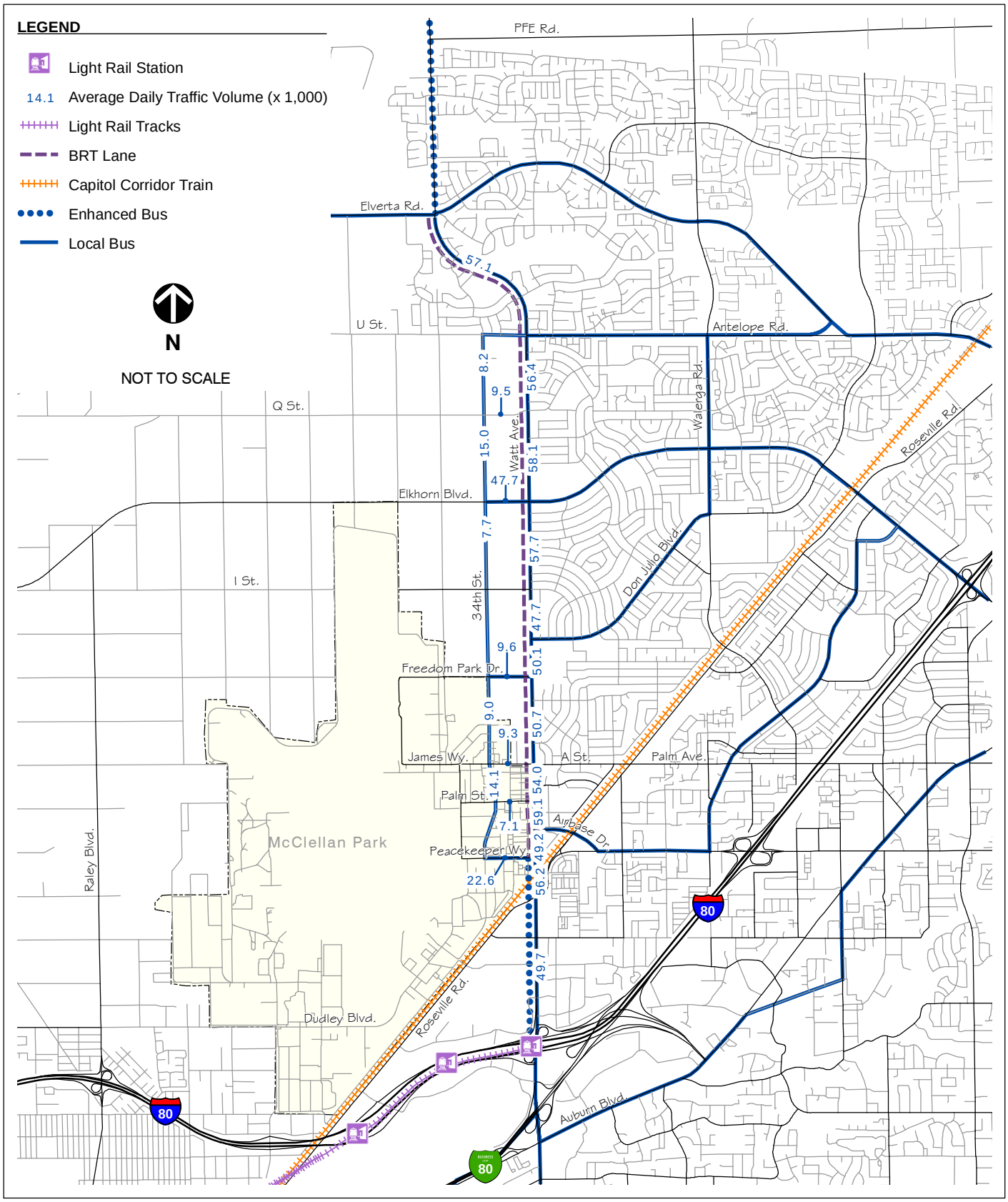
AVERAGE DAILY TRAFFIC VOLUMES - ALTERNATIVE 2

FIGURE 2C



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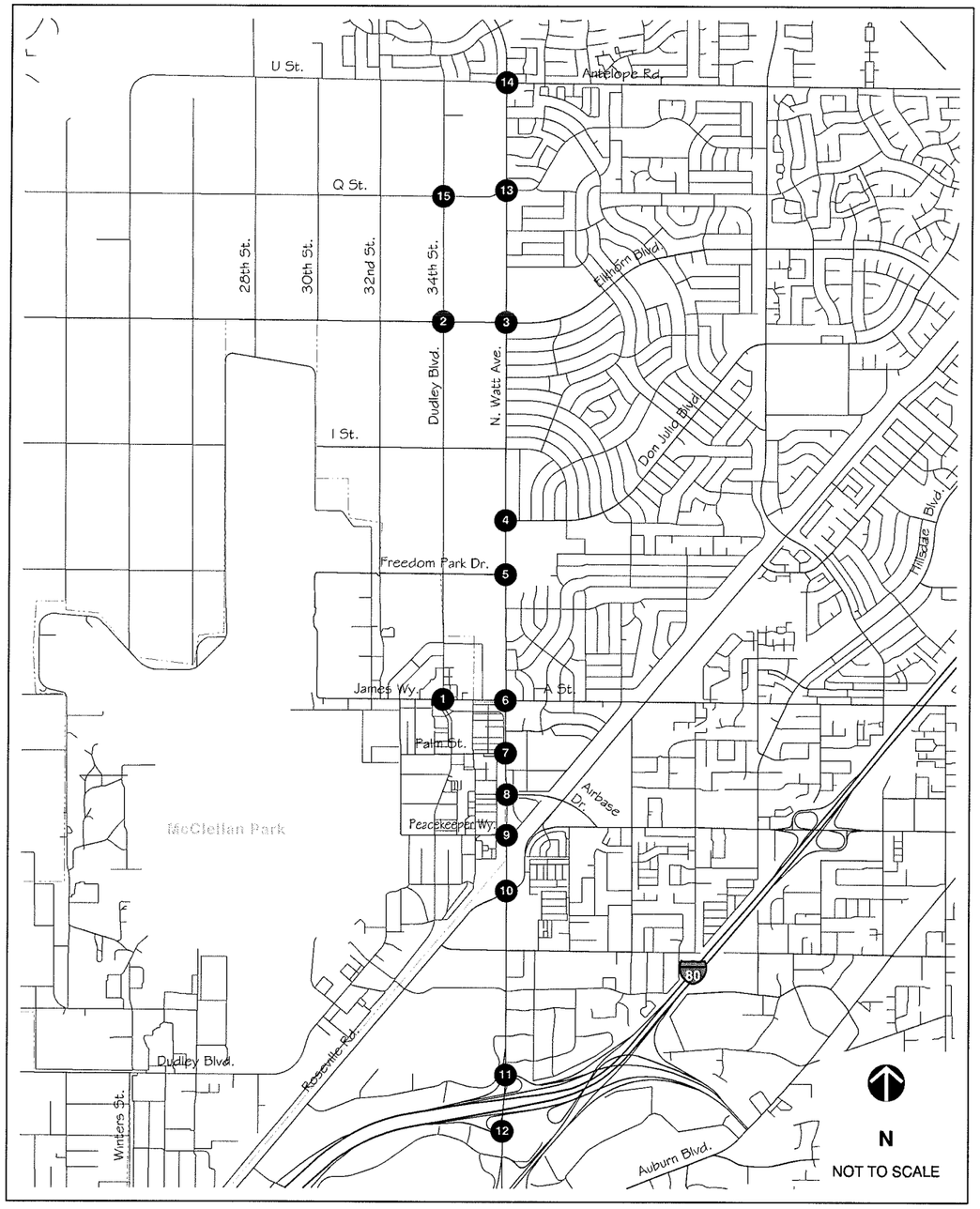
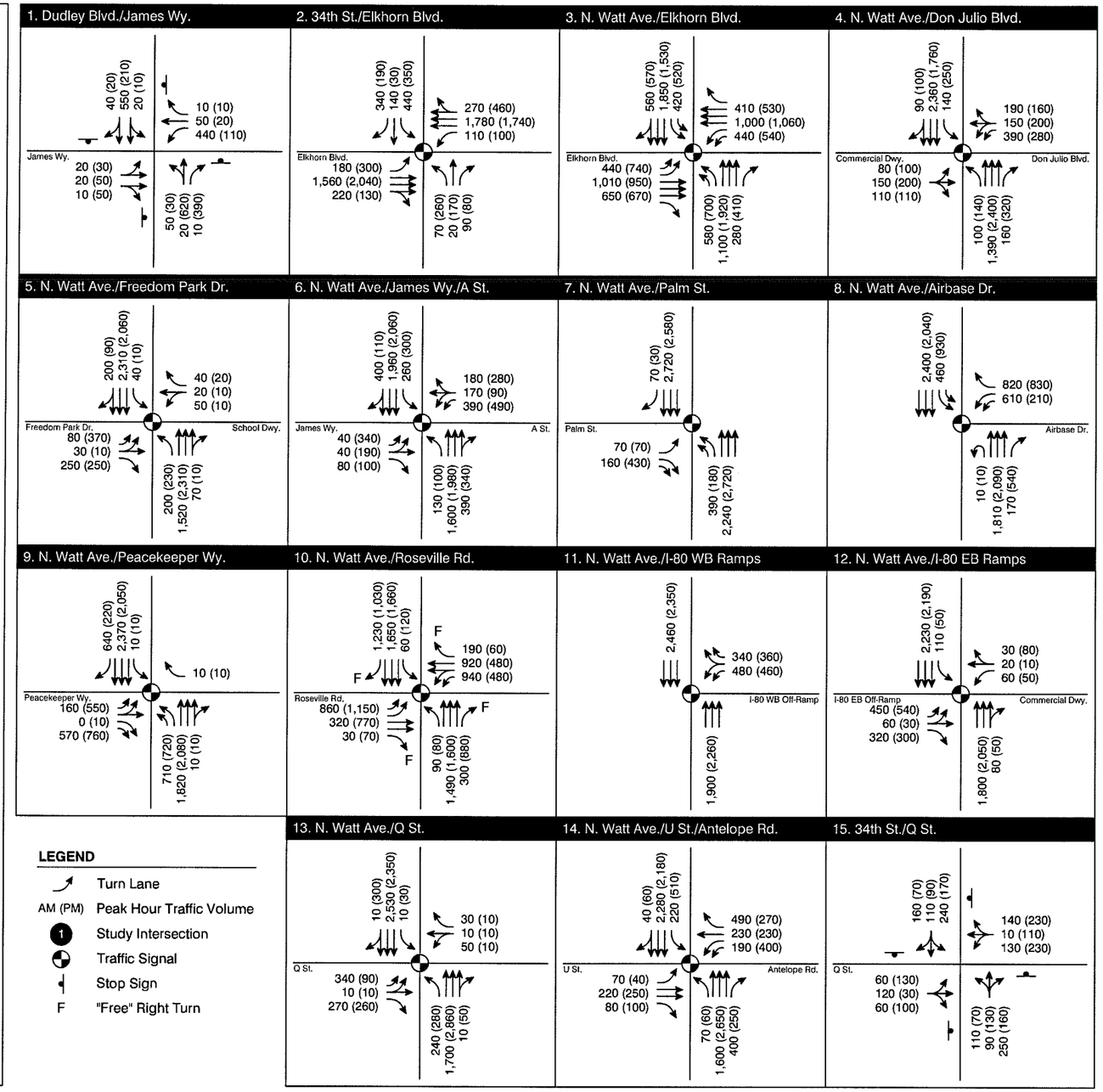
AVERAGE DAILY TRAFFIC VOLUMES - ALTERNATIVE 3

FIGURE 2D





LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

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Aug 14, 2008 CEC
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - LONG-TERM NO PROJECT ALTERNATIVE

FIGURE 3

BOS ATTACHMENT 3
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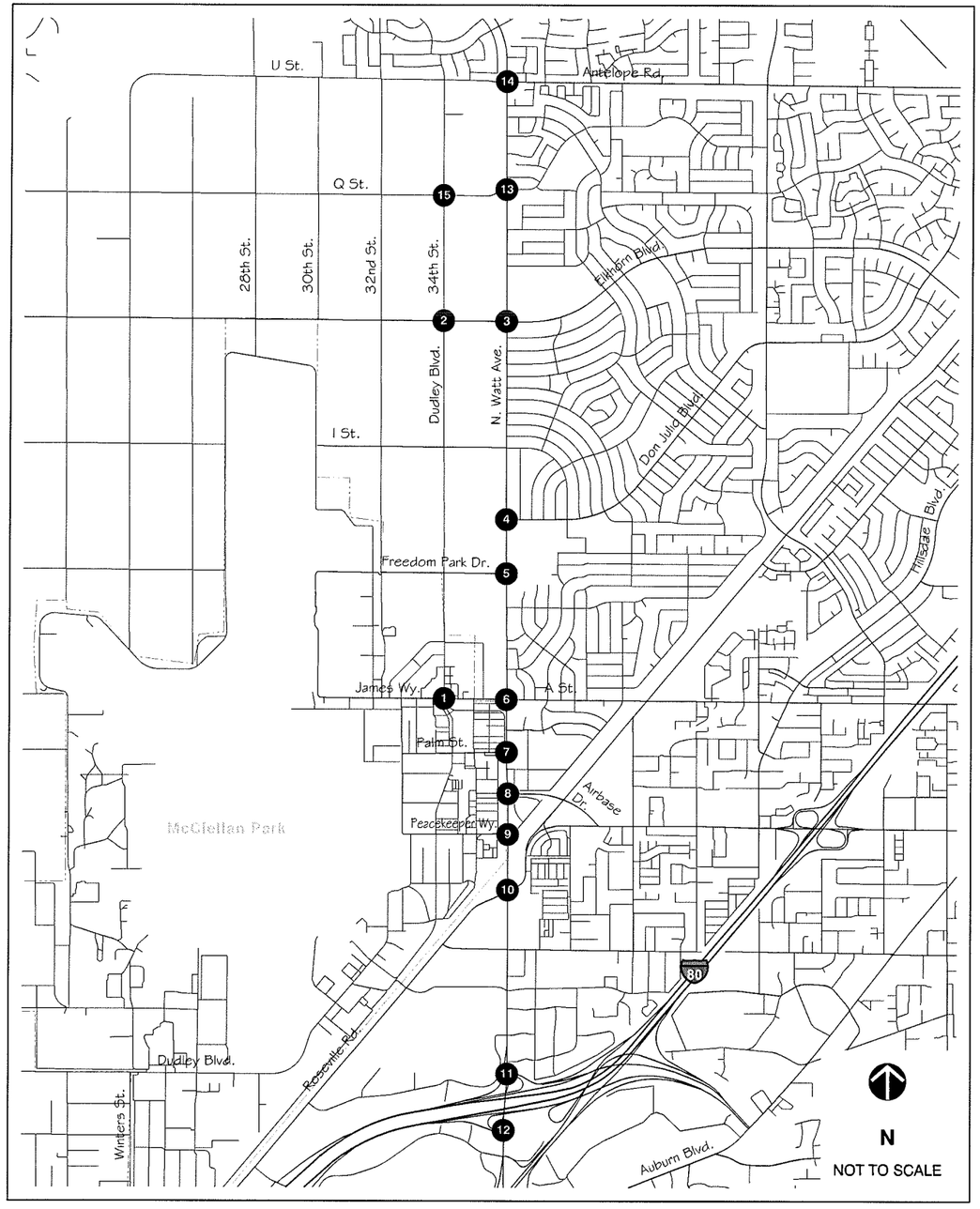

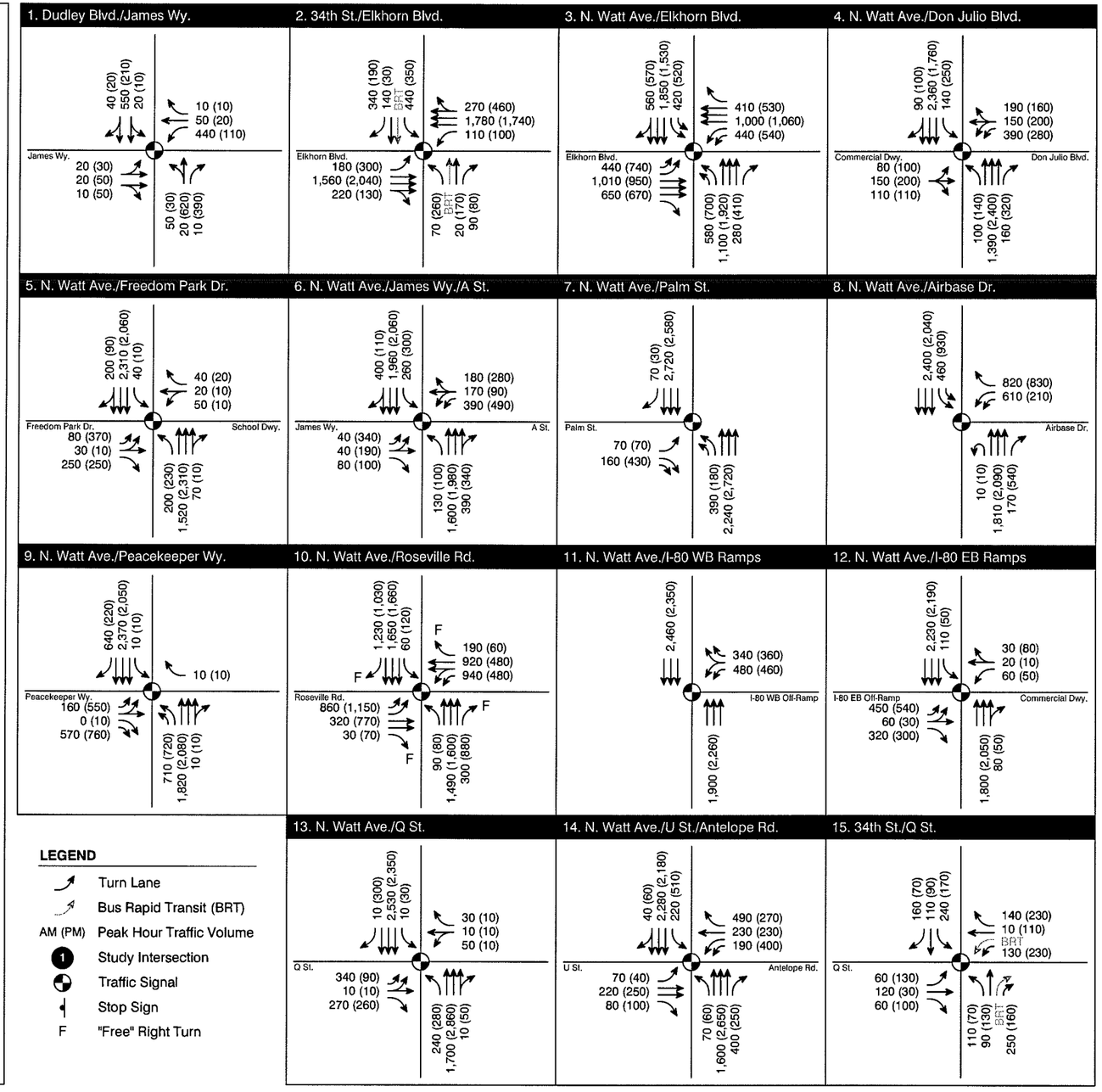

LEGEND

- Turn Lane
- Bus Rapid Transit (BRT)
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - LONG-TERM ALTERNATIVE 1

FIGURE 4

BOS ATTACHMENT 3
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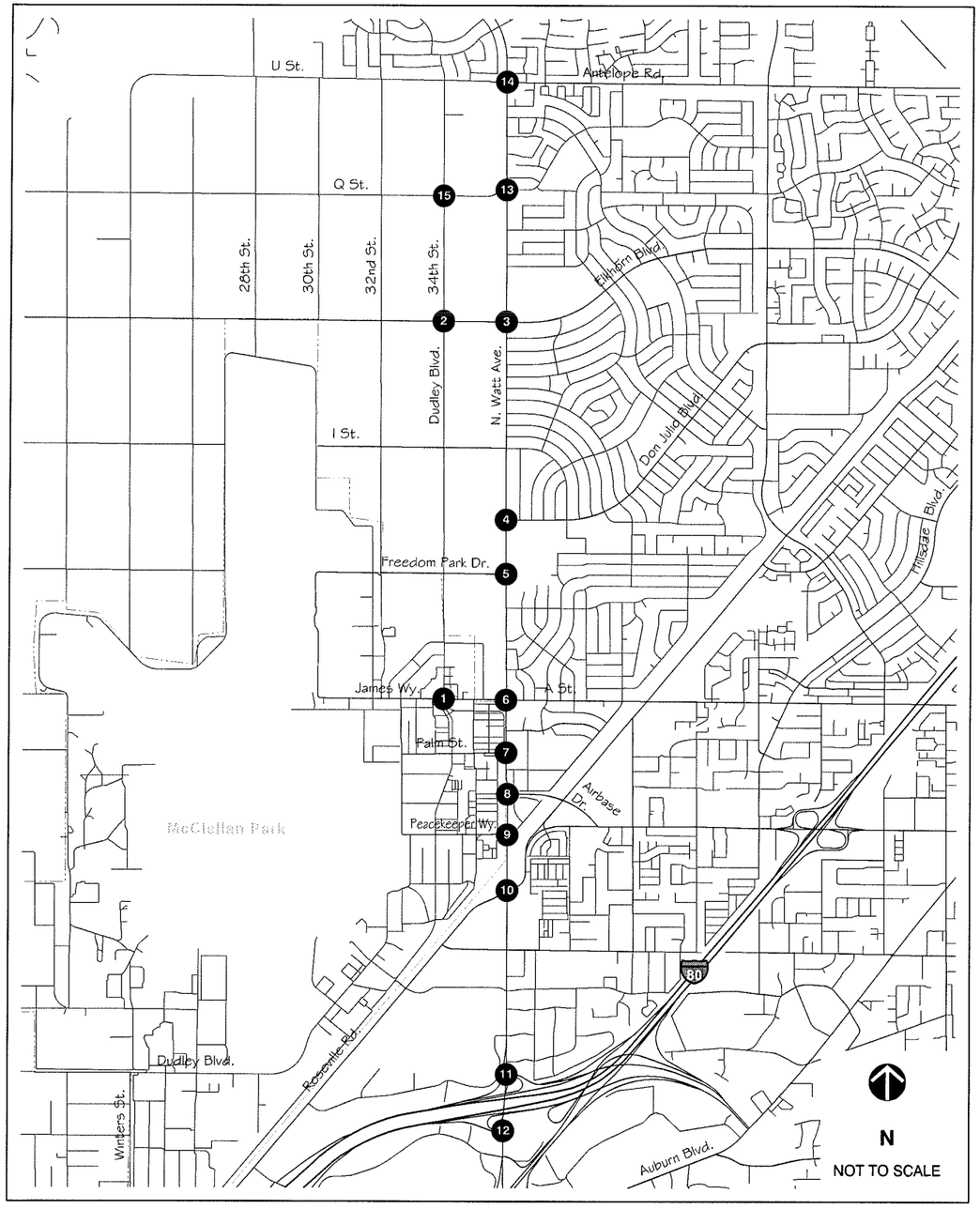

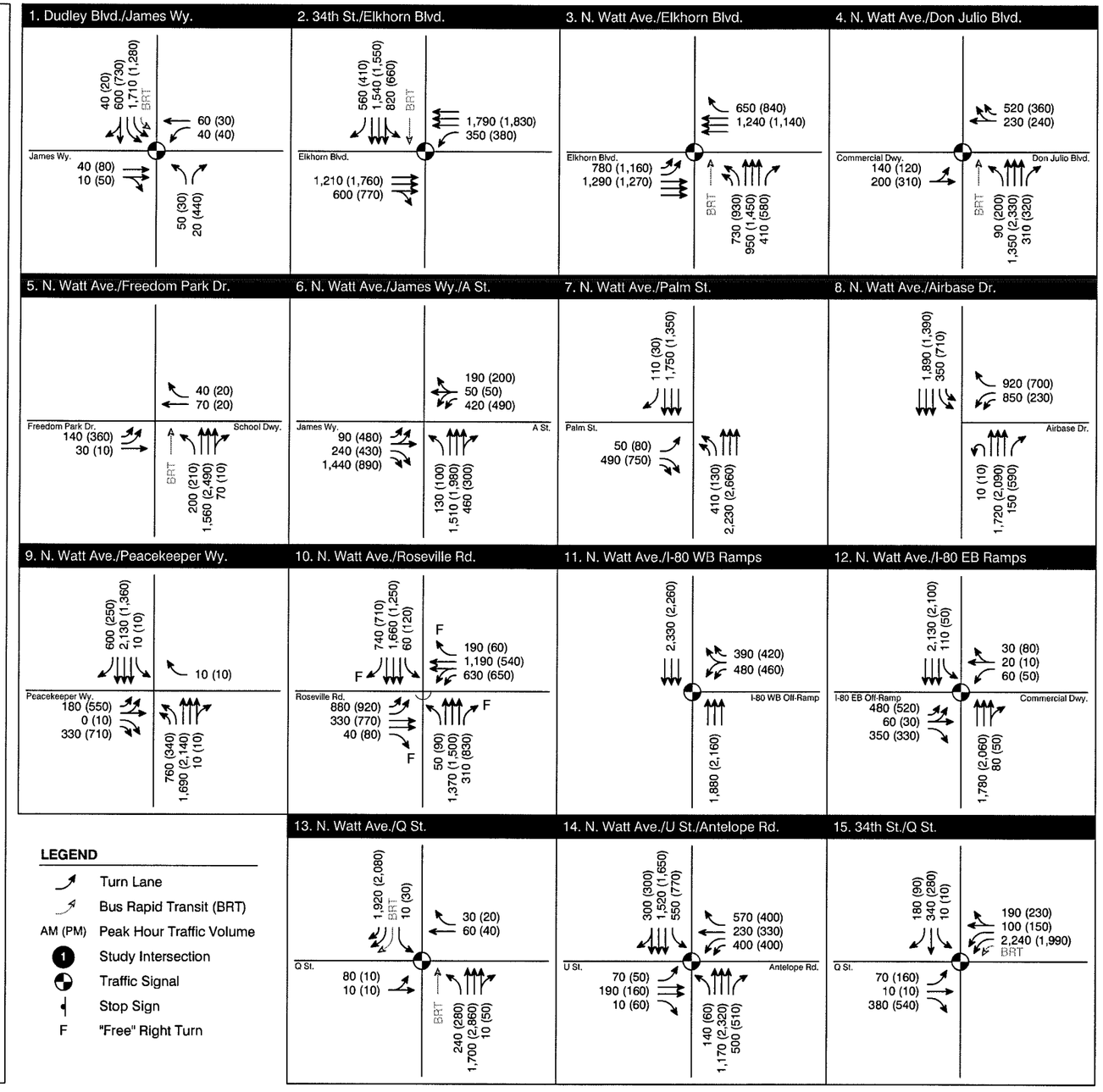

LEGEND

- Turn Lane
- Bus Rapid Transit (BRT)
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - LONG-TERM ALTERNATIVE 2

FIGURE 5

BOS ATTACHMENT 3
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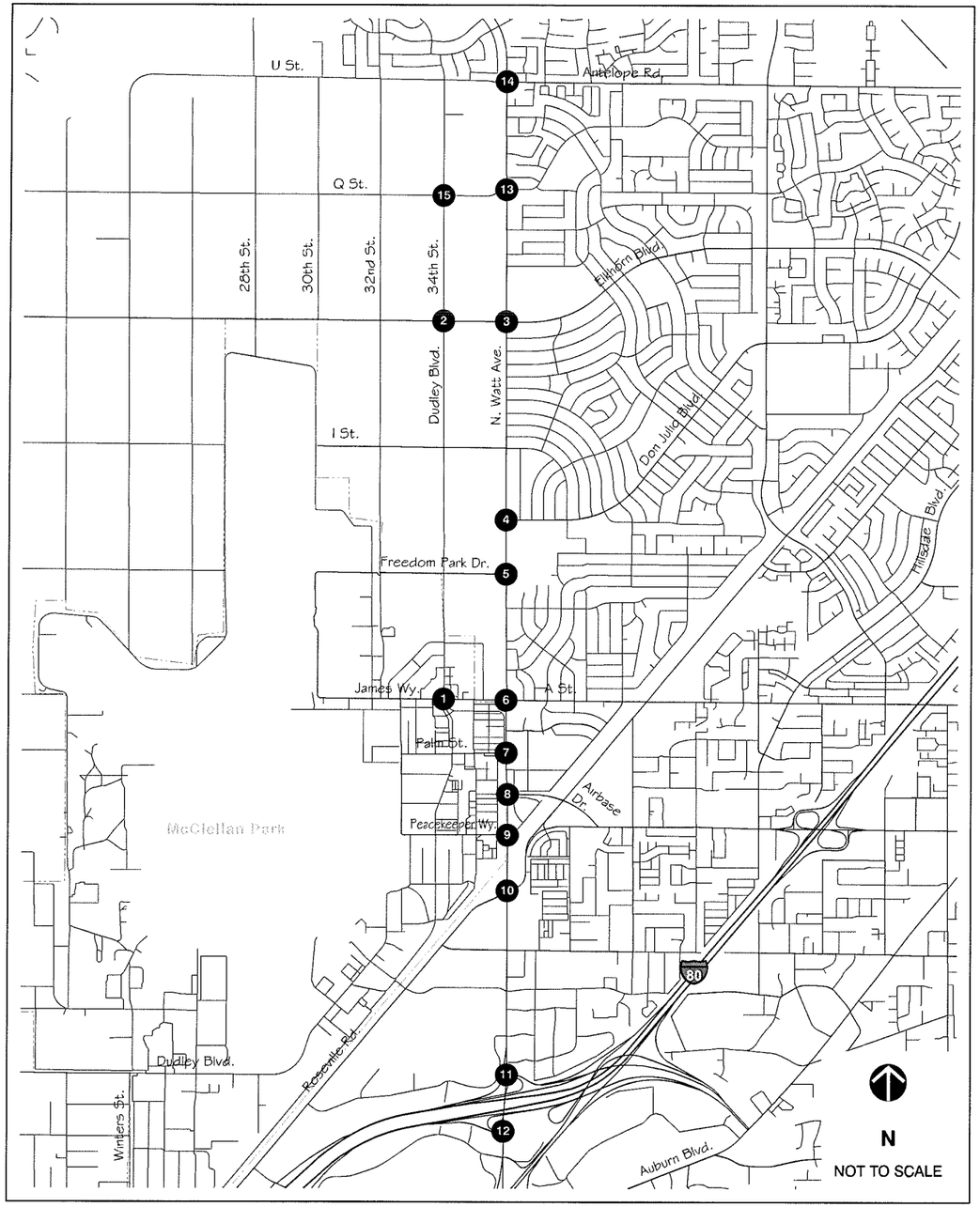

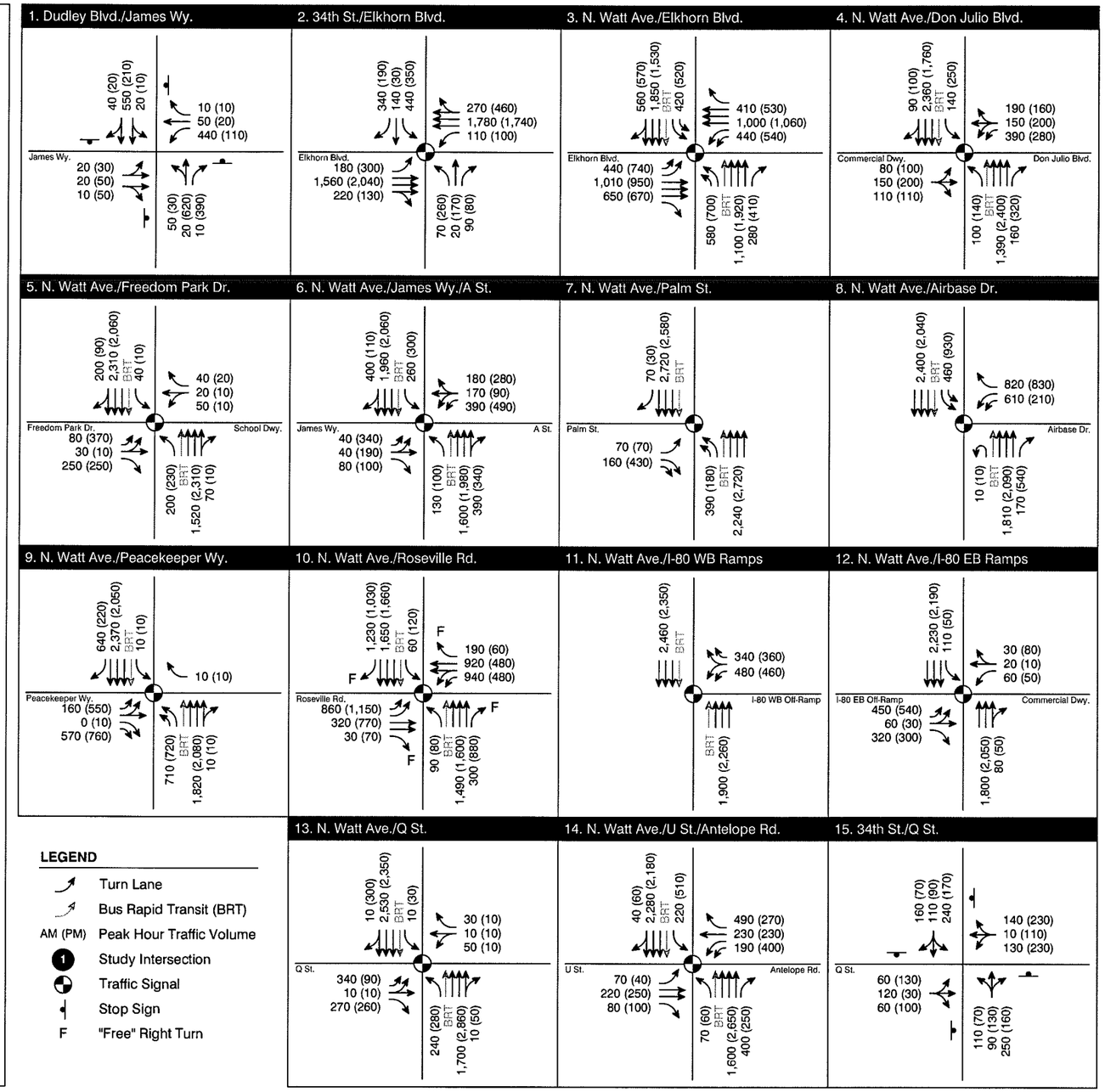

LEGEND

- Turn Lane
- Bus Rapid Transit (BRT)
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - LONG-TERM ALTERNATIVE 3

FIGURE 6

BOS ATTACHMENT 3
Page 304 of 369

3. TRANSIT FACILITIES

Sacramento Regional Transit District (RT) provides public transit service and facilities to North Watt Avenue, offering local bus service and a light rail service to the study area. The Capitol Corridor provides regional commuter rail service on the Union Pacific Railroad tracks. The closest station for the Capitol Corridor is in Roseville. Figure 7 illustrates the location of the Light Rail Station and the Capitol Corridor route.

The 2035 Metropolitan Transportation Plan calls for Bus Rapid Transit (BRT)/Enhanced Bus service on the Watt Avenue corridor. Service would be with 15- to 20-minute headways. The intent of BRT/Enhanced Bus service is to provide transit service that is competitive with automobile travel times during the peak periods of the day. Access to the system would be at stations rather than bus stops. This provides more permanence to the system and allows transit-supportive uses to develop around the stations without the concern that the "stop" could be easily moved at some point in the future. Stations would be placed at half-mile or more spacing. To provide the highest quality BRT service, busses should operate in an exclusive lane. This type of service provides busses with the biggest time advantage, as they are not encumbered by congestion in the vehicle lanes.

Enhanced bus service is a lower quality BRT service that utilizes queue-jumping lanes at intersections and bus pre-emption at traffic signals to provide busses with time advantages over vehicular traffic. Business Access Transit (BAT) lanes, as used on Aurora Boulevard in the City of Shoreline, Washington, are lanes that are designated for use by transit vehicles in the lane adjacent to the curb, and automobiles entering or exiting driveways or side streets along a BAT lane can use the lane. BAT lanes require bus turnouts to allow BRT/Express busses to pass local busses.

RT will refine the BRT/Enhanced bus concept in their upcoming Transit Master Plan. They do not have any near-term plans for major improvements along this roadway.

Near-term Alternative

In this alternative, Watt Avenue would be widened to six-lanes with the curb lane being a BAT lane from Peacekeeper Way to U Street-Antelope Road. Transit improvements would also include bus pre-emption at traffic signals, queue-jump lanes, and bus turnouts at the far side of signalized intersections. BRT/Enhanced bus stations would be provided at Elkhorn Boulevard, Freedom Park Drive, Peacekeeper Way, and Winona Way. From Peacekeeper Way to I-80, busses would operate in the mixed-flow lanes.

Transit service on 34th Street between U Street and Freedom Park Drive is not anticipated. Local transit service could be provided on Dudley Boulevard from Freedom Park Drive to Peacekeeper Way.

Figure 7 shows the transit service for this alternative.

Long-term Alternatives

<u>No Project Alternative</u>

The no project alternative assumes that both Watt Avenue and 34th Street would be modified to the current County of Sacramento General Plan designations. Bus service would operate in the mixed-flow lanes with automobiles. Transit improvements would include bus pre-emption at traffic signals, queue-jump lanes, and bus turnouts at the fair side of signalized intersections.

Transit service on 34th Street between U Street and Freedom Park Drive is not anticipated. Local transit service could be provided on Dudley Boulevard from Freedom Park Drive to Peacekeeper Way.

Figure 8 shows the transit service for this alternative.

Alternative 1

This alternative modifies Watt Avenue to include six mixed-flow vehicle lanes. BRT/Enhanced bus service would operate in mixed-flow lanes from U Street-Antelope Road to Q Street, and from Peacekeeper Way to I-80. Transit improvements would include bus pre-emption at traffic signals, queue-jump lanes, and bus turnouts at the far side of signalized intersections. Local bus service would operate along the entire length of Watt Avenue in the study area.

34th Street would be constructed to include two BRT lanes (exclusive transit lanes) from Q Street to Freedom Park Drive. The BRT service would operate in the mixed-flow lanes on Q Street from Watt Avenue to 34th Street, Dudley Boulevard from Freedom Park Drive to Peacekeeper Way, and on Peacekeeper Way from Dudley Boulevard to Watt Avenue. Transit improvements would include bus pre-emption at traffic signals, queue-jump lanes, and bus turnouts at the far side of signalized intersections. Local bus service would operate along the entire length of 34th Street.

Figure 9 shows the transit service for this alternative.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. Transit improvements on those sections would include bus pre-emption at traffic signals, queue-jump lanes, and bus turnouts at the far side of signalized intersections. Local bus service would operate along the entire length of Watt Avenue and 34th Street in the study area. The local bus service would operate in the mixed-flow lanes.

The northbound section of the couplet (Watt Avenue) would have a BRT lane on the west side of the street. The BRT lane and vehicle travel lanes would be separated by a raised landscaped median. The southbound section of the couplet (34th Street) would have a BRT lane on the east side of the street. The BRT lane and vehicle travel lanes would be separated by a raised landscaped median. The BRT operation would transition into mixed-flow lanes north of Antelope Road and south of James Way.

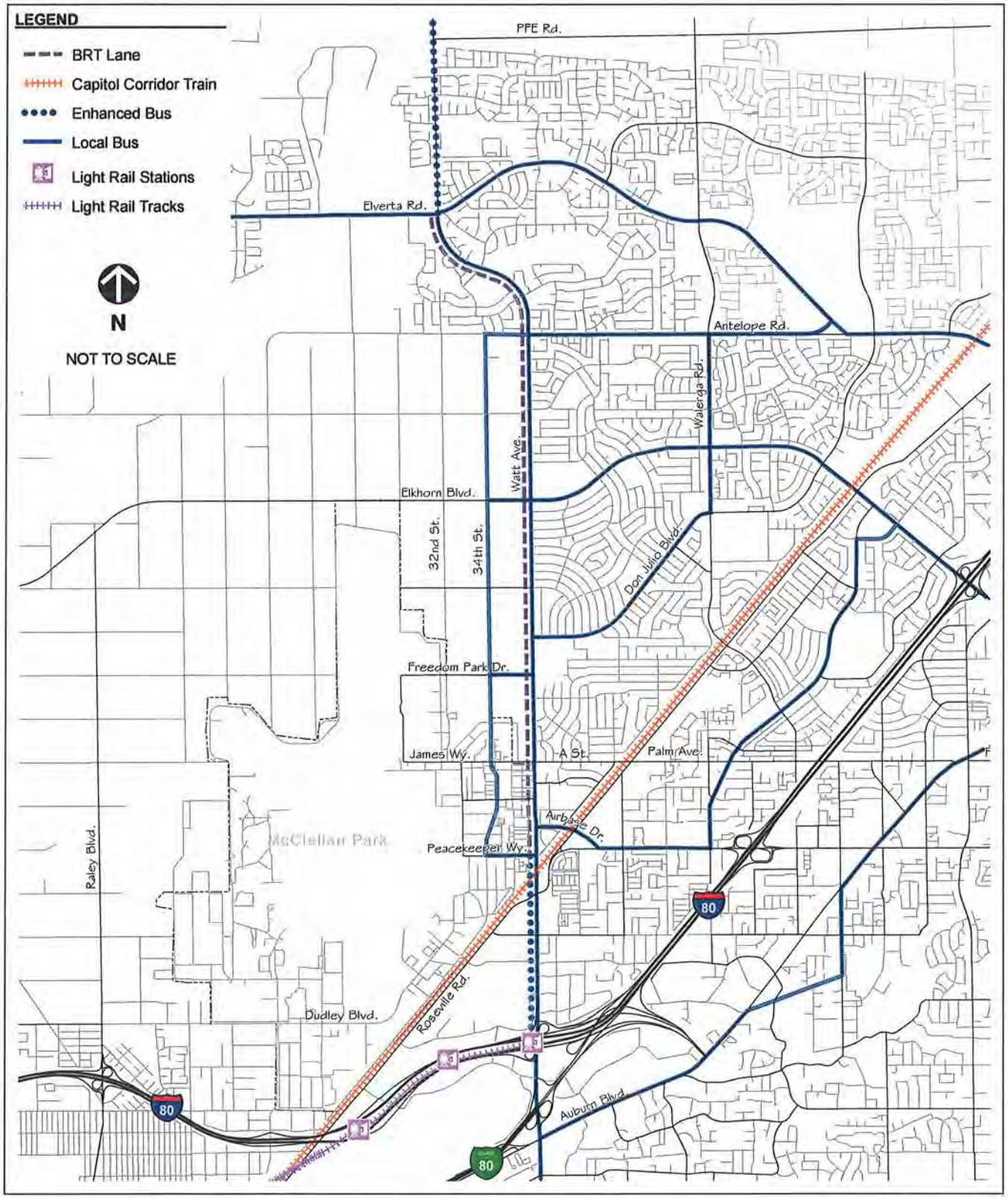
Figure 10 shows the transit service for this alternative.

Alternative 3

This alternative modifies Watt Avenue to include six mixed-flow travel lanes, Class II bicycle lanes, and sidewalks. The median would be constructed to accommodate two BRT lanes (25 feet). At station locations, the median would need to be widened further. Local bus service would operate in the mixed-flow lanes. The installation of the BRT lanes in the median will require moving the frontage improvements along Watt Avenue. The location and extent of the required widening will be determined in a latter phase of the project.

34th Street would be modified to accommodate two travel lanes (10-foot), sidewalks, and Class II bicycle lanes (7-foot). On-street parking could be allowed. Local bus service would operate in the mixed-flow lanes.

Figure 11 shows the transit service for this alternative.



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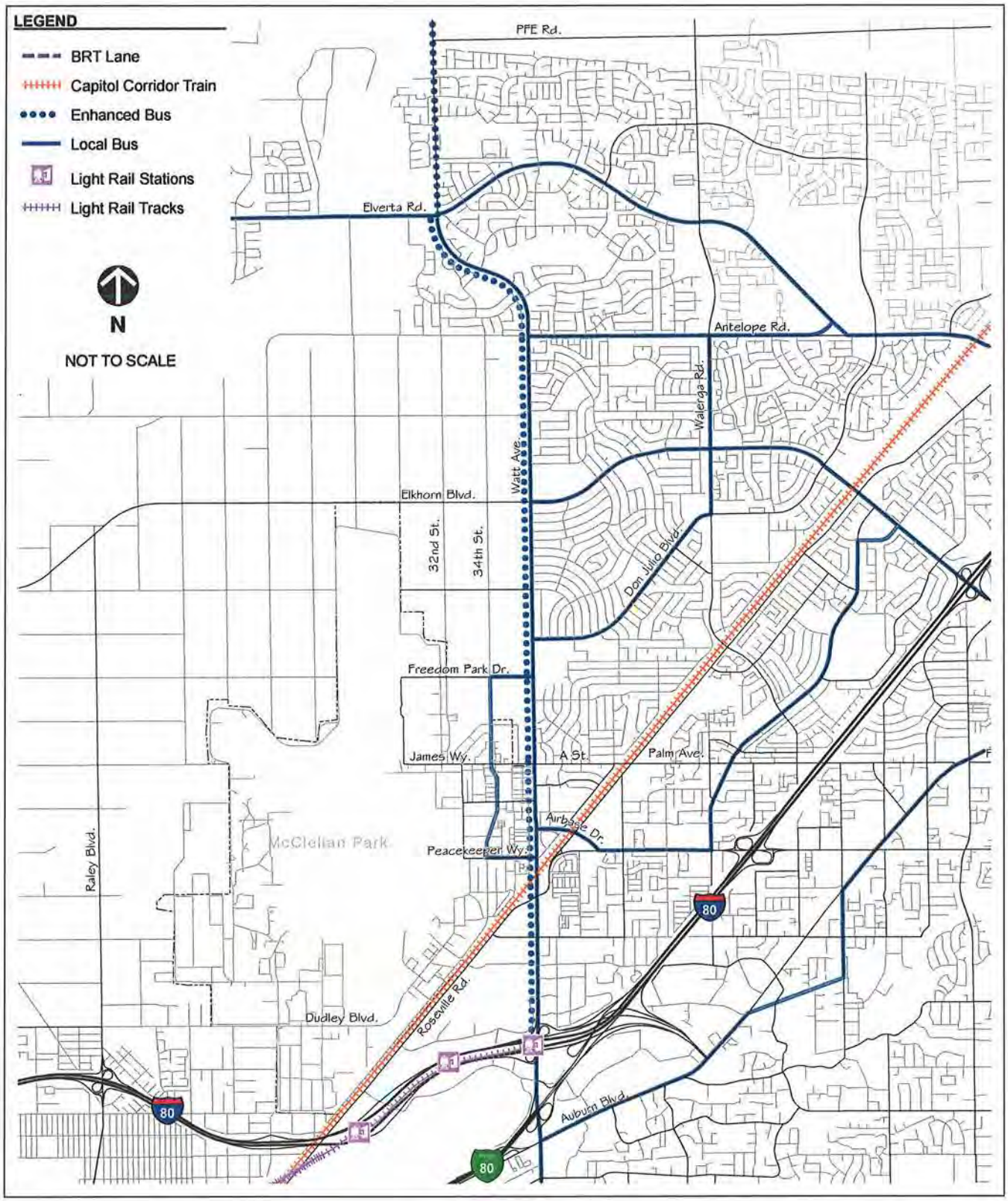
TRANSIT FACILITIES - NEAR-TERM SCENARIO

FIGURE 7



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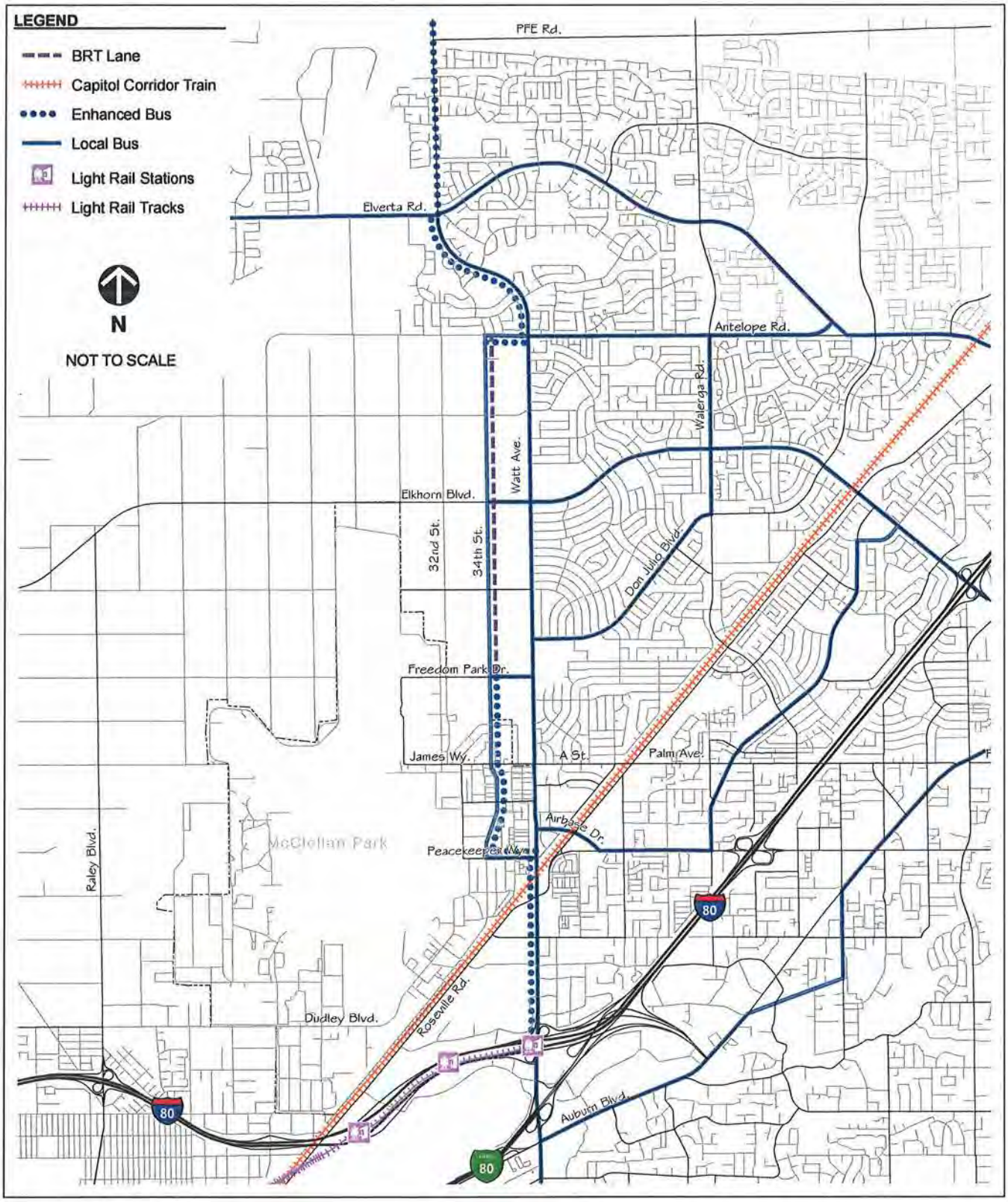
TRANSIT FACILITIES - LONG-TERM NO PROJECT ALTERNATIVE

FIGURE 8



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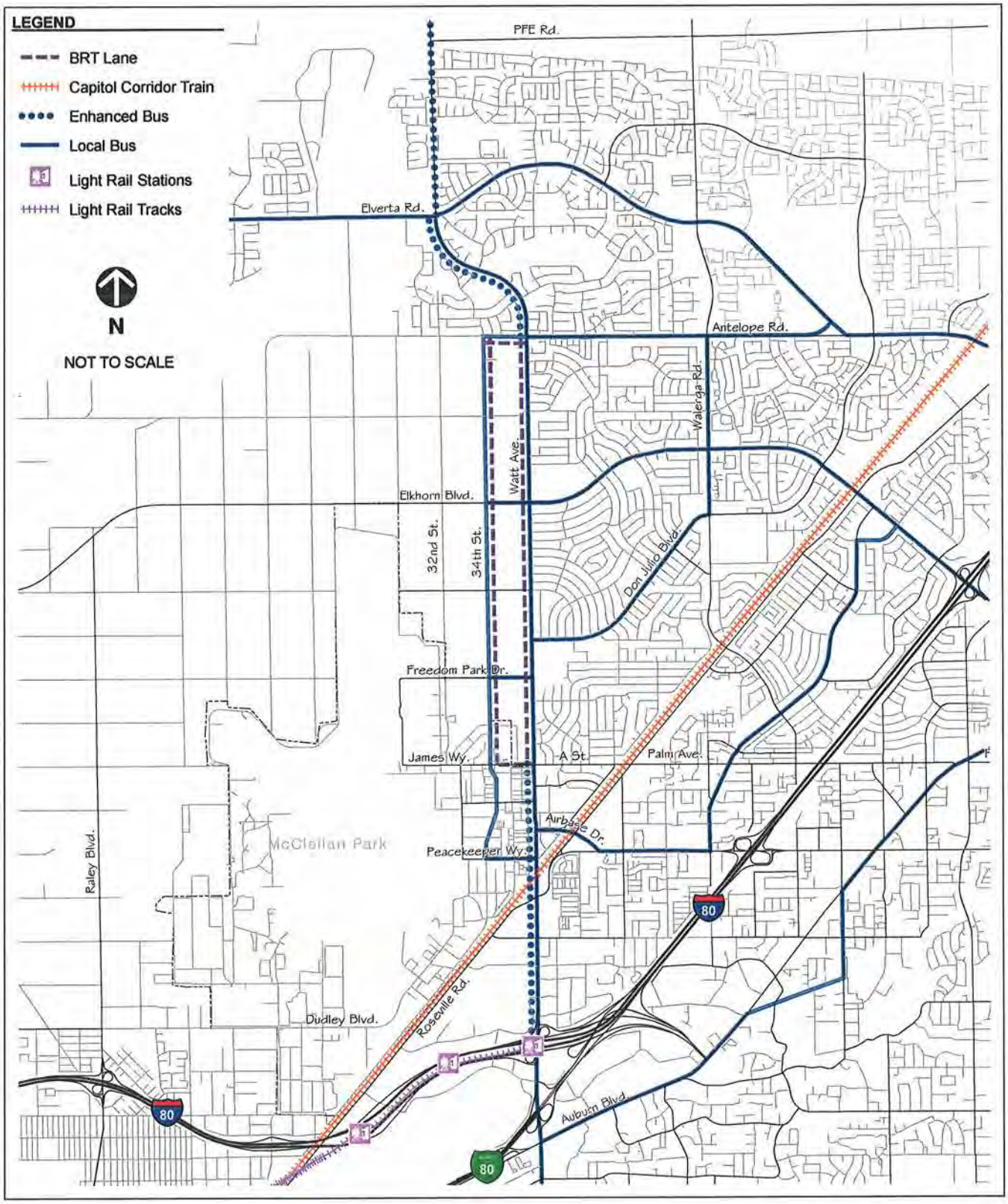
TRANSIT FACILITIES - LONG-TERM ALTERNATIVE 1

FIGURE 9



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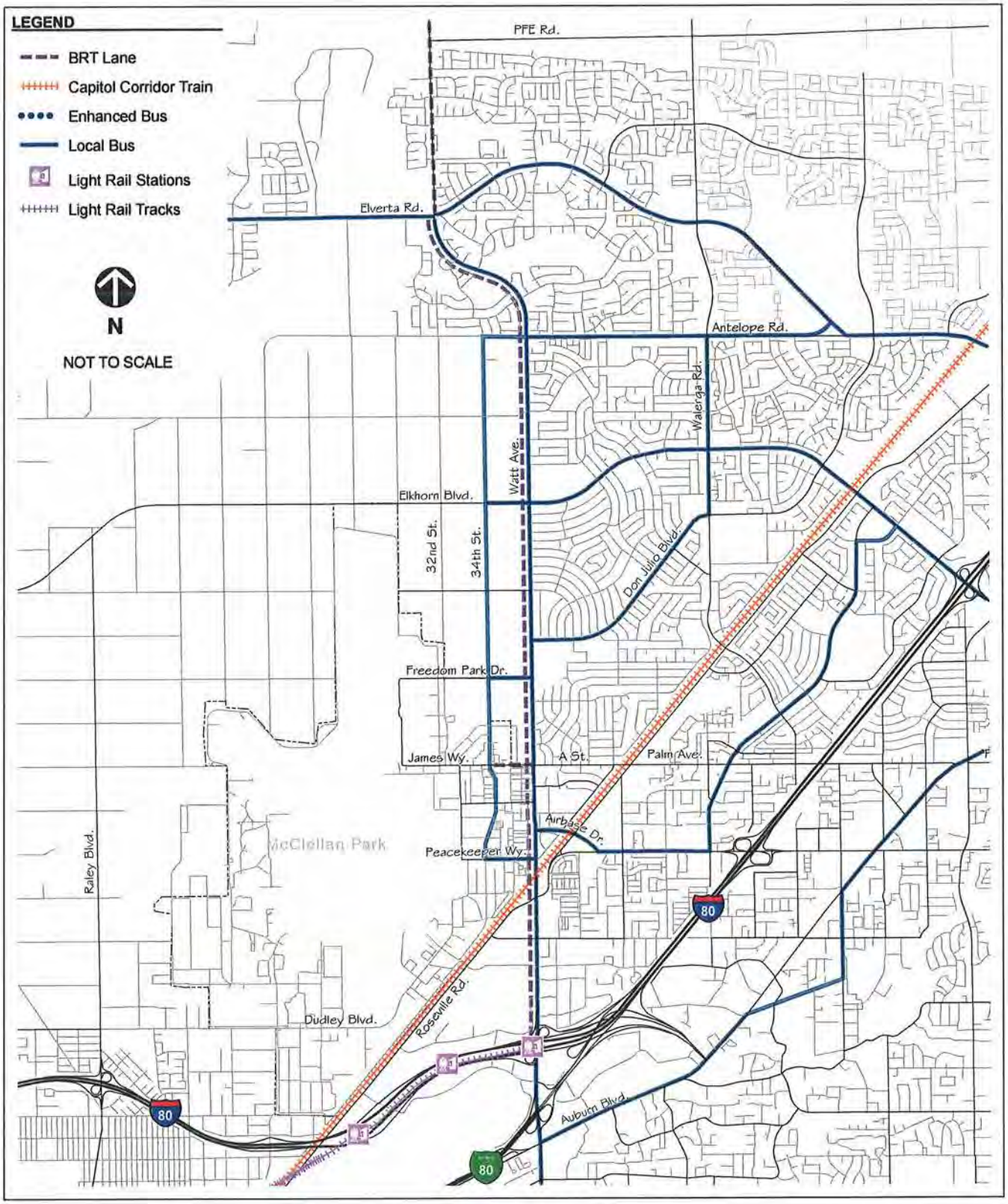
TRANSIT FACILITIES - LONG-TERM ALTERNATIVE 2

FIGURE 10



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TRANSIT FACILITIES - LONG-TERM ALTERNATIVE 3

FIGURE 11

4. PEDESTRIAN FACILITIES

The *Sacramento County Draft Pedestrian Master Plan* (2006) identifies existing and proposed pedestrian facilities in the study area with a goal of improving pedestrian safety and access on public streets within the unincorporated portions of Sacramento County.

All of the project alternatives call for completion of sidewalks along Watt Avenue and 34th Street. It is anticipated that pedestrian facilities will be constructed on the roadways between Watt Avenue and 34th Street and as part of redevelopment/development of the area between 34th Street and Watt Avenue.

The 2035 Metropolitan Transportation Plan includes funding for a study to improve the pedestrian and bicycle access between Roseville Road and Peacekeeper Way under the Union Pacific mainline railroad tracks. The Plan also includes funding for the installation of separated sidewalks on Watt Avenue from Folsom Boulevard to the Placer County Line and on Elkhorn Boulevard from Watt Avenue to Don Julio Boulevard. The Plan also identifies the addition of sidewalks and Class II bike lanes on roadways within McClellan Park. A new pedestrian/bicycle connection between Dudley Boulevard and Roseville Road is recommended for all long-term alternatives.

Near-term Alternative

In this alternative, Watt Avenue would be widened to six lanes, with the curb lane being a Business Access Transit (BAT) lane. Sidewalks with a landscaped planting strip between the BAT/curb travel lane and sidewalk would be installed along the entire length of Watt Avenue. The crossing distance at major intersections would be approximately 130 feet. At mid-block locations, the crossing distance would be 96 feet.

34th Street would be widened to accommodate two travel lanes (10-foot), two Class II bicycle lanes (7-foot), and sidewalks separated from the street by a landscaped strip. The crossing distance at intersections would be approximately 50 feet. At mid-block locations, the crossing distance would be 42 feet.

Figure 12 shows the pedestrian facilities for this alternative.

Long-term Alternatives

<u>No Project Alternative</u>

The no project alternative assumes that both Watt Avenue and 34th Street would be modified to the current County of Sacramento General Plan designations. Watt Avenue is designated a six-lane thoroughfare, thus sidewalks attached to the curb (no landscaped strip) would be constructed. The crossing distance at major intersections would be approximately 130 feet. At mid-block locations, the crossing distance would be 96 feet.

34th Street is not designated on the current General Plan, but is assumed to be a two-lane major residential street with two travel lanes (10-foot), sidewalks and Class III bicycle facilities. Sidewalks would be constructed with no landscaped strip. The crossing distance at intersections would be approximately 50 feet. At mid-block locations, the crossing distance would be 42 feet.

Figure 13 shows the pedestrian facilities for this alternative.

Alternative 1

This alternative modifies Watt Avenue to include six mixed-flow vehicle lanes, sidewalks, and a raised landscaped median. Sidewalks would be detached from the street by a landscaped planting strip. The crossing distance at major intersections would be approximately 130 feet. At mid-block locations, the crossing distance would be 96 feet.

34th Street would be modified to include two mixed-flow travel lanes, two Bus Rapid Transit (BRT) lanes (exclusive transit lanes) and sidewalks. Sidewalks would be detached from the street by a landscaped planting strip. The crossing distance at intersections would be approximately 70 feet. At mid-block locations, the crossing distance would be 58 feet.

Figure 14 shows the pedestrian facilities for this alternative.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. The northbound section of the couplet would have three mixed-flow travel lanes on the east side of the existing median on Watt Avenue. The section would include a sidewalk detached from the roadway by a planting strip. The existing lanes west of the median would be converted into a northbound BRT lane, a southbound Class II bicycle lane (7-foot) and a sidewalk. Sidewalks would be detached from the street by a landscaped planting strip. The crossing distance at intersections would be 71 feet. At mid-block locations, the crossing distance would be 71 feet.

34th Street would be modified to accommodate three mixed-flow southbound travel lanes, a southbound on-street bicycle lane (7-foot), and a sidewalk, detached from the roadway by a planting strip, on the west side of the street. A southbound BRT lane, northbound Class II bicycle lane (7-foot), and sidewalk, detached from the roadway by a planting strip, would be constructed on the east side of the street. The travel lanes and BRT lane would be separated by a raised landscaped median. The crossing distance at intersections would be 71 feet. At mid-block locations, the crossing distance would also be 71 feet.

Figure 15 shows the pedestrian facilities for this alternative.

Alternative 3

This alternative modifies Watt Avenue to include six mixed-flow travel lanes and sidewalks detached from the roadway by a planting strip. The median would be constructed to accommodate two BRT lanes (25 feet). At station locations, the median would need to be widened further. The crossing distance at major intersections would be approximately 155 feet. At mid-block locations, the crossing distance would be 109 feet.

34th Street would be constructed to accommodate two travel lanes (10-foot), sidewalks, and Class II bicycle lanes (7-foot). A landscaped planting strip would separate the sidewalks from the street. The crossing distance at intersections would be approximately 50 feet. At mid-block locations, the crossing distance would be 42 feet.

Figure 16 shows the pedestrian facilities for this alternative.

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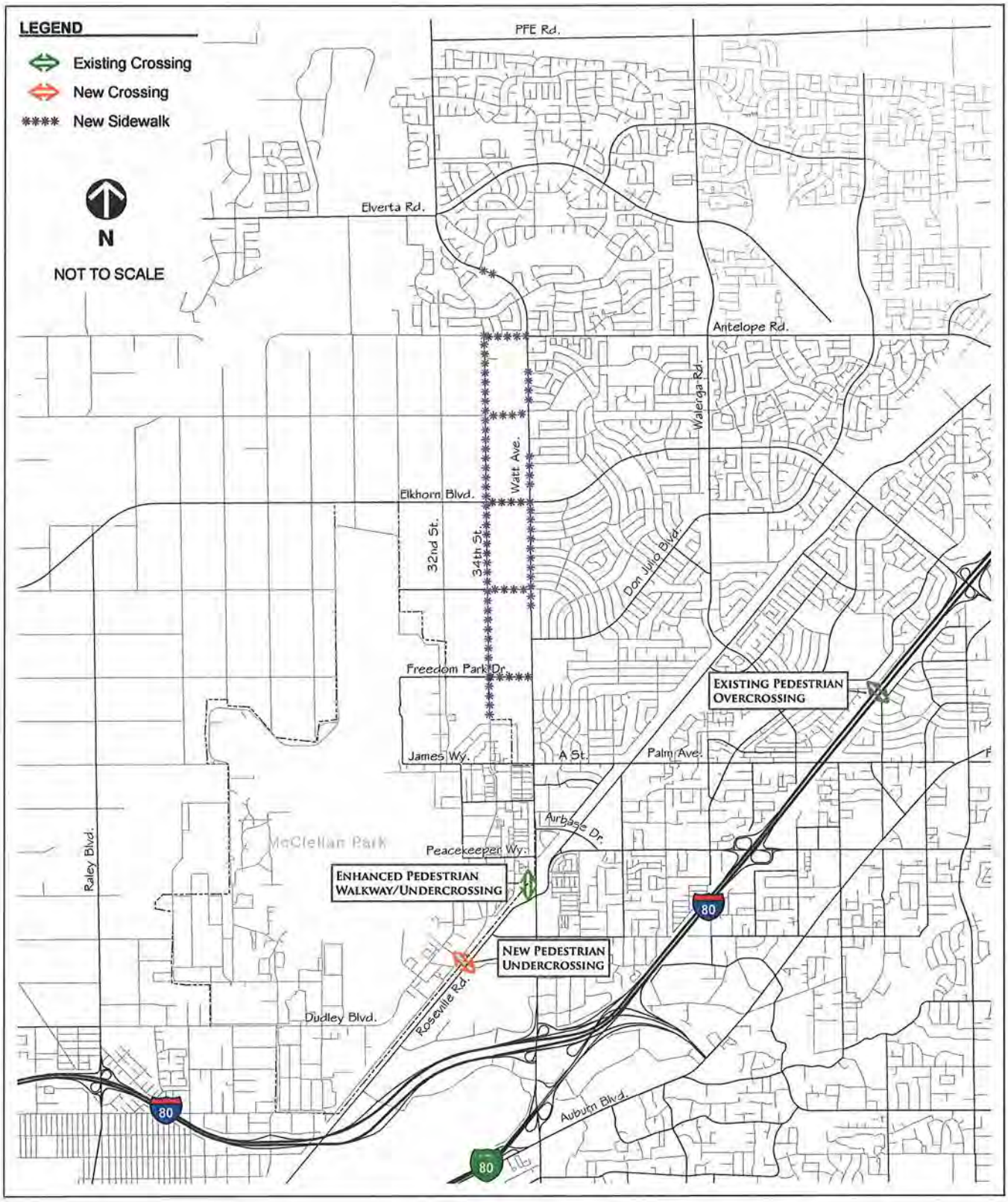
PEDESTRIAN FACILITIES - NEAR-TERM SCENARIO

FIGURE 12



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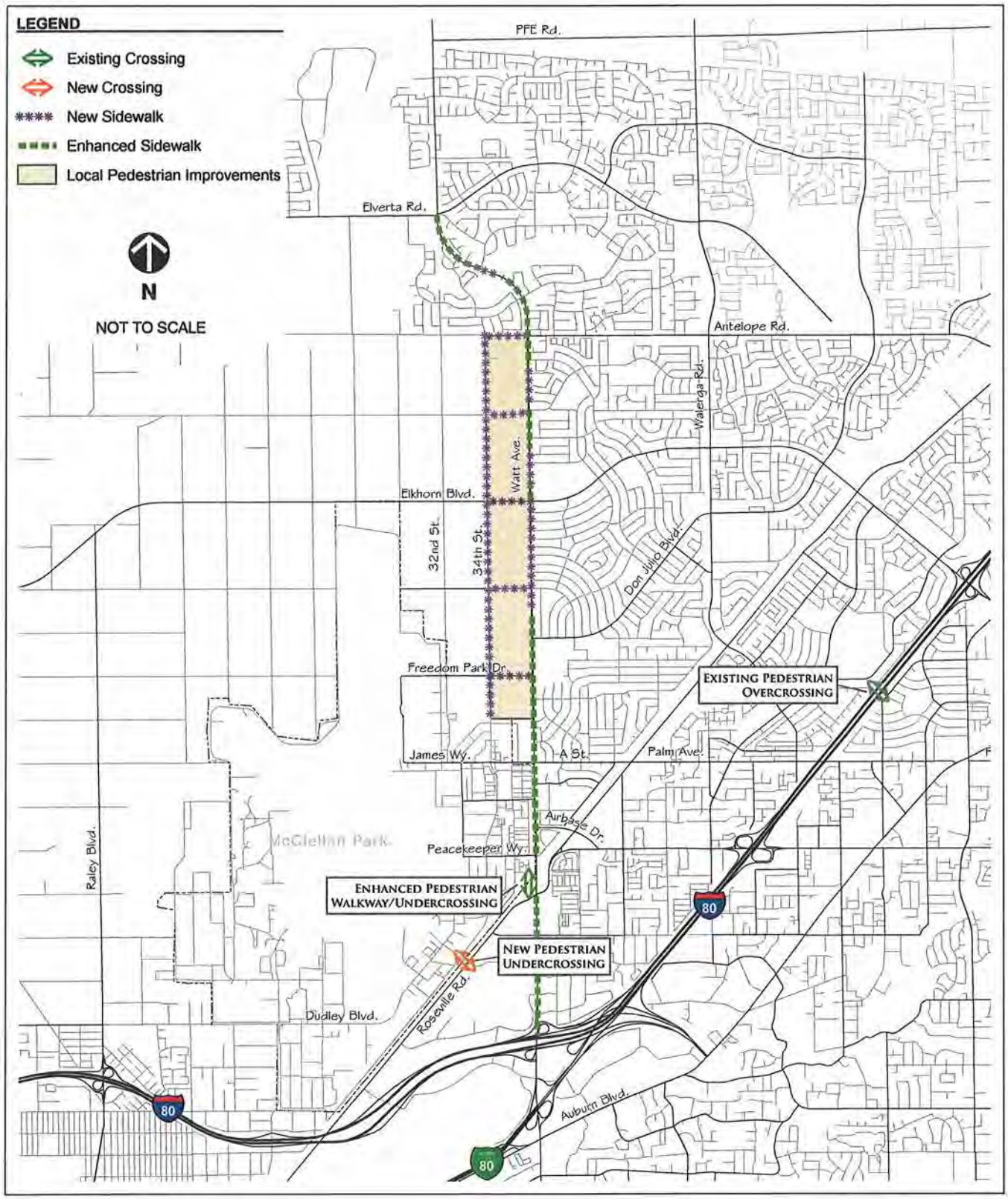
PEDESTRIAN FACILITIES - LONG-TERM NO PROJECT ALTERNATIVE

FIGURE 13



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PEDESTRIAN FACILITIES - LONG-TERM ALTERNATIVE 1

FIGURE 14

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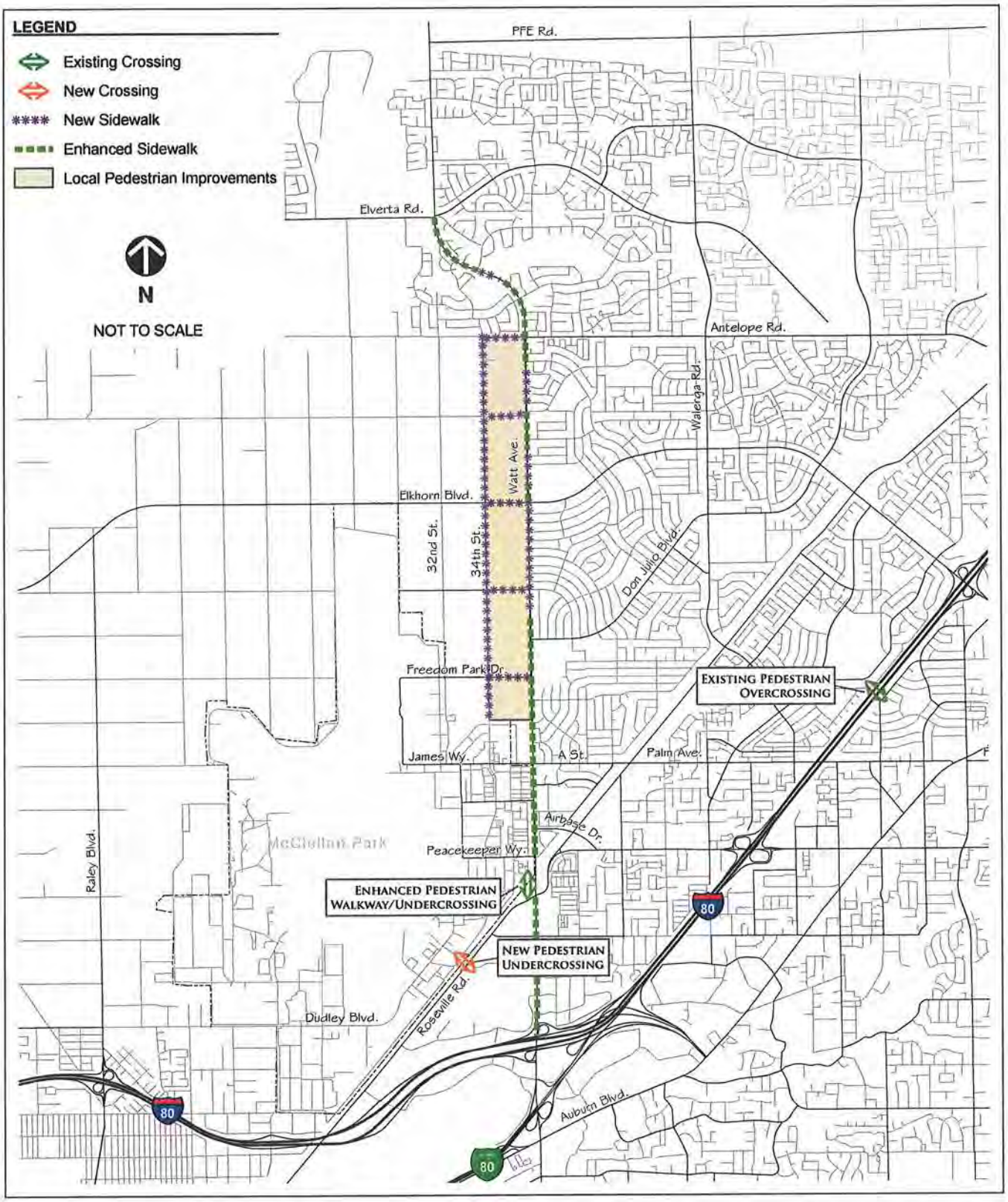
PEDESTRIAN FACILITIES - LONG-TERM ALTERNATIVE 2

FIGURE 15



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PEDESTRIAN FACILITIES - LONG-TERM ALTERNATIVE 3

FIGURE 16

5. BICYCLE FACILITIES

The *2010 Sacramento City/County Bikeway Master Plan* adopted by the County of Sacramento in 1993 identifies existing and planned bikeway facilities in the study area. The facilities identified in the Master Plan are defined as follows.

- Class I Bike Path – bike paths are facilities within exclusive right of way
- Class II Bike Lane – bike lanes for preferential use of bicycles that are established within the paved area of roadways
- Class III Bike Route – bike routes are shared facilities, either with motor vehicles on the street or with pedestrians on sidewalks

All of the project alternatives call for completion of Class II bicycle lanes along Watt Avenue and either Class II bicycle lanes or Class III bicycle routes along 34th Street. It is anticipated that bicycle lanes or routes will be constructed on the roadways between Watt Avenue and 34th Street and that additional Class I or Class II facilities will be included as part of redevelopment/development of the area between 34th Street and Watt Avenue.

The 2035 Metropolitan Transportation Plan includes funding for a study to improve the pedestrian and bicycle access between Roseville Road and Peacekeeper Way under the Union Pacific mainline railroad tracks. It also identifies a new Class I path on the west side of McClellan Park and Class II bike lanes on Roseville Road from Auburn Boulevard to the City of Roseville, on Dudley Boulevard from Peacekeeper Way to Winter Street, and on Watt Avenue from Peacekeeper Way to Arden Way. The plan also identifies additional sidewalks and Class II bike lanes on roadways within McClellan Park. A new pedestrian/bicycle connection between Dudley Boulevard and Roseville Road is recommended for all long-term alternatives.

Near-term Alternative

Watt Avenue would be widened to six lanes with the curb lane being a Business Access Transit (BAT) lane. Class II bicycle lanes (7-foot) would be installed along the entire length of Watt Avenue.

34th Street would be widened to accommodate two travel lanes (10-foot), two Class II bicycle lanes (7-foot), and sidewalks separated from the street by a landscaped strip.

Figure 17 shows the bicycle facilities for this alternative.

Long-term Alternatives

No Project Alternative

The no project alternative assumes that Watt Avenue and 34th Street would be modified to the current County of Sacramento General Plan designations. Watt Avenue is designated a six-lane thoroughfare, thus 7-foot Class II bicycle lanes would be constructed.

34th Street is not designated on the current General Plan, but is assumed to be a two-lane major residential street with two travel lanes (10-foot), sidewalks, and Class III bicycle facilities.

Figure 18 shows the bicycle facilities for this alternative.

Alternative 1

Watt Avenue would be constructed to include six mixed-flow vehicle lanes, Class II bicycle lanes (7-foot), and a raised landscaped median.

34th Street would be constructed to include two mixed-flow travel lanes, two Bus Rapid Transit (BRT) lanes (exclusive transit lanes) and Class II bicycle lanes (7-foot).

Figure 19 shows the bicycle facilities for this alternative.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. The northbound section of couplet would have three mixed-flow travel lanes and a 7-foot northbound Class II bicycle lane on the east side of the existing median on Watt Avenue. The existing lanes west of the median would be converted into a northbound BRT lane, a southbound Class II bicycle lane (7-foot), and a sidewalk.

34th Street would be constructed to accommodate three mixed-flow southbound travel lanes, a southbound Class II bicycle lane (7-foot), and a sidewalk on the west side of the street. A southbound BRT lane, northbound Class II bicycle lane (7-foot), and a sidewalk would be constructed on the east side of the street. The travel lanes and BRT lane would be separated by a raised landscaped median.

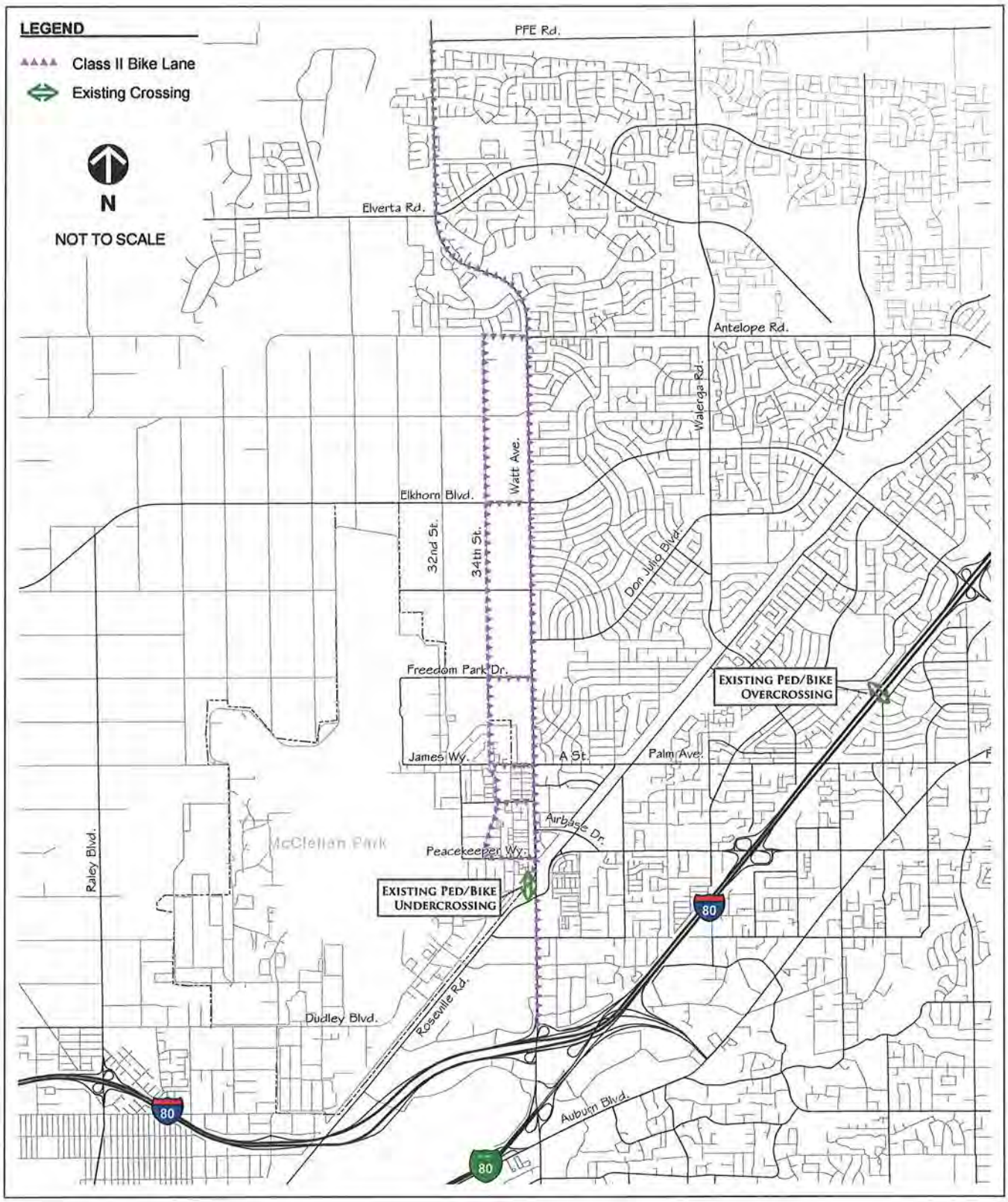
Figure 20 shows the bicycle facilities for this alternative.

Alternative 3

Watt Avenue would be constructed to include six mixed-flow travel lanes and Class II bicycle lanes (7-foot). The median would be constructed to accommodate two BRT lanes (25 feet). At station locations, the median would need to be widened further.

34th Street would be constructed to accommodate two travel lanes (10-foot) and Class II bicycle lanes (7-foot).

Figure 21 shows the bicycle facilities for this alternative.



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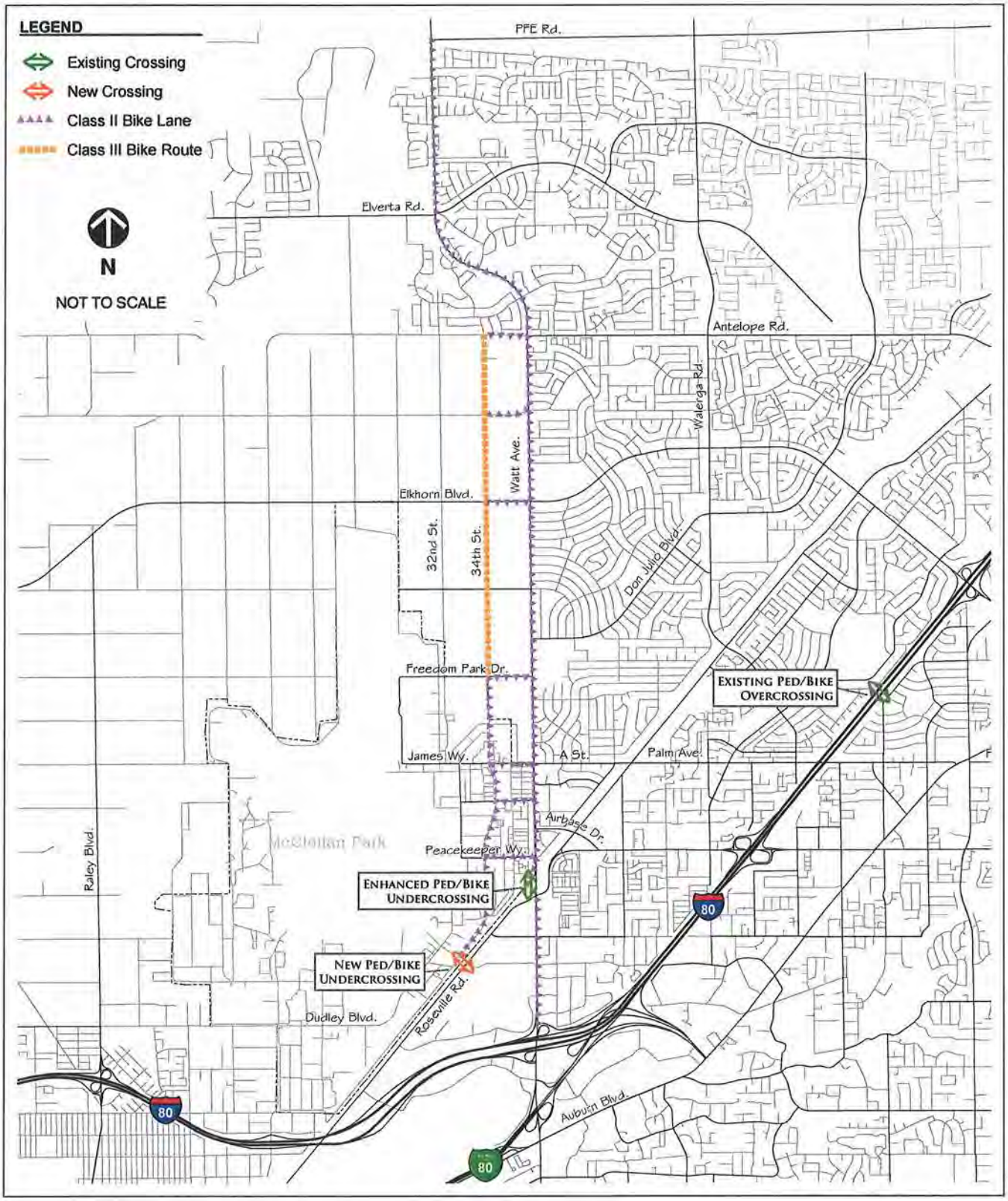
BICYCLE FACILITIES - NEAR-TERM SCENARIO

FIGURE 17



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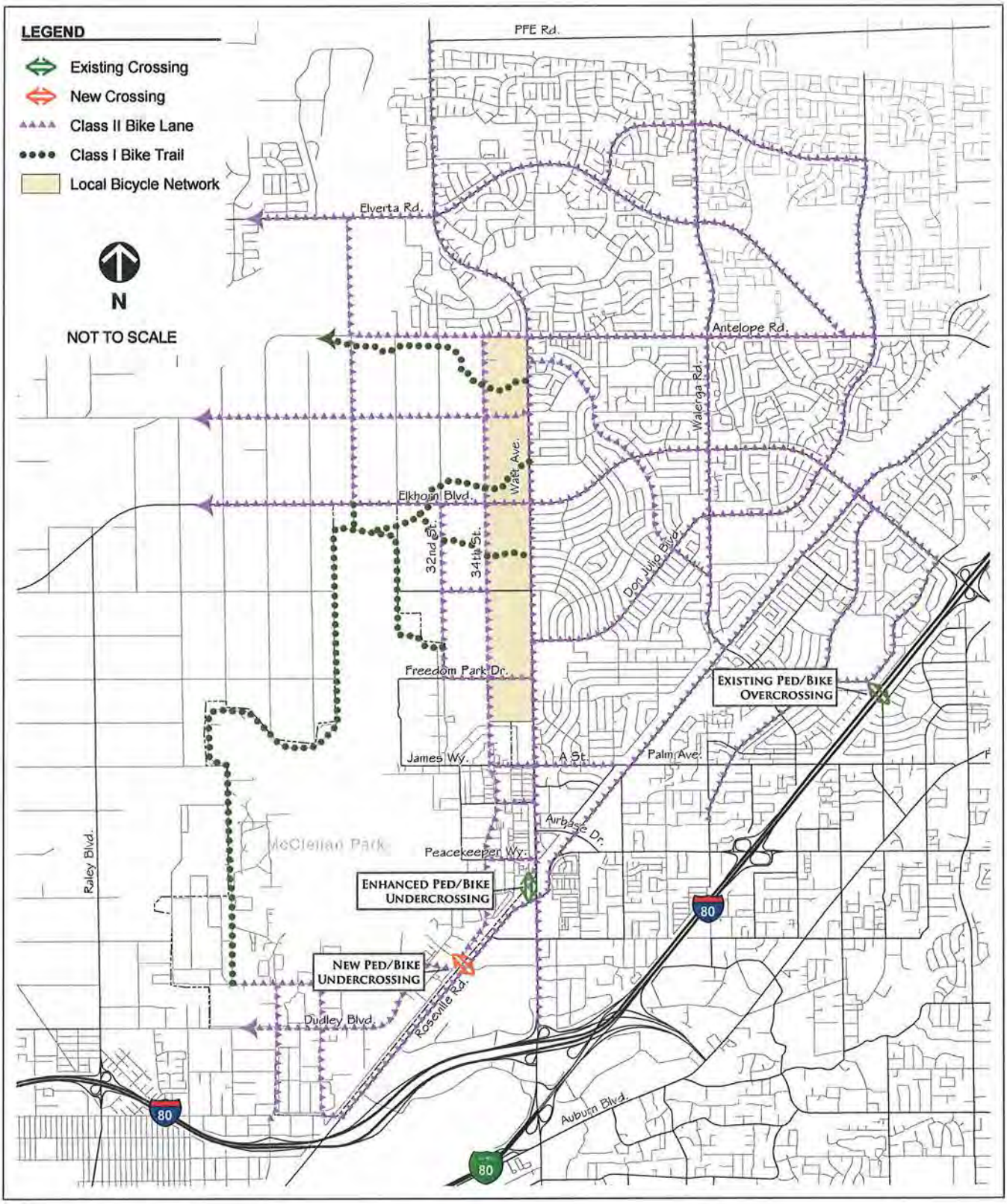
BICYCLE FACILITIES - LONG-TERM NO PROJECT ALTERNATIVE

FIGURE 18



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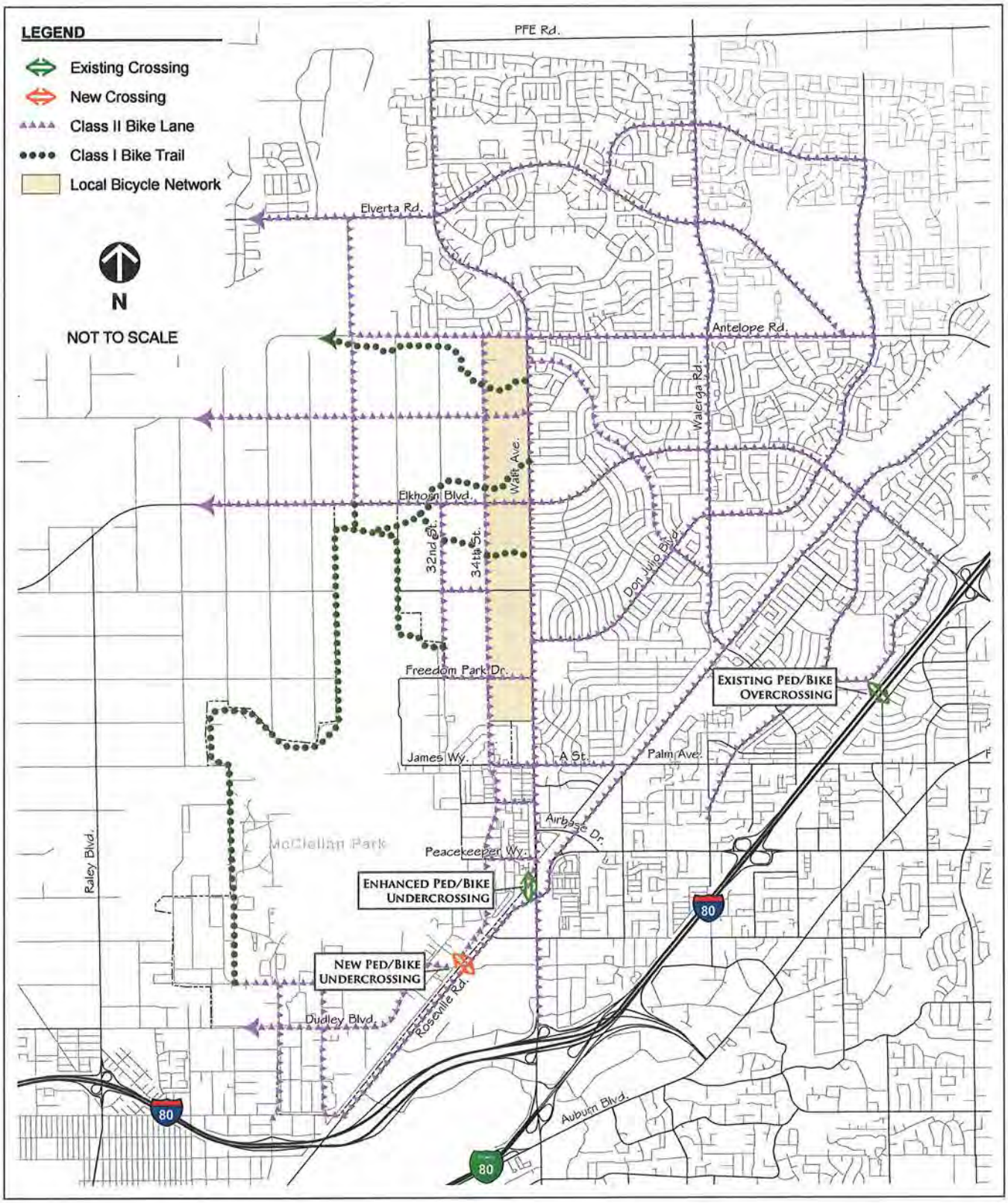
BICYCLE FACILITIES - LONG-TERM ALTERNATIVE 1

FIGURE 19



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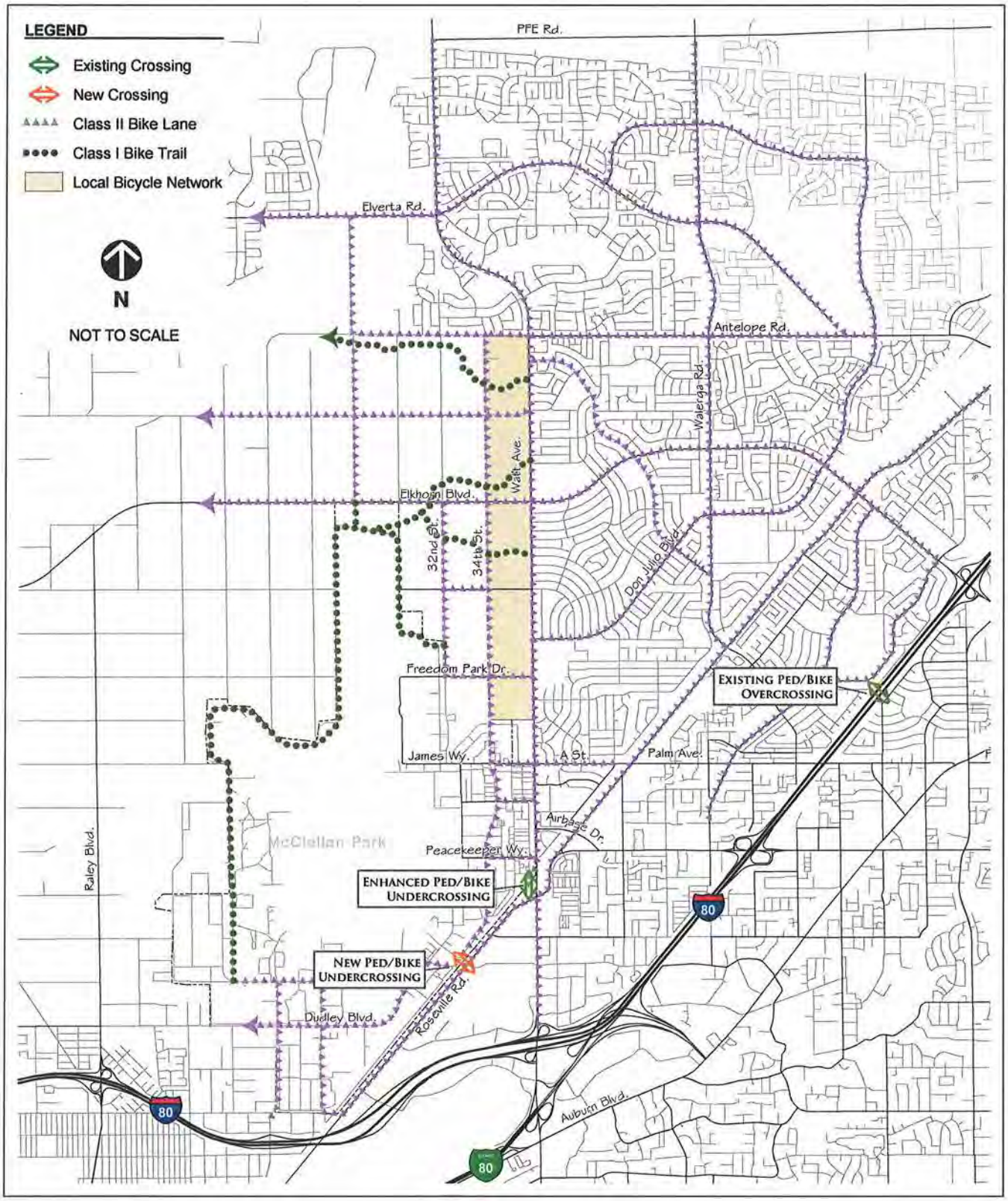
BICYCLE FACILITIES - LONG-TERM ALTERNATIVE 2

FIGURE 20



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BICYCLE FACILITIES - LONG-TERM ALTERNATIVE 3

FIGURE 21

6. ACCESS OPTIONS

Access to fronting land uses varies between the project alternatives. Depending on the alternative, access can range from full access to no access (i.e., access from side streets only). The following summarizes the access restrictions for each project alternative.

Near-term Alternative

In this alternative, access to fronting properties on Watt Avenue would be limited on both sides of the street to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

Full access to fronting properties would be allowed along 34th Street.

Figure 22 shows the frontage access options for this alternative.

Long-term Alternative

No Project Alternative

Access to fronting properties on Watt Avenue would be limited on both sides of the street to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

Full access to fronting properties would be allowed along 34th Street.

Figure 23 shows the frontage access options for this alternative.

Alternative 1

Access to fronting properties on Watt Avenue would be limited on both sides of the street to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

Along 34th Street, full access to fronting properties would be restricted to right-in and right-out only, except at locations without left turn pockets.

Figure 24 shows the frontage access options for this alternative.

Alternative 2

This alternative provides a one-way couplet between James Way and Antelope Road, with Watt Avenue being the northbound lanes and 34th Street being the southbound lanes. North of Antelope Road and south of James Way, Watt Avenue would be a standard county six-lane thoroughfare. Access to fronting properties in these segments of Watt Avenue would be limited on both sides of the street to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

In the sections where the one-way couplet is constructed, access to the west side of Watt Avenue would be limited to locations served by a side street. Direct access would be prohibited by the location of the BRT lane. Access to properties along the east side of the street would be limited on right-in and right-out

only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

Access along 34th Street would be restricted in a similar fashion, with access to the east side of 34th Street limited to locations served by side streets. Direct access would be prohibited by the location of the BRT lane. Access to properties along the west side of the street would be limited on to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal controlled intersections.

Figure 25 shows the frontage access options for this alternative.

Alternative 3

Access to fronting properties on Watt Avenue would be limited on both sides of the street to right-in and right-out only for most of the roadway length. Left turn access to fronting development is assumed to be limited to signal-controlled intersections at major intersections. The Lane County (Eugene, Oregon) BRT system that operates in the median limited left turns to major intersections (signal-controlled) due to conflicts between bus operations and left-turning vehicles.

Full access to fronting properties would be allowed along 34th Street.

Figure 26 shows the frontage access options for this alternative.

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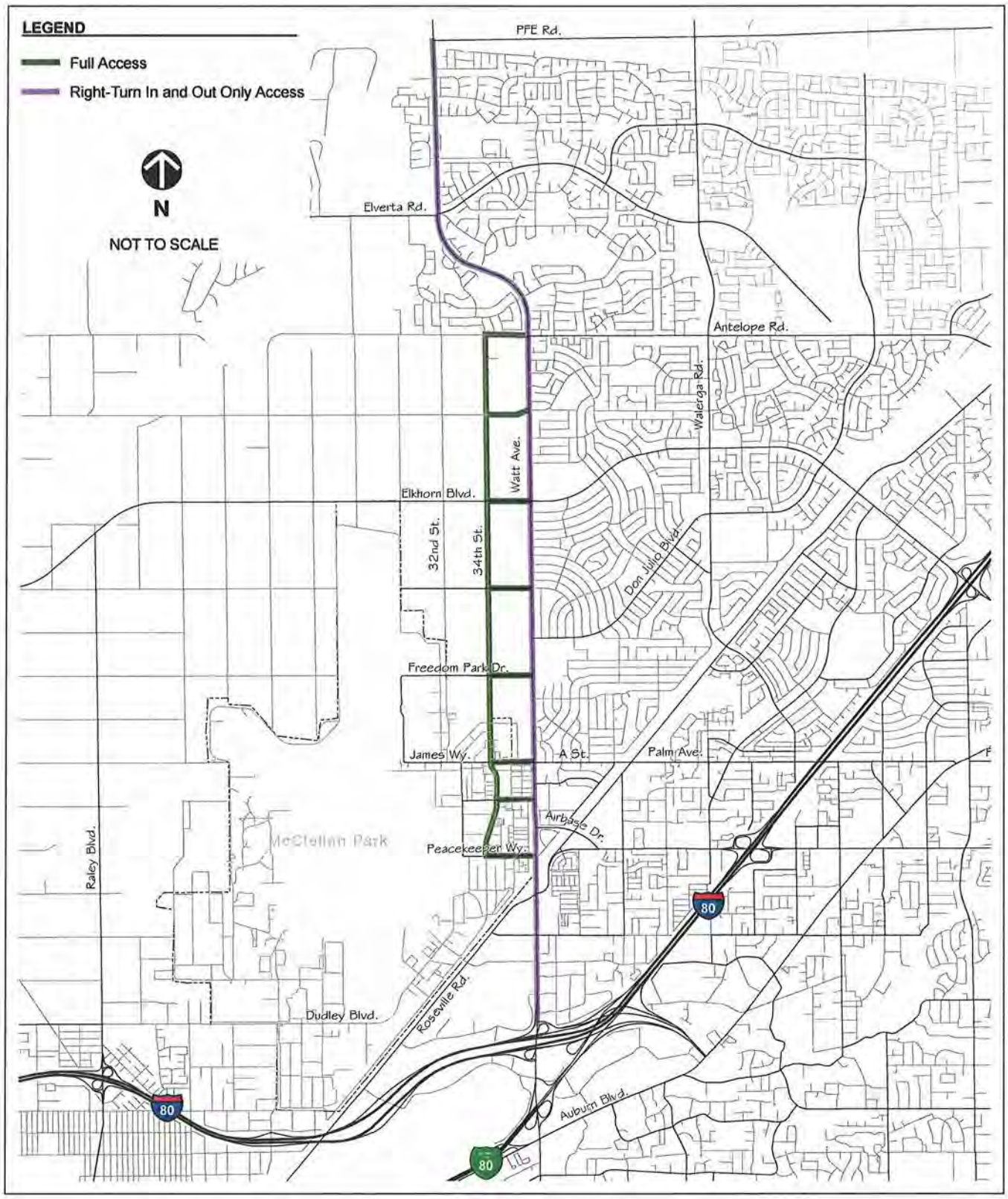
ACCESS - NEAR-TERM SCENARIO

FIGURE 22



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TRANSPORTATION CONSULTANTS

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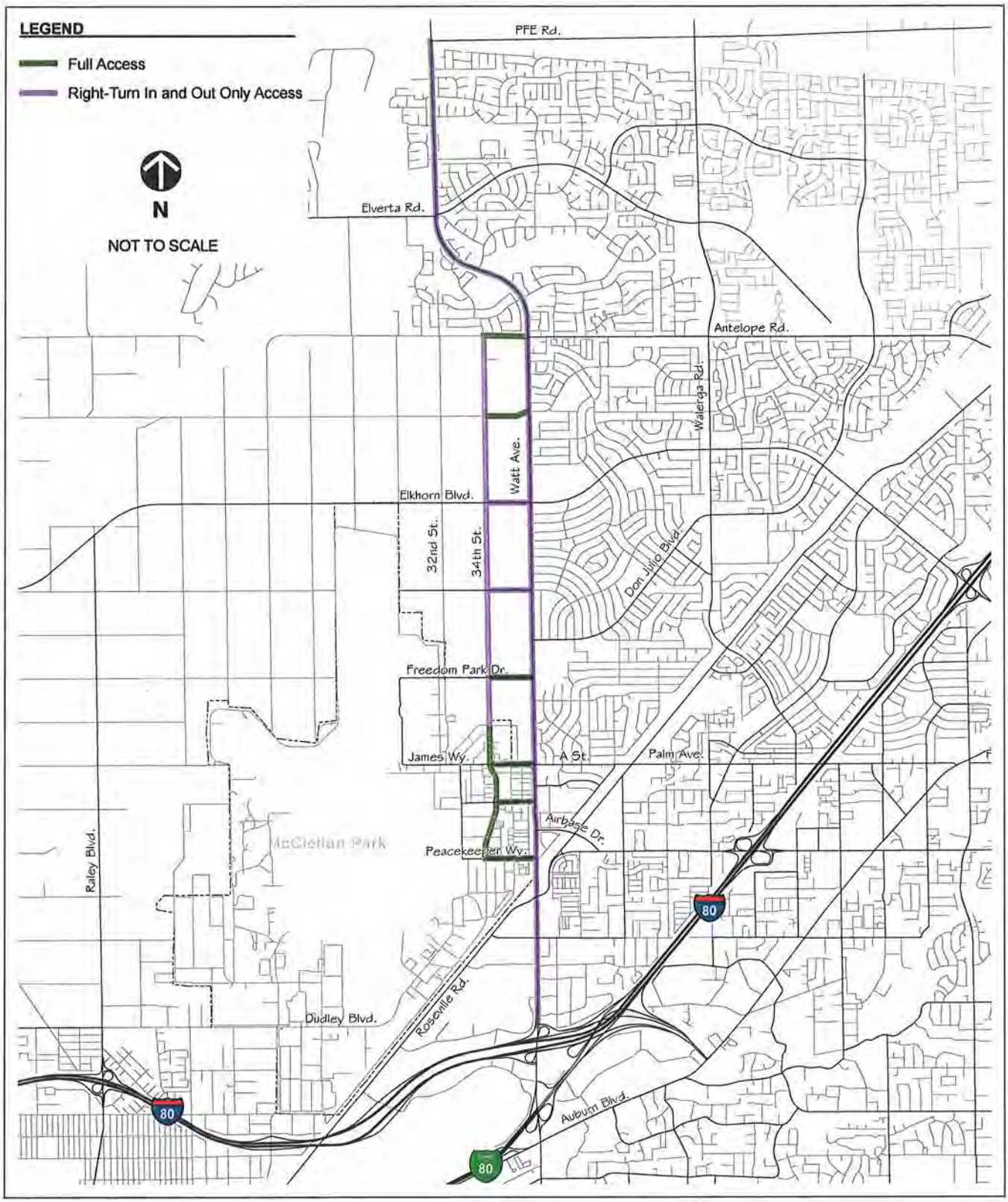
ACCESS - LONG-TERM NO PROJECT ALTERNATIVE

FIGURE 23



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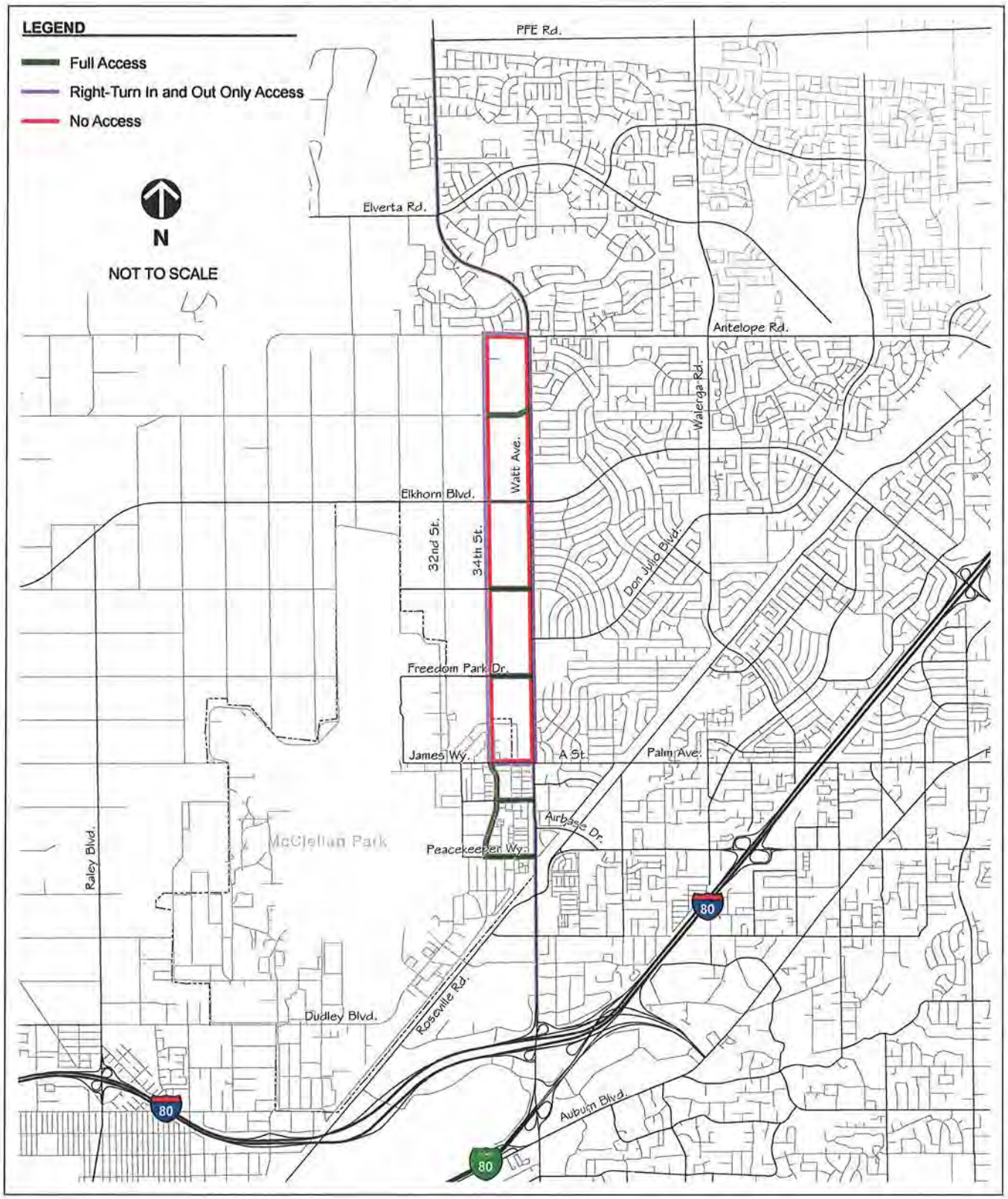
ACCESS - LONG-TERM ALTERNATIVE 1

FIGURE 24



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TRANSPORTATION CONSULTANTS

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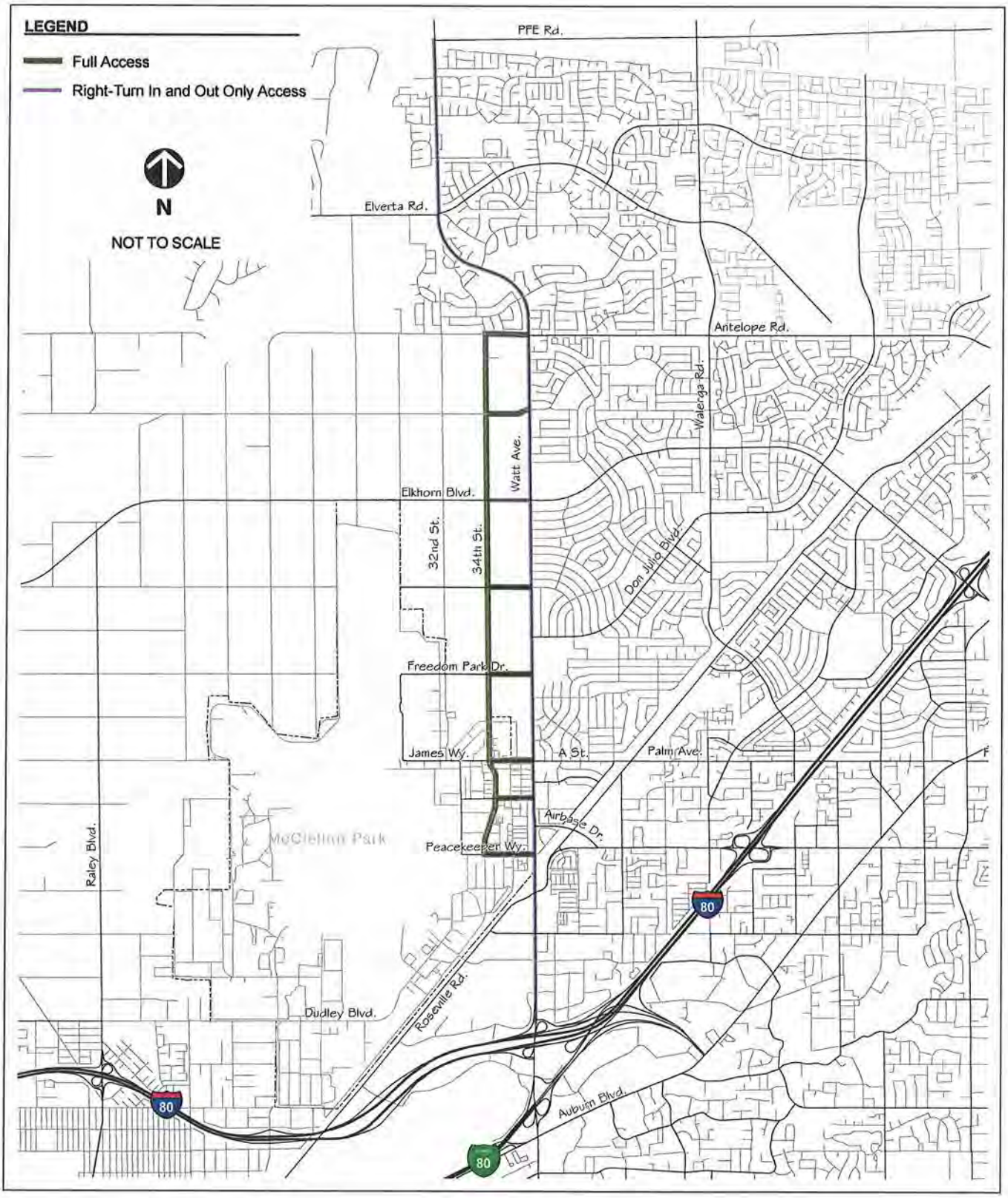
ACCESS - LONG-TERM ALTERNATIVE 2

FIGURE 25



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TRANSPORTATION CONSULTANTS

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ACCESS - LONG-TERM ALTERNATIVE 3

FIGURE 26

7. PROJECT CONSTRUCTABILITY

This section reviews the ability to phase construction of each of the project options.

Near-term Alternative

In this alternative, Watt Avenue would be widened to six lanes with the curb lane being a Business Access Transit (BAT) lane. This can be done as development occurs or as a County-sponsored project.

Improvements to 34th Street could occur with development of fronting uses or as a County-sponsored project.

Long-term Alternatives

No Project Alternative

The construction of Watt Avenue as a six-lane thoroughfare can be completed as fronting development occurs or as a County-sponsored project.

Improvements to 34th Street could occur with development of fronting uses or as a County-sponsored project.

Alternative 1

The construction of improvements on Watt Avenue can be completed as fronting development occurs or as a County-sponsored project.

Improvements to 34th Street could occur with development of fronting uses or as a County-sponsored project.

Alternative 2

The construction of the couplet would need to be completed as a County-sponsored project and does not lend itself to phasing.

Alternative 3

The construction of improvements on Watt Avenue can be completed as fronting development occurs or as a County-sponsored project.

Improvements to 34th Street could occur with development of fronting uses or as a County-sponsored project.

E APPENDIX E

Mitigation Measures

E MITIGATION MEASURES

LU-1: North Area Recovery Station

A policy shall be added to the North Watt Avenue Corridor Plan establishing a 1,000 foot North Area Recovery Station Buffer Zone. In consultation with and to the satisfaction of the Department of Waste Management & Recycling, specific land use restrictions and design guidelines shall be established for the NARS Buffer Zone.

PS-1: Public Service Infrastructure

Prior to Development Plan Review or issuance of building permits for projects resulting in intensification of use or increased square footage associated with development pursuant to the North Watt Avenue Corridor Plan Special Planning Area Ordinance, the preparation of a phasing plan that identifies thresholds of development for when necessary improvements are required and the preparation of a funding strategies plan that would evaluate various finance mechanism and programs that could finance the necessary improvements. The Phasing and Funding Strategies Plan shall also identify a mechanism to track when thresholds are met so infrastructure improvements are constructed when needed. If private applicants/developers wish to proceed with development ahead of the Phasing and Funding Strategies Plan, then project specific analyses (i.e. sewer study, water study, traffic study) will be required to ensure that the existing infrastructure can accommodate the proposed development.

The Phasing and Funding Strategies Plan or project specific analyses shall not be required for a period of five years from the date of adoption of the North Watt Avenue Corridor Plan. The purpose of this five year period is to allow for revitalization projects that support the project objectives to proceed without the need for additional studies or specific improvements, recognizing that build out of the Corridor is long-term over a 30 plus year timeframe. The Directors of Transportation and Community Planning and Development Departments shall have the authority to require project specific studies for a project that may have a significant effect on transportation infrastructure.

PS-2: Water Supply

When water supply thresholds are met, as identified in the MSA phasing plan, no further development in accordance with the Corridor Plan shall occur until additional water supply is secured to support future Corridor Plan development and necessary fire flows.

PS-2: Railroad Policy

A policy shall be added to the North Watt Avenue Corridor Plan that requires Planning Division review of uses proposed adjacent to UP rail operations. The review is intended to result in appropriate conditions being placed on development projects in close proximity to rail operations so that safety and rail operations are fully considered and accommodated. Appropriate conditions may include requiring the placement of warning signage in suitable locations, installation of fencing or barriers along Roseville Road, or providing education to future property owners.

TC-1: Traffic Improvements

Prior to Development Plan Review or issuance of building permits for projects resulting in intensification of use or increased square footage associated with development pursuant to the North Watt Avenue Corridor Plan Special Planning Area Ordinance, the preparation of a phasing plan that identifies thresholds of development for when necessary improvements are required and the preparation of a funding strategies plan that would evaluate various finance mechanism and programs that could finance the necessary improvements. The Phasing and Funding Strategies Plan shall also identify a mechanism to track when thresholds are met so infrastructure improvements are constructed when needed. If private applicants/developers wish to proceed with development ahead of the Phasing and Funding Strategies Plan, then project specific analyses (i.e. sewer study, water study, traffic study) will be required to ensure that the existing infrastructure can accommodate the proposed development.

The Phasing and Funding Strategies Plan or project specific analyses shall not be required for a period of five years from the date of adoption of the North Watt Avenue Corridor Plan. The purpose of this five year period is to allow for revitalization projects that support the project objectives to proceed without the need for additional studies or specific improvements, recognizing that build out of the Corridor is long-term over a 30 plus year timeframe. The Directors of Transportation and Community Planning and Development Departments shall have the authority to require project specific studies for a project that may have a significant effect on transportation infrastructure.

The following improvements shall be installed:

- (EP 1) North Watt Avenue / Don Julio Boulevard – provide the following improvements:
  - i. Widen the northbound approach to provide dual left-turn pockets, 2-through lanes, and 1-shared through/right lane, which is partially based on measure EP-6. The construction of a second left-turn pocket would require Don Julio Boulevard to provide 2-departing lanes for the west leg of the intersection. These lanes would eventually taper to 1-lane prior to or at the first downstream intersection;
  - ii. Widen the southbound approach to provide 1-right-turn pocket;
  - iii. Widen the eastbound approach to provide 1-left-turn pocket, 1-through lane, and dual right-turn pockets;
  - iv. Modify the signal timing splits and cycle length for the implementation of ITS signal coordination through the corridor.
- (EP 2) North Watt Avenue / Airbase Drive – modify the lane striping of the westbound approach to provide 1-left-turn pocket and 2-right-turn lanes.
- (EP 3) Elkhorn Boulevard / 34th Street – signalize the intersection. Widen the northbound and southbound approaches to provide an exclusive left-turn pocket and 1-shared-through/right lane. Allow protected left-turns on all approaches.

- (EP 4) 34th Street / Freedom Park Drive – signalize the intersection and widen all of the approaches to provide 1-left-turn pocket and 1-shared through/right lane. Allow protected left-turns on all approaches. The installation of a roundabout could also be analyzed as a possible option to improve the intersection operations.
- (EP 5) North Watt Avenue from Antelope Road to Elkhorn Boulevard – widen the roadway from 4-lanes to 6-lanes.
- (EP 6) North Watt Avenue from Elkhorn Boulevard to Don Julio Boulevard – widen the roadway from 4-lanes to 6-lanes.
- (CP 1-1) North Watt Avenue / Elkhorn Boulevard – widen the southbound approach to provide an exclusive right-turn pocket. This improvement may require relocating the traffic signal head at the northwest corner of the intersection.
- (CP 1-2) North Watt Avenue / Don Julio Boulevard – provide the following improvements:

  i. Widen the eastbound approach to provide 1-left-turn pocket, 1-through lane, and dual right-turn pockets.
- (CP 1-3) North Watt Avenue / Freedom Park Drive – widen the southbound approach to provide an exclusive right-turn pocket. This improvement may require relocating a utility pole and traffic signal head at the northwest corner of the intersection. Modify the signal timing splits and cycle length for the implementation of ITS signal coordination through the corridor.
- (CP 1-4) North Watt Avenue / A Street / James Way – widen the northbound and southbound approaches to provide an exclusive right-turn pocket. These improvements may require relocating a utility pole and traffic signal head at the northwest corner of the intersection and a traffic signal head at the southeast corner of the intersection.
- (CP 1-5) Elkhorn Boulevard / 32nd Street – Installation of mitigation measure CP 1-7 will result in a redistribution of traffic from 32nd Street to 34th Street.
- (CP 1-6) 34th Street / Q Street – signalize the intersection and widen all of the approaches to provide 1-left-turn pocket and 1-shared through/right lane. Allow protected left-turns on all approaches. The installation of a roundabout could also be analyzed as a possible option to improve the intersection operations.
- (CP 1-7) Elkhorn Boulevard / 34th Street –signalize the intersection and widen the northbound and southbound approaches to provide 1-left turn pocket and 1-through-right turn lane. Allow protected left-turns on all approaches.
- (CP 1-8) 34th Street / Freedom Park Drive – signalize the intersection and widen all of the approaches to provide 1-left-turn pocket and 1-shared through/right lane. Allow protected left-turns on all approaches. The installation of a roundabout could also be analyzed as a possible option to improve the intersection operations.
- (CP 1-9) Dudley Boulevard / James Way – provide the following improvements:

i. Signalize the intersection;

ii. Modify the striping of the southbound approach to provide 1-left-turn pocket and 1-through/right lane;

iii. Modify the striping of the northbound approach to provide 1-left-turn pocket, 1-through lane and 1-right lane;

iv. Modify the striping on the eastbound approach to provide 1-left-turn lane and 1-through/right lane;

v. Modify the striping of the westbound approach to provide 1-left-turn lane, 1-through lane, and 1-right-turn pocket;

vi. Allow protected left-turns on all approaches.

- (CP 1-14) 32nd Street from Elkhorn Boulevard to Freedom Park Drive – installation of mitigation measure CP 1-7 will result in a redistribution of traffic from 32nd Street to 34th Street.
- (CP 2-1) North Watt Avenue / Antelope Road – modify the signal timing splits and cycle length for the implementation of ITS signal coordination through the corridor.
- (CP 2-2) North Watt Avenue / Don Julio Boulevard – Widen the eastbound approach to provide dual left-turn pockets and two through lanes.
- (CP 2-3) North Watt Avenue / A Street/James Way – provide the following improvements:

  i. Provide an overlap phase for the eastbound right-turn movement during the northbound phase. This would require prohibiting northbound u-turn movements;

  ii. Widen the northbound approach to provide an exclusive right-turn pocket.
- (CP 2-4) North Watt Avenue / Palm Street – modify the signal timing splits and cycle length for the implementation of ITS signal coordination through the corridor.
- (CP 2-5) Elkhorn Boulevard / 32nd Street – provide the following improvements:

  i. Widen the westbound approach to provide a second left-turn pocket. Widening 32nd Street from 2- to 4-lanes between Freedom Park Drive and Elkhorn Boulevard as specified in roadway segment measure CP 2-12 would provide the additional required receiving lane on the south-leg of the intersection;

  ii. Modify the signal timing splits and cycle length for the implementation of ITS signal coordination through the corridor.
- (CP 2-6) 34th Street / Q Street – widen the southbound and eastbound approaches to provide 1-shared through/left-turn lane and 1-right-turn pocket.

AQ-1: Ozone Precursors and Diesel Particulates

All future construction projects shall include an ozone precursor analysis. If the analysis results indicate that the project will generate ozone precursors that exceed the current Sacramento Metropolitan Air Quality Management

District thresholds this mitigation shall apply. This mitigation may be modified if guidance from the Sacramento Metropolitan Air Quality Management District changes in the future.

a. The project shall provide a plan for approval by the District demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

b. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the lead agency and District shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other District or state rules or regulations.

c. If at the time of construction, the District has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the District prior to construction will be necessary to make this determination.

AQ-2: Operational Emissions

All development projects within the North Watt Avenue Corridor Plan shall comply with the SMAQMD endorsed Air Quality Mitigation Plan (7-16-2010), which requires implementation of reduction measures that will achieve a minimum of 15.75 percent reduction in operational and area source emissions, consistent with General Plan Policy.

AQ-3:

All projects within 500 feet of I-80 or the UP rail line which involve sensitive uses (residential uses, and those with concentrations of the very young, elderly, or infirm such as parks, daycares, nursing homes, or hospitals), shall develop a mitigation plan to reduce impacts associated with toxic air contaminants, in consultation with SMAQMD. The mitigation plan may include measures such as vegetative plantings, the installation of electrostatic filters, and/or site redesign.

AQ-4:

The following policy shall be added to the Corridor Plan: To avoid significant health impacts due to chronic pollutant exposure related to I-80, new sensitive uses (residential uses, and those with concentrations of the very young, elderly, or infirm such as parks, daycares, nursing homes, or hospitals) shall not be permissible within 200 feet of the nearest I-80 travel lane. The location of this restricted area may be altered consistent with any new protocols for major roadways that may be published by the Sacramento Metropolitan Air Quality Management District which alters the location of the evaluation criterion (currently 281 chances per million).

NS-1: Traffic Noise Impacts to Residential Uses: Interior

To ensure compliance with General Plan Noise Element standards of 45 dB Ldn or less for residential interiors, the following measure shall apply: Any/all new residential construction shall be located at or beyond the 70 dB noise contours, as found in the Cumulative Plus Project conditions tables describing noise contour locations (Table NS-8 and Table NS-9 of this EIR).

Any departure or deviation from the above measure must be accompanied by an acoustical analysis, prepared by a qualified acoustical consultant and verified by the Division of Environmental Review and Assessment, substantiating that the General Plan Noise Element standard cited above is met.

NS-2: Traffic Noise Impacts to Non-Residential Uses: Interior

To ensure compliance with General Plan Noise Element standards for non-residential interiors, as indicated in Table I of the Sacramento County General Plan, the following measure shall apply: Any/all new non-residential construction shall remain outside the 60 to 75 dB contour, as applicable, assuming a 25 dB standard construction reduction, unless sound resistant construction materials are utilized such that interior noise levels do not exceed the applicable noise level standards.

Any departure or deviation from the above measure must be accompanied by an acoustical analysis, prepared by a qualified acoustical consultant and verified by the Division of Environmental Review and Assessment, substantiating that the General Plan Noise Element standard cited above is met.

NS-3: Railroad Noise

To ensure compliance with General Plan Noise Element standards for interior noise levels at sensitive residential receptors subjected to railroad noise, the following policy shall be added to the Corridor Plan:

No use shall be operated or constructed that would result in interior noise levels at sensitive residential receptors that exceed the General Plan Noise Element noise standards. Proponents applying for sensitive uses in close proximity to the Union Pacific Railroad shall submit a noise analysis substantiating compliance with interior noise standards of the General Plan Noise Element noise standards.

NS-4: Community Generated Noise

To ensure compliance with General Plan Noise Element standards for non-transportation sources, the following policy shall be added to the Corridor Plan:

No use shall be operated so as to generate recurring noises that are unreasonably loud, cause injury, or create a nuisance to any person of ordinary sensitivities. No nonresidential use shall be operated so as to generate any noise in an adjacent residential area, as detected in that area without instruments, that is louder than the noise which could be generally expected from uses permitted in that area.

BR-1: Oak Tree Protection

Prior to execution of redevelopment/ development projects within the Corridor Plan area, the project proponent(s) shall submit an arborist report for the project impact areas if appropriate habitat exists. The report shall include the species, diameter, dripline, and health of the trees, and shall be prepared by an ISA certified arborist. The report shall include an exhibit that shows the trees and their dripline in proximity to the project improvements. The report shall identify any tree that will be removed and quantify the dripline encroachment from project equipment or facilities.

a. With the exception of the trees removed and compensated for through Part B below, all healthy native trees that are 6 inches dbh or larger on the project site, all portions of adjacent off-site healthy native oak trees that are 6 inches dbh or larger which have driplines that extend onto the project site, and all off-site healthy native oak trees that are 6 inches dbh or larger which may be impacted by utility installation and/or improvements associated with this project, shall be preserved and protected as follows:

   i) A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.

   ii) Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) “Tree Pruning Guidelines.”

   iii) Prior to initiating construction, temporary protective fencing shall be installed at least one foot outside the driplines of the protected trees within 100-feet of construction related activities, in order to avoid damage to the tree canopies and root systems. Where encroachment occurs, temporary high visibility protective fencing shall be installed a maximum of one foot outside the work areas in order to minimize damage to the tree canopies and root systems.

   iv) Any removal of paving or structures (i.e. demolition) that occurs within the dripline of a protected oak tree shall be done under the direct supervision of a certified arborist. To the maximum extent feasible,

demolition work within the dripline protection area of the oak tree shall be performed by hand. If the certified arborist determines that it is not feasible to perform some portion(s) of this work by hand, then the smallest/lightest weight equipment that will adequately perform the demolition work shall be used.

v) No signs, ropes, cables (except those which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the protected trees. Small metallic numbering tags for the purpose of preparing tree reports and inventories shall be allowed.

vi) No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of protected trees.

vii) No grading (grade cuts or fills) shall be allowed within the driplines of protected trees, except for the minimum required for construction and streetscape improvements.

viii) Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.

ix) No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.

x) The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system per County standard detail shall be installed under the supervision of a certified arborist.

xi) All portions of any masonry wall that will encroach into the dripline protection area of any protected tree shall be constructed using grade beam wall panels and posts set no closer than 10 feet on center. Any wrought iron fencing shall be similarly installed, with posts set no closer than 10 feet on center. Posts shall be spaced in such a manner as to maximize the separation between the tree trunks and the posts in order to reduce impacts to the trees.

xii) Trunk protection measures, per Sacramento County standards, shall be used for all protected trees where development/construction activity, including installation of any masonry wall and wrought iron fence, occurs within 10 feet of the trunk of a tree.

xiii) No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An above ground drip irrigation system is recommended.

xiv) Landscaping beneath oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species which shall be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. A list of such drought-tolerant plant species is available at the Division of Environmental Review and Assessment. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

b. To the maximum extent feasible, all on-site healthy native oak trees shall be protected and preserved. Any substantial (>20%) encroachment and/or removal of native oak trees shall be compensated by planting native trees (valley oak/Quercus lobata, interior live oak/Quercus wislizenii, blue oak/Quercus douglasii, and California black walnut), equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Division of Environmental Review and Assessment. On-site preservation of native oak trees that are less than 6 inches (<6 inches) dbh, may also be used to meet this compensation requirement. Encroachment of over 20 percent within the dripline radius of native trees will require compensatory mitigation based on the percentage of encroachment multiplied by the dbh. Encroachment over 50 percent will require compensation for the entire tree.

Equivalent compensation based on the following ratio is required:

- one preserved native oak tree < 6 inches dbh on-site = 1 inch dbh
- one deepot seedling (40 cubic inches or larger) = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh
- one 36-inch box tree = 3 inches dbh

Replacement tree planting shall be completed prior to the issuance of building permits or a bond shall be posted by the applicant in order to provide funding for purchase, planting, irrigation, and 3-year maintenance period, should the applicant default on replacement tree mitigation. The bond shall be in an amount equal to the prevailing rate of the County Tree Preservation Fund.

Prior to the approval of Improvement Plans or building permits, a Replacement Oak Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Oak Tree Planting Plan(s) shall include the following minimum elements:

1. Species, size and locations of all replacement plantings and < 6-inch dbh trees to be preserved;
2. Method of irrigation;
3. The Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring hole to provide for adequate drainage;
4. Planting, irrigation, and maintenance schedules;
5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement oak trees which do not survive during that period.
6. Designation of 20 foot root zone radius and landscaping to occur within the radius of oak trees < 6-inches dbh to be preserved on-site.

No replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark size trees that are retained on-site, or within 15 feet of a building foundation or swimming pool excavation. The minimum spacing for replacement oak trees shall be 20 feet on-center. Examples of acceptable planting locations are publicly owned lands, common areas, and landscaped frontages (with adequate spacing). Generally unacceptable locations are utility easements (PUE, sewer, storm drains), under overhead utility lines, private yards of single family lots (including front yards), and roadway medians.

Oak trees <6 inches dbh to be retained on-site shall have at least a 20-foot radius suitable root zone. The suitable root zone shall not have impermeable surfaces, turf/lawn, dense plantings, soil compaction, drainage conditions that create ponding, utility easements, or other overstory tree(s) within 20 feet of the tree to be preserved. Trees to be retained shall be determined to be healthy and structurally sound for future growth, by an ISA Certified Arborist subject to Division of Environmental Review and Assessment approval.

If oak tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of $325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.

BR-2: Potential Wetland Features

Prior to execution of redevelopment/ development projects within the Corridor Plan area or installation of public service infrastructure, the project proponent(s) shall submit a wetland delineation to the Division of Environmental Review and Assessment for the project impact areas if appropriate habitat exists. The wetland delineation shall be prepared by a qualified biologist.

When a construction level project is proposed in the future, and appropriate habitat exists on the project site, to compensate for the loss of wetlands and Waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The project design, configuration, and wetland management plan shall provide reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.
2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying Paragraph 1, provided a no net loss of wetlands is achieved.
3. Pay to the County an amount based on a rate of $35,000 per acre of the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Community Planning and Development Department at the

time of Improvement Plan or Building Permit approval, whichever occurs first, and deposited into the Wetlands Restoration Trust Fund.

BR-3: Riparian Habitat

Where riparian habitat exists, the project proponent(s) of redevelopment/ development projects within the Corridor Plan area shall submit a biological assessment performed by a qualified biologist or botanist to the Division of Environmental Review and Assessment delineating the extent of on-site riparian habitat and shall ensure no net loss of habitat consistent with County Policies with the following mitigation:

1. Prior to initiating project construction install chain link fencing or a similar protective barrier at the limits of any on site riparian zone as dictated by the biological assessment in order to protect and preserve the riparian habitat. No earthwork shall be conducted within the protection area and fencing shall remain in place for the duration of all construction work.

Or,

2. Where preservation is found to be infeasible, prior to the issuance of building, grading or other improvement permits, the applicant shall prepare a re-vegetation plan for any altered riparian habitat, consistent with General Plan Policies, that compensates for riparian habitat removals.

   The re-vegetation plan shall be prepared by a qualified biologist or botanist and provide quantifiable success criteria and include at least a one year monitoring and adaptive management program as well as implementation and funding mechanisms. The plan shall be subject to the approval of the Division of Environmental Review and Assessment.

Or,

3. Any mitigation required by the state or federal permitting agencies that compensates for the loss of riparian vegetation, functions and values and that provides for a native re-vegetation plan consistent with or exceeding the requirements of measure 1 above shall be deemed mitigation sufficient to reduce impacts to a less than significant level and may be utilized in place of items 1 and 2 above.

BR-4 Raptor Nesting Habitat

Where appropriate raptor nesting habitat exists, if construction, grading, or project-related improvements are to occur between March 1 and September 15, a focused survey for raptor nests on the site and on nearby trees shall take place within ½ mile of the project site and shall be conducted by a qualified biologist within 14 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Department of Fish and Game (CDFG) shall be contacted to determine appropriate protective measures. If no active nests are found during the focused survey, no further mitigation will be required.

HM-1: Contamination Sites

Prior to the issuance of any building or grading permits on the properties listed in Table HM-1 or Table HM-2 the project applicant shall consult with the Sacramento County Environmental Management Department (EMD), to obtain a site evaluation and to determine the need for a Phase II Environmental Site Assessment, Soil Management Plan or a Health Risk Assessment. If said analyses are required, all site clean-up recommendations, in consultation with EMD, shall be completed prior to the issuance of any building or grading permit, unless EMD approves clearance due to extenuating circumstances.

CR-1: Evaluated Historical Architectural Resources

Significant historical architectural resources within North Watt Avenue Corridor Plan shall be preserved in situ with all proposed modifications carried out to The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings. In the instance that demolition of a significant historical architectural resource is proposed, the applicant shall have a qualified architectural historian prepare a historical report with archival prints of the structure, including architectural details, for CRHR Criterion 3 eligible properties and/or preparation of public interpretation documents (video, articles, local history) for treatment of CRHR Criterion 1 eligible properties. All documentation shall be archived with the Sacramento Archives and Museum Collection Center (SAMCC) and the County of Sacramento.

CR-2: Unevaluated Historical Architectural Resources

Properties that have not been subject to a previous architectural evaluation and are at least 50 years or older shall have a historic architectural study performed by a qualified, professional architectural historian if potential historic structures present on the project site are subject to demolition or otherwise impacted. The resulting report should include results of a background literature search and field survey, an historic context statement, and analysis of the potential significance of the noted resource, and recommendations for preservation and/or mitigation. If the structure is considered significant and demolition is proposed, mitigation documentation, as detailed in Mitigation Measure CR-1, shall be prepared, reviewed and endorsed by the Planning Division.

CR-3: Unanticipated Discoveries of Cultural Resources

If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained at the Applicant's expense to evaluate the significance of the find. If it is determined due to the types of deposits discovered that a Native American monitor is required, the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites as established by the Native American Heritage Commission shall be followed, and the monitor shall be retained at the Applicant's expense.

Work cannot continue within the 200-foot radius of the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2)

not potentially eligible for listing on the National Register of Historic Places or California Register of Historical Resources.

If a potentially-eligible resource is encountered, then the archaeologist, DERA, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations or total data recovery as mitigation. The determination shall be formally documented in writing and submitted to DERA as verification that the provisions of CEQA for managing unanticipated discoveries have been met.

In addition, pursuant to Section 5097.97 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

CC-1: Residential Energy Sector Emission Reductions

Add a policy to the North Watt Corridor Plan requiring that future applicants for residential projects reduce residential emissions by 0.25 MT CO2 per capita. In consultation with the Division of Environmental Review and Assessment and Sacramento Metropolitan Air Quality Management District, applicants shall submit a plan detailing a set of quantitative and/or qualitative measures that achieve the reduction in CO2 emissions per capita, prior to the issuance of building permits or prior to obtaining any discretionary entitlements. This mitigation may be modified to conform with current Sacramento County climate change standards, including but not limited to a Green Building Program and Climate Action Plan. Additionally, applicants may choose to submit revised, project-specific, residential energy-use emissions factors; however, the applicant will be required to provide adequate data to support the revised emission factor.

CC-2: Commercial Energy Sector Emission Reductions

Add a policy to the North Watt Corridor Plan requiring that future applicants for commercial projects reduce commercial emissions by 1.75 MT CO2 per Kft2. In consultation with the Division of Environmental Review and Assessment and Sacramento Metropolitan Air Quality Management District, applicants shall submit a plan detailing a set of quantitative and/or qualitative measures that achieve the reduction in CO2 emissions per Kft2, prior to the issuance of building permits or prior to obtaining any discretionary entitlements. This mitigation may be modified to conform with current Sacramento County climate change standards, including but not limited to a Green Building Program and Climate Action Plan. Additionally, applicants may choose to submit revised, project-specific, commercial energy-use emissions factors; however, the applicant will be required to provide adequate data to support the revised emission factor.

APPENDIX F

Infill Program and Principles

Infill Program and Principles

County of Sacramento

Municipal Services Agency

Approved by the Board of Supervisors
May 14, 2008

COUNTY OF SACRAMENTO
CALIFORNIA

INFILL PROGRAM & PRINCIPLES

BACKGROUND:

The Board of Supervisors recognized the need for an Infill Program and requested the County hire an Infill Coordinator to direct this program. The Board recognized the value of infill development, not only for its environmental benefits of using land more efficiently, but also the benefit quality infill brings to neighborhoods and communities. Quality infill helps to energize communities and contributes to jobs, housing and area sustainability. Vacant lots can be developed into public gathering areas that give communities a sense of place and identity. The Board approved the Infill Coordinator position in September 2007, at the Principal Planner level, and made it accountable to the Deputy Agency Administrator for the Municipal Services Agency (MSA). The Board and the Agency recognize the importance of this program, the challenges and the high level of coordination that is required among most of the Departments in MSA, in order to facilitate Infill development. The Agency is committed to meeting these challenges and working collaboratively with its departments, other jurisdictions, the public, the Development community and other organizations in bringing quality infill projects to the Sacramento County communities.

The County is addressing infill development in many different ways; in the General Plan, Community Plans, Commercial Corridor Plans, the new Development Code, Design Review and through project review. Infill development is generally considered development in established urban areas where services and infrastructure exist. Infill can be development of vacant property, as well as reuse and revitalization of underutilized properties. The infill program and principles focus on key quality, strategic infill projects that are consistent with community values and that enhance existing communities. The infill program is not intended to promote projects that significantly conflict with community planning objectives. The focus is on key commercial, residential and mixed use projects in our aging commercial corridors and other sites that provide similar opportunities.

The primary responsibilities of the Infill Program and Principles include:

- Define what quality infill is.
- Identify constraints and barriers to quality infill development
- Develop County-wide strategies and policies to minimize and where possible

remove those constraints.

- Develop and provide incentives for quality infill projects.
- Develop an outreach program for the county's residents and hearing bodies that will help to inform them on the benefits of a quality infill project.
- Form a project "response team" that will work together to identify infrastructure challenges, coordinate construction of needed infrastructure in targeted areas and serve as a coordination/response team to identified key infill projects.

Much of the efforts of the Infill Program will be to focus resources on the commercial corridor planning and revitalization efforts where the greatest infill opportunities for the County exist. In re-claiming and re-using properties in our existing communities, we can also improve our air quality by reducing vehicle miles traveled, encourage the public to walk and use other available modes, and bring health and sustainability to our communities and those who live there.

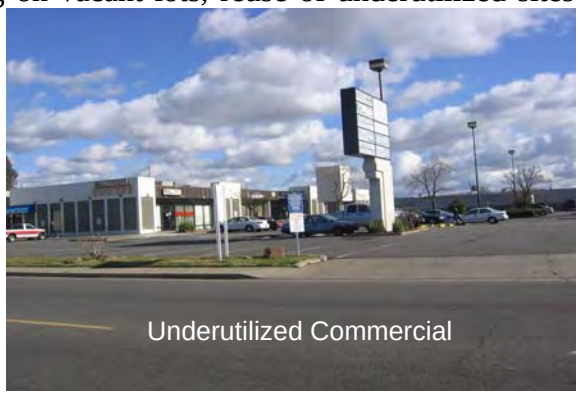
DISCUSSION:

Foundation and Collaboration Building:
The proposed Infill Program and Principles have been developed after much research. Presently, regular meetings are occurring with the County Infill Coordinator and: the City of Sacramento Infill Coordinator, Economic Development and Governmental Affairs staff (Economic Development) Planning and Community Development (Planning) staff; and Sacramento Housing and Redevelopment Agency (SHRA) staff. Other collaboration meetings include meetings with: Valley Vision and the BIA Infill Committee, Sacramento County Department of Transportation (DOT); Department of Environmental Review and Assessment (DERA); Sacramento Area Sewer District (SASD) & Sacramento Regional County Sewer District (SRCSD); Sacramento Municipal Utilities District (SMUD) and Environmental Council of Sacramento (ECOS). As a result of these meetings, infill obstacles and barriers as well as challenges and opportunities have been identified and solutions are developing. Existing policies and practices are currently being looked at by MSA Departments for adaptation within our Infill Corridors. Some new, draft policies are included, (Attachment 1), for consideration of approval by the Policy Planning Commission and the Board of Supervisors within the updated proposed 2008 Housing Element. Additional solutions, once developed, will be brought back to the Board. It is hoped that more concrete solutions will be ready by Fall 2008, if not sooner.

The following definitions and recommended principles are an outcome of this work that forms the building blocks of the Infill Program.

Definition of Infill:
"Infill" is the greater use of property that benefits the urban and suburban community.

"Infill" development generally refers to construction of new housing, workplaces, shops, and a combination of these called mixed-use, within existing urban or suburban areas. This development can consist of: building on vacant lots, reuse of underutilized sites (such as parking lots, underutilized shopping centers and old industrial sites), and rehabilitation or expansion of existing buildings. Infill sites should capitalize on existing urban infrastructure (physical i.e. sewer, water and non-physical i.e. public service availability), and where there is opportunity for access and connection to infrastructure. Through infill, communities can increase their housing, place density along transportation corridors, increase jobs and community amenities without expanding their overall footprint out into open space or otherwise undeveloped lands. "Infill" also contributes to sustainable development; economically, socially and environmentally. "Infill" shall also be consistent with Smart Growth Principles.



Definition of Sustainable Development:

As defined by the United Nations, "Sustainable Development" is development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

Definition of Smart Growth:

The following smart growth principles are widely accepted to encourage more livable communities:

- Mix land uses.
- Take advantage of compact development and design.
- Offer housing choices and opportunities.

- Create walkable neighborhoods.
- Foster distinctive, attractive communities with quality design and a strong sense of place.
- Use existing assets.
- Strengthen and direct development toward existing communities.

- Provide a variety of transportation choices.
- Preserve open space, farmland, natural beauty, and critical environmental areas through natural resources conservation.
- Encourage community and stakeholder collaboration in development decisions.
- Make development decisions predictable, fair and cost effective.

What is Quality Infill?

In determining which projects meet the criteria for Quality Infill and that receive "special handling and assistance" by the County, the project shall meet two of these three tests:

1. It is within one of the locations identified for such projects in the County (i.e. commercial corridors, transit area plans and transit oriented development),
2. The project "itself" stimulates economic and social benefit to the community, and
3. It is a "Quality" project.

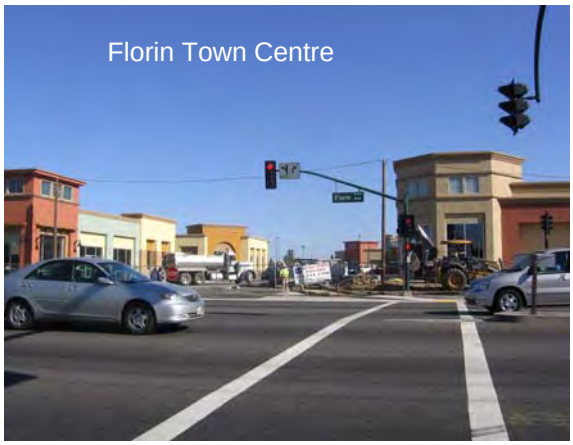
It is recommended that a "Quality" project must meet all of the following:

- Development, redevelopment or reuse of a vacant or underutilized buildings and/ or sites that is surrounded by urban uses. If present, it should eliminate blight and other conditions that deteriorate the neighborhoods.
- Consistency with the County's design guidelines and Infill Program and Principles.
- Enhances and makes a positive contribution to the surrounding neighborhood.
- Consistency with the County General Plan.
- Close to transit (within 1/2 mile), or designated by Regional Transit as having transit available within the near future.

What is Successful Infill Development:

Successful infill development refers to the planning, design, and construction of homes, stores, workplaces and other facilities that make existing communities more livable. It describes the reuse of property and buildings in a way that makes economic sense for

property owners, local governments and the regional economy. Successful infill development channels economic growth into existing urban and suburban communities and conserves natural resources at the periphery. Successful infill looks, feels and functions differently from typical single use, low density development, dominated by autos. It creates neighborhoods and districts where a wide variety of citizens live, work and play. It serves pedestrians and cyclists as well as autos. It is based on the scale of the pedestrian, where the auto becomes an option. Children and the elderly and others can move about independently, without cars, to conduct their daily activities. *Unsuccessful* infill occurs when local governments accept any development proposal. Successful infill does not rely on a single store, ballpark or office building to improve a community. Rather, it weaves a fabric of land uses that support each other. – residences within a short walk to neighborhood-serving shops and businesses, with access to transit and nearby to jobs and open spaces. (The foregoing is an excerpt from "Successful Infill Development," provided by the Northeast-Midwest Institute and the Congress for the New Urbanism). This also describes some of the goals that development of our Commercial Corridor Plans seeks to accomplish.



Proposed Principles of a successful Infill program:

Based on research and review of other jurisdiction's infill programs, input from local Developers and numerous interviews with agencies involved with the challenges of infill, staff identified the following as principles of a successful and quality infill program. They generally fall into three groups: Policy, Information and Outreach, and Coordination with Internal and External customers.

Proposed Principles:

1. **Create Policies, Development Codes and Zoning Codes that support Infill, with the commitment from all to implement them.**
2. **Provide incentives for developing Infill projects (typically financial).**
3. **Engage and provide for neighborhood and community involvement.**
4. **Facilitate quality infill projects through the entire development process that recognizes the difficulty and challenges of infill.**
5. **Reduce and remove barriers to Infill.**

GROUP #1 - POLICY

Principle #1: Create Policies, Development Codes and Zoning Codes that support Infill, with the commitment from all to implement them.

The existing and draft General Plan includes language and policies that support infill development (to identify some: LU-5, 7, 8, 12, 18, 19, 20, 21, 26, 28, 42, 43, 107, 114, CI-7, CI-11, CI-14, AQ 23-26). These policies discourage auto-dependent sprawl development and promote infill development that is compact, mixed-use, pedestrian-friendly and transit-oriented. At the same time the County has regulatory barriers such as zoning and the zoning code, building setbacks, minimum lot sizes, and building codes that present obstacles to developing infill sites. As each Corridor Plan is developed, along with Special Planning Area (SPA) projects (i.e. West Auburn, Old Florintown, and Folsom Blvd Transit Area Plan) many of these issues will be addressed and removed. For the rest of the County, the Board has already hired a Consultant team to revise and update the County's Zoning Code. When this new Development/Zoning Code comes before the Board for review and adoption it will include aspects that allow for flexibility, support infill projects and provide for staff level approvals for infill developments that meet the desired criteria (currently being developed), which will help to expedite project review and approval. This new Development Code will eliminate some of the significant barriers to infill development that exists today.

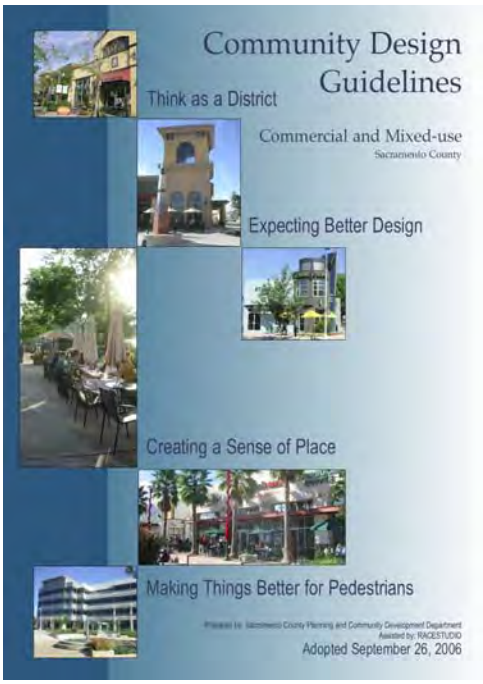
- The new development code will eliminate the use of words that mislead such as "exception" or "variance" and which give the public perception that there is something wrong with these projects.
- The Development Code may propose a new procedure that will grant general, rather than case-specific, Administrative authority to the Planning Director to grant minor modifications from a variety of development standards. For example, a modification allowing 1 or 2 fewer parking spaces out of 100, or allowing an applicant to encroach an extra 12 inches into a 10-foot setback, are two ways this administrative modification authority might be used, is minor in nature, and will go far in expediting some current practices.


No. Highlands Development Code

- Provide flexibility within the improvement standards to accommodate Infill site-specific "existing conditions" constraints where a certain improvement is not necessary or can't fit on the site as designed in the code.
- Create zoning districts that encourage and/or allow mixed use development by right. An example of this is the recently approved North Highlands Town Center Development Code. Under the existing code Developers have to jump through

multiple hoops to gain approval to mix uses within a single project, such as obtaining variances, waivers and/or planned development approval. Other communities in the country recognize that mixed use development can be a key tool for reducing sprawl, concentrate development in strategic locations where it can be serviced most efficiently and providing a variety of housing and business opportunities.

Design Guidelines for Infill: Infill design needs to be addressed in all design guidelines that provide flexibility and yet are commensurate with the County Design Guidelines and Improvement Standards. Quality Infill Projects need to achieve a balance between the goals for providing additional housing and/or commercial opportunities in established neighborhoods with the community's concerns for reinforcing cherished aspects of community character. New Infill development should help create desirable and attractive places.



The County is already using Commercial and Mixed Use Design Guidelines. The draft Multi-family Design Guidelines, for projects with densities of RD-8 and greater, are currently being used by Planning Department staff to evaluate and comment on current proposed projects. The Multi-family Design Guidelines will go to the Board of Supervisors for approval in May. Some of these guidelines address setbacks, heights, landscaping, pedestrian circulation and other items that will be further addressed in the County's new Development Code. Infill projects (which will typically be mixed use or medium to high density residential) will be reviewed under the existing commercial and mixed-use design guidelines as well as the multi-family. This principle focuses on the importance of improving designs of infill projects (a common complaint of residents) and to expand the typical design requirements of "compatible" with the existing neighborhood character.

- Further design considerations for infill projects need to address the possibility that a "future desired character may be more important than compatibility with existing development," and how is this achieved.
- Infill projects need to be creative in minimizing scale contrasts between existing development, and new higher density development.

County improvement standards will most likely need to address infill sites differently

than other areas of the county (i.e. allowing for on-street parking, reduction of parking requirements, minimize areas required for driveways, different frontage improvements, allowing attached sidewalks to continue in areas where they already exist rather than the new "detached" standard). These standards, as an example, can work at cross-purposes for infill development on small sites, which can hamper well-designed infill projects. These are currently being looked at by our MSA Departments for flexibility and modification within the Infill Corridors.

Updating the code and training staff on how to apply and implement the code to support infill-friendly design will help to lessen and remove some of the barriers to infill. This will also facilitate the County Development Streamlining Committee efforts to lessen the time to process projects, a complaint expressed by the Development community.

Response to Global Climate Change and Green Building standards: The passage of AB32, reducing greenhouse gas emissions to 1990 levels by 2020, poses additional policy needs for the County. Infill development supports many of the solutions, and can be part of the strategy, recommended in addressing AB32. As recommended by the State Attorney General, one of the most important actions that the county can take is to shrink our global warming "footprint." The County can do this by:

- Discouraging auto-dependent sprawl and "leapfrog" development.
- Promote infill development that is compact, mixed-use, pedestrian-friendly and transit-oriented.
- Facilitate "Brownfield" and "Greyfield" development and incorporate public transit into project design.
- Discouraging single-occupant motor vehicles by reducing the amount of available parking and providing incentives for use of mass transit, high-occupancy vehicles, bicycling, walking, and telecommuting.
- In responding to Green Building standards, the County needs to incorporate "green building" into our improvement standards and promote energy and resource efficiencies. This effort is currently underway. Changing the way we do business and new technologies can actually decrease development costs. MSA is currently piloting three of the commercials corridors to look at new design ideas for needed infrastructure and development standards as a way to decrease development costs in the corridors.

Principle #2: Provide incentives for developing Infill projects (typically financial).
Typically, effective infill programs include significant financial or other direct support,

from a variety of sources. Some of these incentives include:

- Tax-increment financing
- Acquiring and assembling land
- Fee reductions and deferrals.
- Tiered fee schedules (1 for infill, the other for non-infill).
- Assuming or sharing costs of infrastructure improvements.
- Allocation of general funds and using or leveraging other funding sources such as community development block grants.
- Financial assistance from Economic Development
- Prop 1C Grants
- SACOG Community Design Grants
- Utilizing other grant programs that facilitate complete streets and infrastructure improvements.

Some of these grant opportunities exist in Prop 1C-State Workforce Housing Grant Reward funds tied to the construction of housing projects (at least 15% affordable). Grant funds can be used for infrastructure improvements, lights, and parks for infill. In order to be competitive the County will need to have higher density projects (RD-35 and higher) which are accessible to transit and other amenities. SMUD offers a System Enhancement program in commercial corridors that assist in burying power lines. Other opportunities for incentives that have been suggested and successfully used by other jurisdictions include:

- Use of new Measure A funds (competitive grant program ’09)
- Deferred improvement agreements for certain frontage and site improvements.
- A different set of improvement standards for infill projects.
- Pre-approved residential and commercial improvement plans.

County Staff is presently reviewing the County’s Fee Waiver and Deferral Ordinances. Amendments are being looked at to make this program more desirable for use by Developers. Staff will present additional recommendations on policies and tangible incentives when they have been further developed.

GROUP #2 - INFORMATION AND OUTREACH

Principle #3: Engage and Provide for neighborhood and community involvement – information, outreach, project input. Every infill project will have solicited the input of the neighborhood.

The County has embarked on an aggressive commercial corridor planning program and the infill program will supplement these efforts. The Planning Department has been very successful in engaging residents and getting their input on the various corridor plans.

Most of the quality infill sites available in the County are along our commercial corridors. Infill usually involves more units per acre than what might currently exist on a vacant or underutilized parcel. This tends to generate more neighborhood opposition even when the proposed densities are allowed by zoning and are the same as those of nearby and surrounding areas. Identified as one of the most significant barriers to Infill, on-going dialogue with residents and having a dialogue on what quality infill can be is crucial. Future projects that are sustainable will also more fully mitigate for a greater variety of impacts (i.e. Build It Green building standards) which may be viewed more favorably by residents.

In gaining community acceptance the community needs to be informed and involved in the process. This involves:

- Informing the community on the goals and benefits of infill.
- Listening and responding to their concerns.
- Ensuring high quality, design and sustainability.
- Pointing out, where possible, how the project contributes positively to the community.

Design standards for compatibility are important, as discussed in Principle #1, and Developers need to go further in working with neighborhoods. Developers should be required to meet with residents and solicit their input on the project design before finalizing plans. For projects requiring Planning entitlements, Developers are already being asked to provide their community outreach plan. The Infill Coordinator needs to identify key, quality infill projects and working with the community deliver examples that set the standard for quality infill throughout the County. Only by building upon a foundation of quality projects can residents understand and start to accept that quality infill benefits neighborhoods and communities.

GROUP #3 - COORDINATION WITH INTERNAL AND EXTERNAL CUSTOMERS

Principle #4: Facilitate quality infill projects through the entire development process that recognizes the difficulty and challenges of infill (entitlements to certificate of occupancy). This also includes: coordination of Infill program with internal and external customers.

Team Approach: For the Infill Program to be successful it will require "buy-in" from County Departments, and others. To facilitate this, a response team approach (similar to that successfully utilized by Economic Development) is currently being used. The Infill Coordinator will oversee an Infill Response Team comprised of key personnel from the departments and agencies involved in project review and development. Included, but not limited to: Transportation, County Engineering, Planning, Environmental Review, Infrastructure Finance, Water Quality, Fire Districts, Building Inspection, Water Resources, Economic Development, Water Districts, Park Districts, SHRA, SMUD and others as needed. Additionally, the Infill Coordinator is staff to the Infill Council comprised of the: Agency Administrator, Deputy Agency Administrator, and Directors of Planning, Transportation, Environmental Review, County Engineering, Economic Development, and Sacramento Housing Redevelopment Agency. This Council will assist and advise the Coordinator in facilitating the Infill Program and Projects.

Infill facilitation consists of:

- Development of new policies and changes to administrative procedures that supports Infill.
- Provide higher level of coordination where infrastructure issues need resolution (including the timing and coordination of improvements).
- Help to leverage agency resources (best use of staff, funding, project scheduling to deliver a priority project).
- Resolve issues where one department's mission may be competing with another department or the agency's mission.
- Decide on what projects will be given priority status and the necessary special handling, resources and funding to insure that other projects are not slowed down.
- Targeted priority projects will usually be determined by the Infill Council and carried out by the Infill Response Team or Coordinator.

While the Council is charged with facilitating Infill projects, each MSA department, is charged with:

- Reviewing their current policies and administrative practices to identify where

incentives and changes can be made (i.e. deferral of certain new improvements where improvements already exist, changes to improvement standards/ requirements such as reduced parking, allowing for attached sidewalks where appropriate, assessing current capacity requirements to determine if they are too conservative, or identify a different solution in meeting the level of service requirements).

- Initiate infill incentive programs when coming forward with new fees and fee increases (i.e. a tiered fee schedule with lower fees for infill, when doing fee increases freeze fees for infill projects, fee deferral or fee waivers for infill, new fee programs that would facilitate complete streets or other assistance for infill infrastructure).
- Recommend new policies to remove regulatory barriers and facilitate infill (i.e. change in level of service (LOS) standards to a different standard that measures Mobility (the moving of people, rather than the measurement and efficiencies of moving vehicles), remove obsolete procedures and review bodies, consider more Administrative delegation of Authority).
- The Municipal Services Agency shall initiate and complete the proposed implementation plan (next steps) to facilitate Infill development, which provide solutions to barriers (i.e. reviewing and recommending changes to: current policies, standards and administrative practices, use of pre-approved commercial and single family improvement plans that meet design criteria, streamline and simplify the development review process, provide assistance to move projects through the process when they get "stuck," new building and improvement standards that assist Infill projects while not compromising safety or quality).

Principle #5: Reduce and Remove barriers to Infill:

One primary role of the Infill Coordinator is to identify the major barriers to quality infill development and develop strategies for addressing the removal of those barriers. A special effort was undertaken by Valley Vision/Cleaner Air Partnership and the Northern California BIA to also identify these barriers and develop recommendations on how to remove them. The County is part of this effort along with Sacramento Area Council of Government (SACOG), Regional Transit (RT), ECOS, the City of Sacramento, SHRA, ULI of Sacramento, Sacramento Metropolitan Air Quality District, several Chambers of Commerce, Breathe California of Sacramento and private Development.

In a white paper issued by Valley Vision/BIA (Attachments 2 & 3) barriers were identified for Sacramento that is also common in other jurisdictions throughout the country. These include:

- NIMBYism and barriers to higher densities. Infill involves more units per acre

than currently exists on a vacant parcel. This generates neighborhood opposition and other barriers even when proposed densities are the same as those nearby.

- Traffic Impact Studies required by CEQA. Levels of Service (LOS) standards that drop to "D" or "F" are not acceptable to neighborhoods as "not significant" or "unavoidable" in an environmental report. The review process is drawn out, often without solutions.

- CEQA and CEQA Review time. Problems cited were difficulties with the agency review itself, the minimal thresholds opponents must meet to prove harm, and the ability for objections to be raised at the end of the review process.
- Existing zoning does not encourage, or in some cases even allow, higher density infill. Zoning codes that require projects to obtain entitlements/special permits, variances or request changes and deviations to the code are perceived as "bad projects" by the public.
- The institutional culture of approving bodies can help make or break projects, and the need for political will to maintain momentum in order to provide strong examples of higher density development in the urban and suburban areas.
- Building costs are high, and infill building costs are getting higher.

The major barriers identified with recommended solutions include:

A. "NIMBYism" was clearly the most significant barrier to infill development. Residents have had negative past experiences with bad design, and a perception that higher density brings low-income tenants and a general mistrust of change.

Solutions:

- Prepare and conduct presentations to CPACs, CPCs, Planning Commissions and community groups and organizations informing the community on the goals and benefits of infill.

- Create a coalition to provide for public dialogue and support for higher-density infill projects. This comes through an information and communication forum for an ongoing exchange of views and information among policymakers, members of our Community Councils and Planning Commission, CPAC members, developers and neighborhood advocates on projects and policies that further the General Plan and the principles of Infill. The forum provides

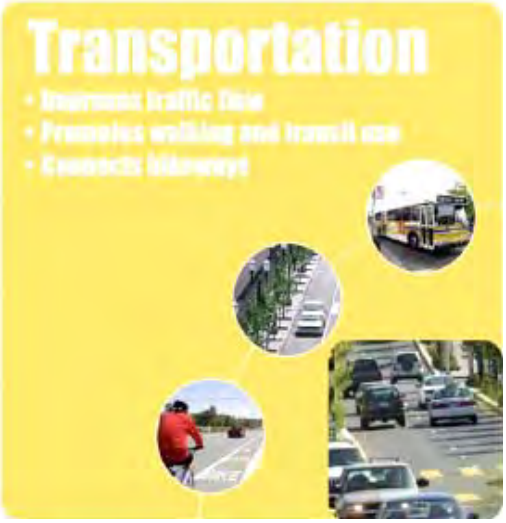
on-going dialogue about development projects, identifies areas of consensus and concern, and opportunities to resolve problems early.

- Another tool to facilitate public information and outreach is the use of computer-based technology to model a project and engage the public in dialogue about the project early on in the process. "Sketch-up" or similar technology has been effective in some communities in achieving dialogue with stakeholders, receiving input and providing benefit to all parties.

B. Congestion is a by-product of infill and higher density development. We need to change the way we typically view our corridors. Rather than measuring the Level of Service (LOS) performance of our roadways, how do we want these public spaces to function considering mobility and the "moving of People" through multiple modes. It's about supporting "complete streets" and "smart streets" that serves many uses, not just vehicles.

Solutions:

- Change County Policy from a LOS standard for traffic analysis, to a new Policy that addresses overall mobility for infill projects, that is consistent with the new General Plan.
- Support policy changes that increase safety and mobility for pedestrians and bicyclists that recognizes slower traffic makes walking and biking safer and more of an option.
- Direct mitigation efforts to enhancing pedestrian, bicycle and transit facilities rather than expanding roadways. Provide information to the community that congestion can be good.



C. Infill Projects, consistent with the General Plan and these Principles, should be expedited.

Solutions:

- Use of a Master EIR for the County's Corridor Projects can provide the majority of necessary CEQA review, avoiding lengthy additional CEQA review in the future. As mentioned in Principle #1 create zoning districts that encourage and/or allow mixed use development. The goal would be for many projects to be allowed by right, after each Corridor Plan and respective EIR has been approved. Developers would have minimal Planning requirements

or entitlements and could proceed to applying for permits. Special development standards that account for infill and corridor constraints and irregularities (corridor specific) will help to provide relief to hard-to-develop sites.

- As part of each Corridor Master Plan (which will include land uses and functions as a type of development plan for the corridor) include a finance plan to share the burden of development costs throughout the entire corridor rather than a parcel by parcel basis. This will also provide more certainty in development.
- Updating the Zoning Code to the new Development Code will eliminate certain unnecessary reviews and entitlements currently required under the code (i.e. reduce setbacks and allow flexibility for better site use and design). The County's effort in Development Streamlining and process improvement supports expediting all projects, not just Infill. With that said, from time to time, priority Infill projects may make requests for special handling due to the special nature of the project.

Additionally, and of utmost importance to the County is infrastructure capacity; roads, sewer, drainage and water. Intensification of commercial corridors has surfaced issues and concerns about infrastructure capacity, availability and access. The County has accepted the challenge to find creative ways keep the costs down for private infill development while still meeting our service delivery requirements.

IMPLEMENTATION AND NEXT STEPS:

The above Program and Principles will guide the County and MSA in the next steps of policy and implementation. These steps include:

1. Identify targeted priority projects that are considered strategic to the County, which meet the requirements of a Quality Infill Project;

2. Designate the 3 Infill commercial corridors, which are currently underway, as priority Infill Areas and focus solutions for Infill barriers in key opportunity areas/parcels that have development or redevelopment potential (i.e. find new solutions to sewer and drainage constraints);

3. Designate the 3 Infill commercial corridors (starting with North Watt Avenue*)

as Pilot areas for purposes of reviewing and recommending changes to: current policies, standards and administrative practices, to identify where incentives can be implemented;

4. Recommend Infill Incentives for consideration by the Board when coming forward with updates to standards, policies, new fees and fee increases; and

5. Approve and implement new policies to remove regulatory barriers and facilitate infill, for review and adoption by the Board (draft policies attached).

*The basis for selecting the North Watt Avenue Corridor as the Pilot Infill Corridor to start in was due to the many resources and opportunities that exist in the Corridor and the timing of the completion of the Corridor Plan. The resources and opportunities include: the recent approval of the North Highlands Town Center Development Code, the receipt of two SACOG grants, presence of development activity along the corridor and on McClellan Park, and funding from Redevelopment and Tax increment sources. The timing is also right for finding and including in the draft Plan creative solutions and new policies for infill infrastructure, which when approved will help to expedite development. The goal is to pool all our resources and focus solutions in each corridor (one corridor at a time) in order to make substantial progress, and then move on to the next corridor. It is expected that results from the pilot corridors will provide incentives or revised standards that may be applied to other corridors.

CONCLUSION:

The proposed Infill Program is designed to identify and address the most pressing issues concerning Infill Development in Sacramento County. As previously stated, one of the first steps is to start identifying priority target areas and projects, that meets the requirements of a “Quality Infill Project,” and facilitate their development. To launch this effort the Agency is recommending three (3) Pilot Corridors (North Watt Avenue,

Florin Road and Fair Oaks Blvd.) to initiate this work, starting with the North Watt Avenue Corridor and then progressing to the others. Types of projects would include: mixed use, housing, community-based retail, and job-creating projects that foster community revitalization.

The Commercial Corridor Plans are progressing and the Agency is an active participant in applying the Infill Program and Principles to all of these areas as they evolve. As the Agency proceeds to "look within" at current policies and practices and starts making recommendations to the Board that facilitate infill and remove barriers, "Legacy" Thinking and "Legacy" Planning will be required so that our efforts are sustainable for decades to come.

Attachments:

1. "Infill Program and Principles" - draft Policies

2. "2007 Infill Barrier Assessment: Barriers Analysis White Paper," September 24, 2007, discussion draft.

3. "2007 Infill Barrier Assessment: Stakeholders Priorities/Areas for Further Development," October 30, 2007, discussion draft.

4. Commercial Corridor Exhibit