

*the*  
**BOULEVARD**

*West End*

Traffic Calming and Pedestrian Environment Enhancement Study



Prepared by:



Prepared for:



Final Submittal  
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# INTRODUCTION

## 1.0 Introduction

The El Cajon Boulevard Traffic Calming and Pedestrian Environmental Enhancement Study (TCPEES) was initiated by the El Cajon Business Improvement Association (BIA) in the Summer of 2012.

### 1.1 Purpose

The purpose of the TCPEES is to identify ways to help generate an active street interface and support the viability of commercial businesses found along El Cajon Blvd. In order to improve pedestrian activity, an effort is needed to increase access along and across the very wide boulevard and to improve walking to and from the adjacent neighborhoods. If any traffic calming methods can be used on this major arterial, then they should be explored in order to improve safety along the corridor. Finally, because of the importance placed on parking along this business district, all recommendations should take into account the protection and efficient use of existing parking and the opportunity to expand parking where ever practical.

### 1.2 Stakeholders

The El Cajon Boulevard BIA is comprised of businesses one block north and south of El Cajon Boulevard from Park Boulevard on the west to just past 54th Street on the east. The portion of the corridor included in this study is the western most portion, from Park Boulevard to I-805. Representatives from the following businesses attended workshops, filled out questionnaires, and contributed to the concepts and recommendations of this study:

- Media Arts Center
- Coffee & Tea Collective
- 30th Street Old MS Shop
- Creative and Performing Arts Center
- Tiger! Tiger! Tavern

- Mama's Lebanese Restaurant
- Route 44 Skate Shop
- Luigi's Pizzeria
- Lips Restaurant
- The Homebrewer
- O'Connor's Church Goods
- Boulevard Gymnasium
- Talmadge Maintenance Assessment District (MAD)
- BIA Staff and Volunteers

### 1.3 Goals and Priorities

The goals and priorities, as identified by Boulevard stakeholders include:

- Make it easier and safer for pedestrians to cross from one side of El Cajon Boulevard to the other;
- Preserve and enhance parking where possible;
- Slow automobile traffic along El Cajon Boulevard;
- Focus improvements near business clusters to encourage improvement/redevelopment; and
- Enhance the pedestrian realm with aesthetic and functional improvements, including street furniture and lighting.

### 1.4 Methodology

The planning team used a three-part approach to identify issues and potential solutions within the corridor:

- Review previous studies and planning efforts;
- Conduct stakeholder workshops to gain insight and concurrence; and
- Conduct fieldwork to identify opportunities and constraints.

Previous studies reviewed by the planning team are listed in Section 1.6 below.

Stakeholder meetings were held 31 July 2012, 13 September 2012, and 28 November 2012. During the workshops, the planning team presented stakeholders with fieldwork findings, mapping/Geographic Information Systems (GIS) analysis, and an array of potential of solutions. Stakeholder input was then integrated into both existing conditions and proposed solutions documentation.

Fieldwork investigation was conducted by the planning team in two-person teams. Two daytime field trips were chosen during the week and one nighttime field trip was chosen during the weekend. The two daytime trips were alternated between morning and early evening.

### 1.5 Study Boundaries

The study boundaries were determined by establishing the "walkshed" of the corridor, meaning the distance a person can travel starting from the signalized intersections along the corridor. Signalized intersections were chosen because these are the official crossing points from areas north of El Cajon to areas south of El Cajon. An average walking pace of three miles per hour (mph) was assumed. The farthest extent of the study area was aligned with a walking distance of 1/4 mile from each intersection, which is generally considered the distance a pedestrian is able to comfortably walk.

The walktime analysis produced a study area that encompasses roughly two blocks on all sides of the corridor. For additional discussion on the walktime analysis, see Chapter 2.



Typical Dark Side Street at Night

### 1.6 Previous/Concurrent Efforts

The El Cajon Boulevard corridor has been studied extensively over the past 20+ years. While each study has a different focus, many also contain elements that affect traffic flow and the pedestrian environment along the corridor. Below are some of the studies which were reviewed as a part of the TCPEES:

- Residential Parking Study (Parallel to Head-in Parking Conversion) 2006;
- Parking Meter Collections 2010;
- Parking Survey Results, 2001;
- Parking Utilization Survey, 2009;
- Mid-City and North Park Revitalization Plan, 1988;
- Mid-City Commercial Revitalization, Physical Rehabilitation Guidelines, 1989.



# EXISTING CONDITIONS



## 2.0 Existing Conditions

The planning team gathered a wide range of data relating to the physical and functional characteristics of the study area. This data was displayed graphically in a series of maps in order to identify patterns of activity, opportunities, and constraints.

Data analyzed by the planning team included:

- Walktimes
- Average Daily Trips (ADTs)
- Vehicle Collisions
- Bicycle Collisions
- Pedestrian Collisions
- Pedestrian Activity Propensity Model
- 2009 Land Use
- 2012 Zoning
- SANDAG Smart Growth Areas
- Potential Residential Unit Increase
- Housing Units per Acre (2010)
- Population Density per Acre (2010)
- Crime
- Projected Population Density (2030)
- Paved Street Width
- Lighting
- Street Trees
- Observed Opportunities and Constraints

The following pages include each of these maps, as well as text explaining the data and methodology used in their creation. Trends and patterns observed from the maps are also explained as it relates to traffic calming and pedestrian improvements along the corridor.

### 2.1 Mobility

The movement of people and vehicles through the study area can create numerous points of conflict within a given area. Systems which clarify right-of-way help to minimize these conflicts, but sometimes additional guidance or



restrictions are necessary to ensure safety. The following maps and text define the walkable area around the west end of the El Cajon corridor, as well as some of the conflicts currently occurring between automobiles, bicycles, and pedestrians.

#### 2.1.1 Walktimes from Signalized Intersections

Walktimes were measured on El Cajon Boulevard from signalized intersections to help define the limits of the study area. Walktimes were based on an assumed 3mph walking speed. Areas that were within a quarter mile of a signalized intersection were shaded in the lightest blue. The perimeter of these areas was then used to define the limits of the study area.

This walking network map illustrates that there are gaps along El Cajon Boulevard where pedestrian crossings should be added. The analysis also depicts areas that are further than a 1.5 or 3.0 minute walk from a signalized intersection. One and a half minutes or roughly 300 feet is the average block length. Crossings spaced further than this require pedestrians to go excessively out of their way to get to locations that may only be the next block over. Closely spaced pedestrian crossings make walking more direct and convenient by offering more opportunities for pedestrians to safely access destinations along the corridor.

A shorter block grid would be more walkable since the overall distance around the block is substantially less when the block size is reduced. However, blocks can not be magically reduced in overall size, but additional street crossings for pedestrians can vastly improve the walkability of an area by providing shorter travel distances that now requires a substantial out-of-distance travel resulting from median closure of intersections to vehicles and pedestrians alike. This has extended effective block lengths and can only be improved by adding new pedestrian only crossing points.

#### 2.1.2 Walktimes from Transit Stops

The same metric of a 1.5 minute walktime or 300 ft distance was applied to the transit stops along El Cajon Boulevard. The length of El Cajon Boulevard is well served by frequent transit stop locations.

#### 2.1.3 Average Daily Traffic (ADT)

The average daily traffic along El Cajon Boulevard ranges from 17,962 to 35,093 vehicles per day. The segments between Texas and Oregon and 30th Street and the 805 carry the highest amounts of traffic. High volumes of traffic are commonly defined as more than 12,000 vehicles per day by the Federal Highway Administration. Therefore, El Cajon Blvd. can be considered a street with very high volumes of traffic which will have implications for what traffic calming and pedestrian improvements are appropriate for El Cajon Boulevard.

#### 2.1.4 Existing Bike Use within the Study Area

El Cajon Boulevard is an important East-West bicycle corridor connection. While Meade and Howard Avenues are designated as regional bicycle routes just to the north and south of El Cajon Boulevard, the Boulevard remains an important direct route serving popular origins and destinations.

In bicycle counts conducted by SDSU's Active Transportation Research Program at the peak hours from 4-6pm in 2011, 18 cyclists were counted at El Cajon Boulevard at the I-805 overpass, and 12 cyclists were counted at El Cajon Boulevard

between Park Boulevard and Georgia Street. Counts conducted on Meade and Howard are higher, and some of the cyclists on these streets may represent latent demand for a bicycle facility on El Cajon Boulevard. Currently, Meade and Howard Avenues are regional bike routes marked only with green Bike Route signs. These streets carry a significantly lower amount of vehicular traffic and are a reasonable low-traffic parallel route alternative to El Cajon Boulevard. However, for those that have a destination on El Cajon Boulevard or desire to ride a more direct route, a bicycle facility on El Cajon Boulevard is desirable.

#### Peak Period Counts (4-6pm, 2011)

Street	West boundary between Park and Georgia Street	East Boundary at the I-805 overpass
Meade Ave	15	30
El Cajon Blvd	12	18
Howard Ave	21	23

Counts conducted by SDSU's Active Transportation Research Program



El Cajon Blvd. does not contain bike lanes

## 2.1.5 Vehicle Collisions

Vehicle collisions are depicted for a 10 year period from 2001 to 2010. It can be observed that there are more collisions along El Cajon Boulevard relative to the neighboring streets. However, it must be kept in mind that there is also more daily traffic on this street as well. Many collisions are clustered near intersections.

## 2.1.6 Bicycle Collisions

Bicycle collisions are also depicted for the same 10 year period. These collisions are only those reported to the police. Many bicycle and pedestrian collision go unreported.

## 2.1.7 Pedestrian Collisions

Two types of pedestrian collision data were available: collisions by type and collision by severity. The following sections provide additional detail on each.

### 2.1.7.1 Type of Collision

The majority of collision types are "Vehicle Violated Pedestrian Right of Way" or "Pedestrian Jay Walking or Against Traffic Signals". These collision types may reveal a need for clearer and more frequent pedestrian crossings throughout the corridor. However, these collisions did occur both at mid-block and at signalized and unsignalized intersections.



*El Cajon is difficult to cross, and in many places, crossing is forbidden*

## 2.1.7.2 Severity of Collision

There were several severe injuries recorded over the past ten years. This is not unexpected due to the high traffic amounts and speeds along the corridor.

## 2.1.7.3 Collision/Pedestrian Model Overlay

The intersection with the most pedestrian collisions was El Cajon Boulevard and Kansas Street, followed closely by El Cajon Boulevard and 30th Street. It is to be expected that pedestrian collisions would occur a higher number of pedestrian collisions would occur in locations that have a higher than normal level of pedestrian activity (as can be seen on the pedestrian model discussed under section 2.1.7). However, the fact that the pedestrian model and collisions line up well is also due to the fact that collisions are considered as a factor in the pedestrian model. They represent an area of pedestrian activity in need of improvement.

## 2.1.8 Pedestrian Model

The pedestrian model was developed to determine the most likely areas where pedestrians either currently utilize or would utilize if some corrective pedestrian issues were resolved. The model identifies existing and potential pedestrian activity areas that are also areas that warrant additional pedestrian improvements because of the presence of barriers, detractors, attractors and other factors contributing to high levels of pedestrian use. These include features such as schools, transit stations, parks, land use, employment density, collisions, speed limits and average daily traffic. The composite of all of these factors identify areas with the highest concentration of factors that help to predict walkable or potentially walkable conditions.

## 2.2 Land Use/Zoning

Existing characteristics of the study area, such as land use and urban form can be described by land use and zoning maps. Land use can refer to either existing or future uses in general terms of the types of activities that are occurring or that should occur in that area. Zoning provides similar information, but in more specific terms and on a parcel-by-parcel basis. Other planning documents/designations such as community planning areas, smart growth areas, and business improvement districts further detail the urban form and activities currently allowed and envisioned in the future.

## 2.2.1 SANDAG Current Land Use (2009)

Data provided by SANDAG reveal the existing land uses present in the study area. Existing land use represents the activity that is currently occurring on a parcel, which is distinct from the existing zoning that assigned to a parcel. The land use and zoning may correlate in some cases, while in others, they may not.

The maps show that the area surrounding the El Cajon corridor is dominated by single family and multi-family residential land uses. Two consolidated school sites occur to the west and north of the corridor. A park exists between Oregon and Idaho Streets, and the east end of the corridor is bounded by a freeway. The El Cajon corridor itself consists primarily of commercial/office land uses, with interspersed light industrial, utilities, residential, and institutional uses.

The parcels indicated as "Developable Land" in the Smart Growth/Transit Corridor by SANDAG are almost exclusively parking lots, falling within the "Transportation" land use.

## 2.2.2 City of San Diego Zoning

The city's zoning designations within the study area vary, although they generally reflect the existing land use patterns of commercial along the corridors of Park, El Cajon, and 30th Street, and residential zones behind/between these corridors. The entire study area is overlain with the Mid-City Communities Planned District, which provides additional guidance for proposed developments.

Zones within the study area include:

- MCCPD-CL-1: Commercial Linear/mixed use development, auto focused along corridors. One residential dwelling unit per 400-600 SF of lot area, low Floor Area Ratio (FAR) for other development.
- MCCPD-CL-2: Commercial Linear/mixed use development, auto focused along corridors.
- MCCPD-CN-1: Commercial Node/mixed use development, pedestrian focused on nodes/corridor intersections. One residential dwelling unit per 400 SF lot area, low-moderate Floor Area Ratio (FAR) for other development.
- MCCPD-CN-3: Commercial Node/mixed use development, pedestrian focused on nodes/corridor intersections. One dwelling unit per 1,000 SF lot area, low-moderate Floor Area Ratio (FAR) for other development.

- MCCPD-CV-3: Commercial Village/mixed use development, pedestrian focused. One residential dwelling unit per 1,000 SF lot area, low Floor Area Ratio (FAR) for other development.
- MCCPD-MR-800B: Mid-City Residential, Multi-Family, generally one dwelling unit per 800 SF lot area.
- MCCPD-MR-1000: Mid-City Residential, Multi-Family, generally one dwelling unit per 1,000 SF lot area.
- MCCPD-MR-1250B: Mid-City Residential, Multi-Family, generally one dwelling unit per 1,250 SF lot area.
- MCCPD-MR-1500: Mid-City Residential, Multi-Family, generally one dwelling unit per 1,500 SF lot area.
- MCCPD-MR-1750: Mid-City Residential, Multi-Family, generally one dwelling unit per 1,750 SF lot area.
- MCCPD-MR-2500: Mid-City Residential, Multi-Family, generally one dwelling unit per 2,500 SF lot area.
- RM-1-2: Multiple family units allowed at a density of one unit per 2,500 SF of lot area.
- RS-1-7: Single family unit allowed with minimum lot size of 5,000 SF.

The parcels indicated as "Developable Land" in the Smart Growth/Transit Corridor by SANDAG are zoned for multi-family residential and mixed use (commercial/residential).

## 2.2.3 SANDAG Smart Growth Areas

In 2004, SANDAG adopted the Regional Comprehensive Plan (RCP) for the San Diego region. The RCP provides a vision for the region based on smart growth and sustainability. A key implementation action of the RCP has been the development of a "Smart Growth Concept Map" illustrating the location of existing, planned, and potential smart growth areas.

Smart growth is characterized by more compact, higher density development in key areas throughout the region that is walkable, near public transit, and promotes good community design. Smart growth results in more housing and transportation choices for those who live and work in smart growth areas.

The Concept Map contains more than 200 locations in seven smart growth categories identified in the RCP. The seven smart growth "place types" include: the Metropolitan Center, Urban Centers, Town Centers, Community Centers, Rural Villages, Mixed Use Transit Corridors, and Special Use



*The Renaissance on El Cajon is an example of potential densities along the corridor*

Centers, reflecting the notion that smart growth is not a “one-size-fits-all” endeavor. El Cajon Boulevard is designated as a “Mixed Use Transit Corridor” by SANDAG. This Smart Growth Place Type is characterized by:

- Areas with concentrated residential and mixed use development along a linear transit corridor;
- Variety of low-, mid- and high-rise buildings, with employment, commercial and retail businesses; and
- Draws from nearby communities.

### 2.2.4 Potential Unit Increase

At any given time, a community’s land use and/or development density may differ from the plans and regulations developed for that community. These plans attempt to steer the development of a community in a certain direction, but can only do so incrementally through oversight of new development and redevelopment. In order to identify areas that may experience the most change, one must compare existing develop patterns with the adopted forward-looking planning documents.

The potential unit increase graphic provides this comparison by analyzing the existing dwelling units on each parcel to the number allowed by adopted zoning/community plan documents. The difference between these two numbers is the potential unit increase. Because projects that yield a greater number of units tend to be more economically viable, the areas with the greatest discrepancy between existing and allowed units could be the most likely to be developed/redeveloped.

The analysis reveals that areas within the study area most likely to experience change occur along El Cajon Boulevard, along Park Boulevard, and to the northeast of 30th Street and El Cajon. The area with the greatest potential increase in units is immediately along El Cajon Boulevard, most likely because of the existing low level of residential/mixed use development. The two parcels with the highest potential unit increase are the sites of the Lafayette Hotel and the church at the southeast corner of Meade Ave. and Park Blvd.

The “Developable Land” parcels in the SANDAG Smart Growth/Transit Corridor could also accommodate a low to moderate amount of additional units (generally a range of 5-50 units). This is not surprising since many of these parcels are underdeveloped or currently serve as parking lots.

### 2.2.5 Maintenance Assessment Districts

Maintenance assessments districts are formed by the properties that benefit from some level of physical improvement that has a maintenance component to them. Under state laws, a super majority of those assessed on their property taxes for these benefits, must agree to the assessment. In most cases, expenses are limited to ongoing landscape maintenance and for the costs of operating utilities such as water and power. In some cases, depending on how the MAD was established, certain capital costs are allowed. The Greater North Park area has recently attempted to expand the scope and funds available for their maintenance district. However, these recent ballot attempts have failed. Both the MAD and the BID boundaries overlap.

### 2.2.6 Business Improvement Districts

A Business Improvement District (BID) is a type of assessment district in which business owners choose to be assessed a fee for use in promoting and improving the business area. There are approximately 18 BIDs in the City of San Diego. BIDs are typically initiated by local business owners or business associations and must follow a legal process that includes a public hearing. Traditionally, BIDs are used to pay for:

1. Public improvements and beautification programs (e.g. streetscaping, banners, entry monuments);
2. Commercial marketing (e.g. image building campaigns, shop local campaigns, special events);
3. Business recruitment and retention programs (e.g. surveys to identify desirable business types, business networking).

BIDs within the City of San Diego receive assistance from the City’s Office of Small Business in areas such as retail business recruitment, technical assistance, and the City’s Storefront Improvement Program. Many BIDs receive funding through City grants and assessment matches and sources such as City Transient Occupancy Tax (TOT) and City parking meter revenues.

The study area encompasses two BIDs: The El Cajon Boulevard “Gateway” BID and the North Park “Main Street” BID. The El Cajon Gateway BID extends the length of El Cajon Blvd. in the study area, and a width of one street to the north (Meade Ave) and to the south (Howard Ave.). The portion of the North Park Main Street BID within the study area occurs on either side of 30th Street starting at Howard Street and extending southward to the study area boundary.

## 2.3 Demographics

Demographics are reported in both physical and behavioral terms. Both housing units per acre and population density (existing and projected) can be observed either directly or indirectly in the built environment. Criminal activity, on the other hand, has little impact on the physical environment but influences the perception and character of an area nonetheless.

### 2.3.1 Housing Units per Acre

The housing units per acre graphic displays information obtained from the 2010 U.S. Census. The data is tabulated per census block. In the vicinity of the study area, densities range from zero to 30+ dwelling units per acre, with the majority of blocks being characterized as between 16-30 dwelling units per acre. For reference, a typical block near the study area is approximately 5.5 acres (625’ x 375’), yielding a range of approximately 88 to 165 units per block.

Along the frontage of El Cajon Boulevard, however, housing units are much scarcer. This results from the predominance of commercial/office development vs. residential/mixed use development. The typical range immediately along El Cajon is zero to five units per acre.

The data reported for the individual parcels identified as “Developable Land” in the SANDAG Smart Growth/Transit Corridor represents the data for the entire census block, and not necessarily the individual parcel. Therefore, no direct observation can be made about the housing units per acre of these parcels.

### 2.3.2 Population Density

The population density graphic displays information obtained from the 2010 U.S. Census related to residential population. The data is tabulated per census block. In the vicinity of the study area, densities range from zero to 50+ persons housed per acre, with the majority of blocks housing 21-50 persons per acre. For reference, a typical block near the study area is approximately 5.5 acres (625’ x 375’), yielding a range of approximately 115 to 275 persons per block.

As with the trend in housing units per acre, the population density adjacent to El Cajon Boulevard is much lower than the surrounding neighborhoods. This results from the predominance of commercial/office development vs. residential/mixed use development. The typical range immediately along El Cajon is zero to ten persons per acre.

The data reported for the individual parcels identified as “Developable Land” in the SANDAG Smart Growth/Transit Corridor represents the data for the entire census block, and not necessarily the individual parcel. Therefore, no direct observation can be made about the population density of these parcels.

### 2.3.3 Crime

The planning team studied a six-month period of reported crimes within the study area from March 2012 to September 2012. Types of crimes included in the analysis include: burglary, drugs/alcohol, vandalism, robbery, assault, sex crimes, larceny, vehicle break-in, vehicle theft, fraud, and weapons.

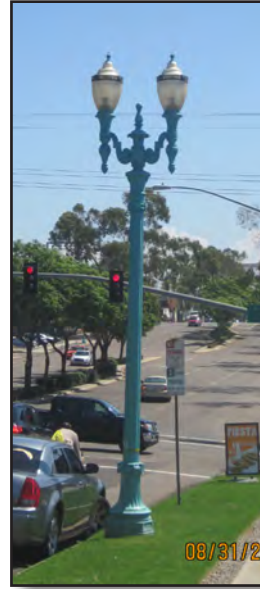
In general, crimes were reported along all segments of the corridor. Some broad clusters of criminal activity surfaced, however, when all crime types were overlaid. These areas include: between Florida and Texas Streets, along Texas Street, between Oregon and 30th Streets, and between Ohio and Iowa Streets. The most prevalent single type of reported crime was related to drugs/alcohol.

### 2.3.4 Projected Population Density

The projected population density graphic displays the expected population density in terms of persons per acre in the year 2030. These projections are tabulated by census block by SANDAG.

The graphic displays an increase in population density for most blocks. The study area appears to be evenly split between blocks of 21-50 persons per acre and those with 50+ persons per acre. This contrasts with the existing situation where a vast majority of blocks house 21-50 persons per acre.

While the graphic displays an overall increase in population density for the study area, it maintains the existing distribution of population to the north and south of the El Cajon corridor. The projection shows an increase in population density where residential uses currently exist, but a lack of growth in parcels currently without residents. This is likely to change if more mixed use development occurs along the corridor as called for in zoning and community planning documents.



## 2.4 Built Form Characteristics

Lastly, the built form greatly influences the existing character of El Cajon Boulevard and the neighboring community. In particular, street width, lighting, and street trees are three major elements that constitute the built form of the study area.

### 2.4.1 Paved Street Width

The paved street width of El Cajon Boulevard is 51 ft, with one segment of 42 feet between Illinois St. and Iowa St. Many of the neighboring streets in North Park are a similar width which creates a large difference between El Cajon Boulevard being relatively constrained for width considering the amount of traffic it holds per day when compared to the lighter traveled but equally wide side streets.

### 2.4.2 Lighting

Lighting along El Cajon Boulevard is inconsistent. In general, lighting levels could be higher along this street in order to help activate the street, to make the storefronts more inviting and to lower real or perceived criminal activity. Parts of the Boulevard have adequate lighting, while several parts of the corridor are missing lighting systems. Adjacent streets that are perpendicular to the Boulevard, often have very low levels of lighting. Care must be given to make a light transition occur from areas of high lighting levels to areas of darkness. Sometimes, if the transition is too abrupt, the human eye can not adjust quickly to highly



*Jacaranda trees within the median west of Texas Street*

varied lighting levels, and is temporarily unable to process visual information quickly. These bright to dark spots are where criminal activity can occur without much warning to the user.

Lighting levels vary along the length and are greatly affected by the current building occupants and the private lighting they may or may not be providing. The West end of El Cajon Boulevard between Georgia Street and Louisiana Street is better lit due to the addition of pedestrian-scale decorative acorn lights. The remainder of the Boulevard is sparsely lit and the map depicts roughly how much light is cast by these public street lights. The side streets were not mapped, but are also not well lit.

Lighting is considered an important factor in determining pedestrian safety and perception of safety. Improved lighting can improve feelings of security as well as improve pedestrian visibility for reducing pedestrian collisions.

### 2.4.3 Street Trees

El Cajon Boulevard is lined by eucalyptus trees on either side and jacaranda trees are found along the medians the length of the study area. The eucalyptus trees provide a substantial amount of shade for pedestrians.

## 2.5 Other Observations

The planning team also conducted fieldwork to document other activities and characteristics that influence the public realm of El Cajon Boulevard. These observations included items like areas of commercial/pedestrian activity, perceived areas of safety/danger, automobile and pedestrian travel routes, built form “character areas”, as well as general opportunities and constraints.

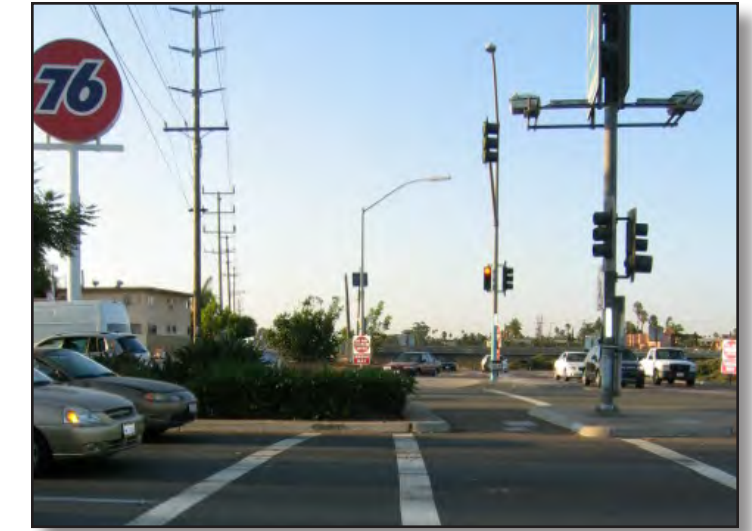
## 2.5.1 Constraints and Opportunities

The planning team consolidated observed opportunities and constraints into a single graphic for the corridor. This graphic shows many of the elements that add to or detract from the pedestrian realm of the corridor which may not have been captured in the data-driven maps. Examples include mural art, traffic signals, activity nodes, well/poorly lit areas, character areas, and pedestrian crossing conditions. The maps also include site plan information from the proposed Mid-City BRT stations along the corridor.

The observations reveal that the corridor has many pedestrian conflicts and lacks pedestrian amenities. Conflicts relate to the wideness of El Cajon Boulevard (a long distance to cross), limited number of legal crossing points (long distance to get to a crossing point), numerous non-compliant curb ramps (difficulties for accessibility), and the overall number and dominance of automobiles (noise, speed, and visibility conflicts). The lack of pedestrian amenities includes inconsistent lighting (and even less pedestrian-scale lighting), benches, and signage/wayfinding.



*The signals on El Cajon should be able to be synchronized since they are linked. However, individuals have indicated that they have not by synchronized for years.*



*El Cajon and I-805 has no entry monumentation*

Opportunities and amenities also exist within the corridor, however. Activity nodes have started to emerge that enliven the streetscape and draw in additional people/activity. Some of these nodes were observed at Alabama Street, Louisiana Street, Oregon/Idaho Streets, and 30th/Ohio Streets. Existing murals also beautify the corridor in several locations, provide color and character to otherwise blank/monotonous walls. The sidewalk width is ample throughout the corridor and the overall condition of the sidewalks is adequate. The improvements planned as a part of the Mid-City BRT will further enhance three intersections and opportunities exist to increase parking on many side streets. Lastly, because of the length of the corridor and some of the blocks, opportunities for additional/enhanced pedestrian crossings of El Cajon may be possible.



DESIRED ELEMENT SURVEY		
Frequency of Priority	Element	Grouping
9	Safe and Non-confrontational Environment	
8	Encourages New Investments from Developers with New Projects	Very High Consensus
8	Well Lit Walkways	
7	A Very Walkable Street Along its Edges & at Street Crossings (may create some congestion)	
7	Supports Social Interaction on the Street	
7	Traffic Calmed with Minor Congestion at Peak Times but Slower Overall Traffic	
6	Business Supportive	High Consensus
6	Encourages New Investments from Existing Owners through Renovations	
6	Celebrates Public Art / Design	
6	Dynamic Design Elements that Attracts Users throughout the Day and Night	
5	A Very Bikeable Street (may require loss of one-lane of traffic or some parking)	
4	Captures the Legacy of the Original Highway	
4	Improvements that will Support Healthy Community Initiatives (assuming funding to help pay)	
3	Complete Street (bike, pedestrian, transit = increased facilities, vehicular = decreased facilities)	
3	Transit Supportive	
3	A Place to Eat	
3	A Place to Shop	Important to Several
3	Urban Forest including Large Street Trees and Bio-Swales / Planted Parkway Strips	
3	Wayfinding Clarity (Use of District Identification Signs as well as Directional Signs)	
3	Attractive & Organized	
3	Improvements that will Support Future Smart Growth (assuming funding to help pay for it)	
2	Historic Resources Noted	
2	Traffic Efficient Flows with No Congestion	Important to a Few
2	Native / Drought Tolerant Landscapes	
1	A Place to Work	
0	Celebrates Ethnically Diverse Areas and Multiple Cultures	Not Important
0	Relating to Themes of the Automobile	

Table 1: Desired Element Survey



El Cajon near Park Blvd. has a high quality entry monument. Though the Boulevard is linked in character and history to the automobile, it does not mean the corridor should make vehicular use a priority over pedestrian uses and safety.

## 2.6 Stakeholder Input

Business owner input was solicited during the course of the study in two different ways: stakeholder workshops and questionnaires. The two methods allowed for greater participation

### 2.6.1 Workshop Input

One kickoff meeting and two workshops were held to gather input from stakeholders. The kickoff included general discussion about the study area and previous/on-going efforts. At the first workshop, stakeholders discussed existing conditions, issues, and opportunities within the study area; and at the second they provided input on the recommended improvements along the corridor. Topics which surfaced during the kickoff and workshops included:

- Diversifying modes of travel on the corridor;
- Providing ample and convenient parking/preserving existing parking;
- Enhancing safety within the corridor, but especially between street parking and businesses;
- Reducing vehicle speeds throughout the corridor;
- Focusing improvements in “clusters” to encourage redevelopment in key locations;
- Making improvements such as bulb-outs, ladder-style crosswalks, street furniture, and mid-block crossings to increase pedestrian convenience and safety;

- Improving and expanding bicycle facilities such as bike lanes, bike corrals, and bike racks;
- Synchronizing traffic signals to improve both vehicular and pedestrian movements, and to help regulate vehicle speed;
- Establishing signage/monumentation at El Cajon and I-805 to denote entry into the corridor

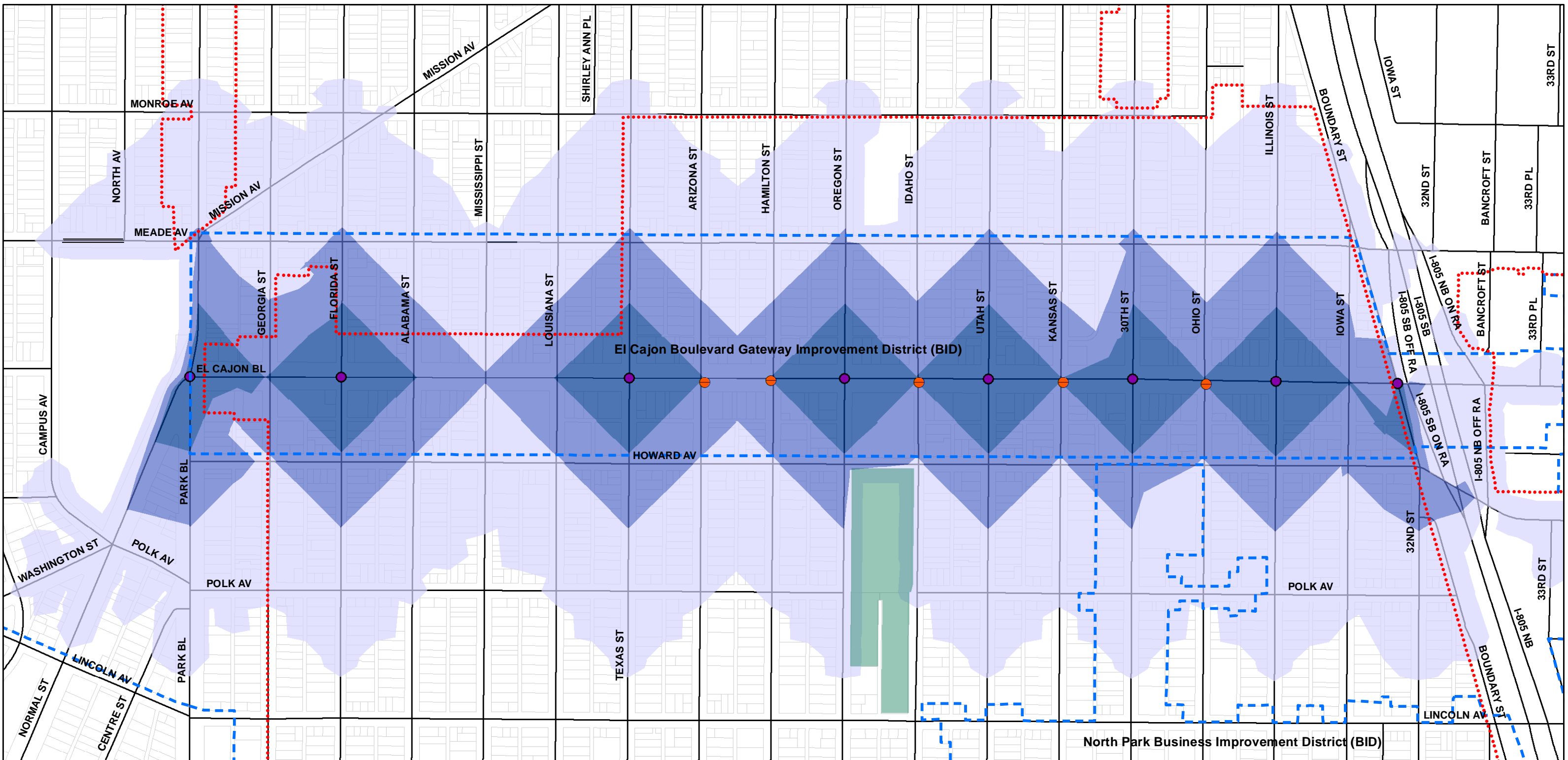
### 2.6.2 Stakeholder Questionnaires

Two sets of questionnaires were also distributed to gain additional insight from area stakeholders. The first set of questionnaires asked stakeholders to prioritize types of elements they envisioned in the future of the study area. A total of twelve questionnaires were returned and Table 1, Desired Element Survey, shows the results, grouped by popularity.

This prioritization shows that stakeholders are most concerned with providing a safe and well-lit pedestrian environment, encouraging redevelopment, and improving the pedestrian environment overall.

A second set of questionnaires was circulated after the existing conditions workshop, asking stakeholders to provide additional input on workshop materials as well as additional questions. Nine stakeholder questionnaires were returned. Input received from these questionnaires identified the following themes:

- Much of the corridor is poorly lit
- Stakeholders are concerned about any loss of parking
- There is a lack of pedestrian/bicycle amenities such as trash receptacle, bike racks, shade trees, etc.
- El Cajon Boulevard is difficult to cross; additional/improved crossing would be beneficial

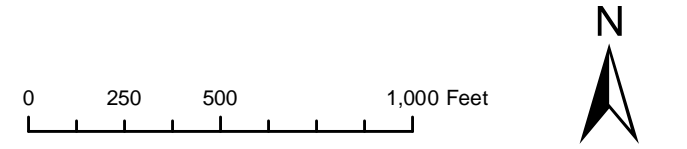


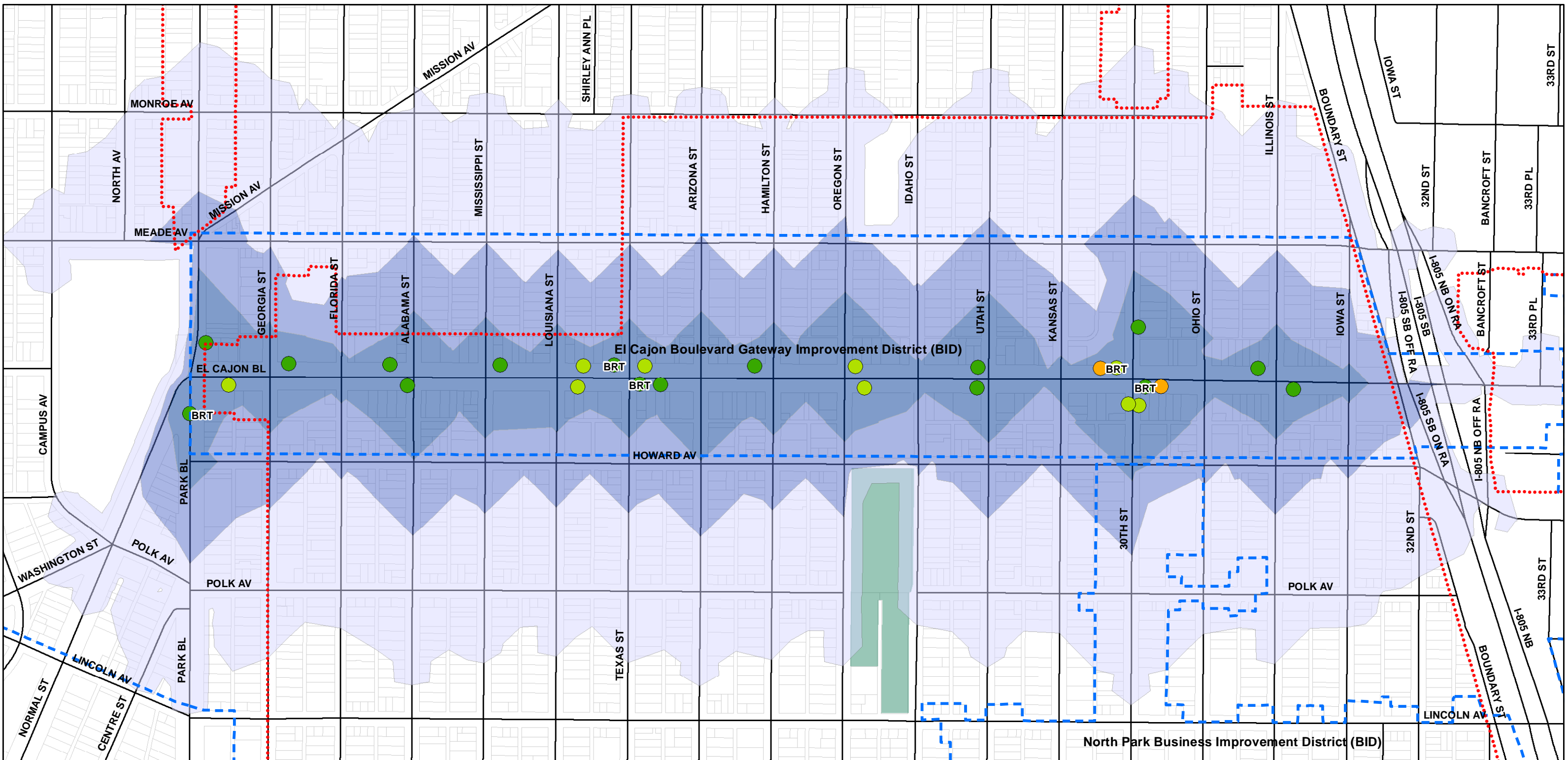
**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- Neighborhood Park
- Signalized Intersection
- Left Turn / No Signal / No N/S traffic

- Walktime\***
- 3 - 6 minutes (1/4 mile)
  - 1.5 - 3 minutes (1/8 mile)
  - 0 - 1.5 minutes (1/16 mile)

\* Walktimes are based on an assumed 3mph walking speed

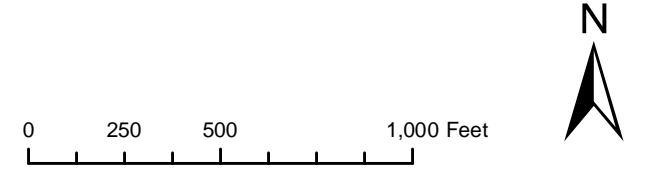


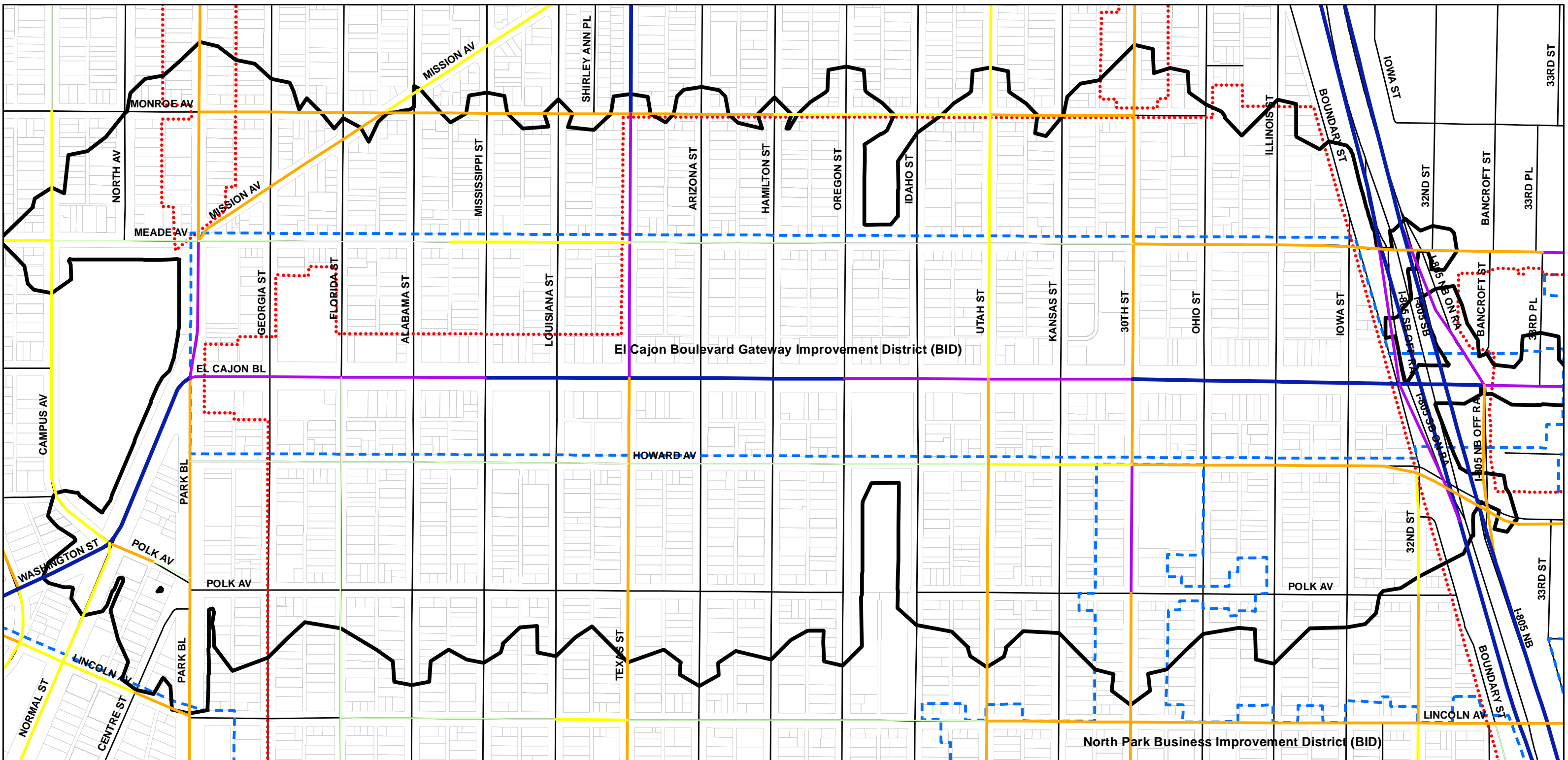


**Legend**

- ⋯ Maintenance Assessment Districts
  - - - Business Improvement Districts
  - Neighborhood Park
- | Transit Stop Ridership                           | Transit Walktime*   |
|--|---|
| <span style="color: green;">●</span> 0 - 100     | <span style="background-color: #E6E6FA; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 3 - 6 minutes (1/4 mile)    |
| <span style="color: #90EE90;">●</span> 101 - 500 | <span style="background-color: #66B3FF; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 1.5 - 3 minutes (1/8 mile)  |
| <span style="color: orange;">●</span> 501 - 1400 | <span style="background-color: #4682B4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 0 - 1.5 minutes (1/16 mile) |

\* Walktimes are based on an assumed 3mph walking speed





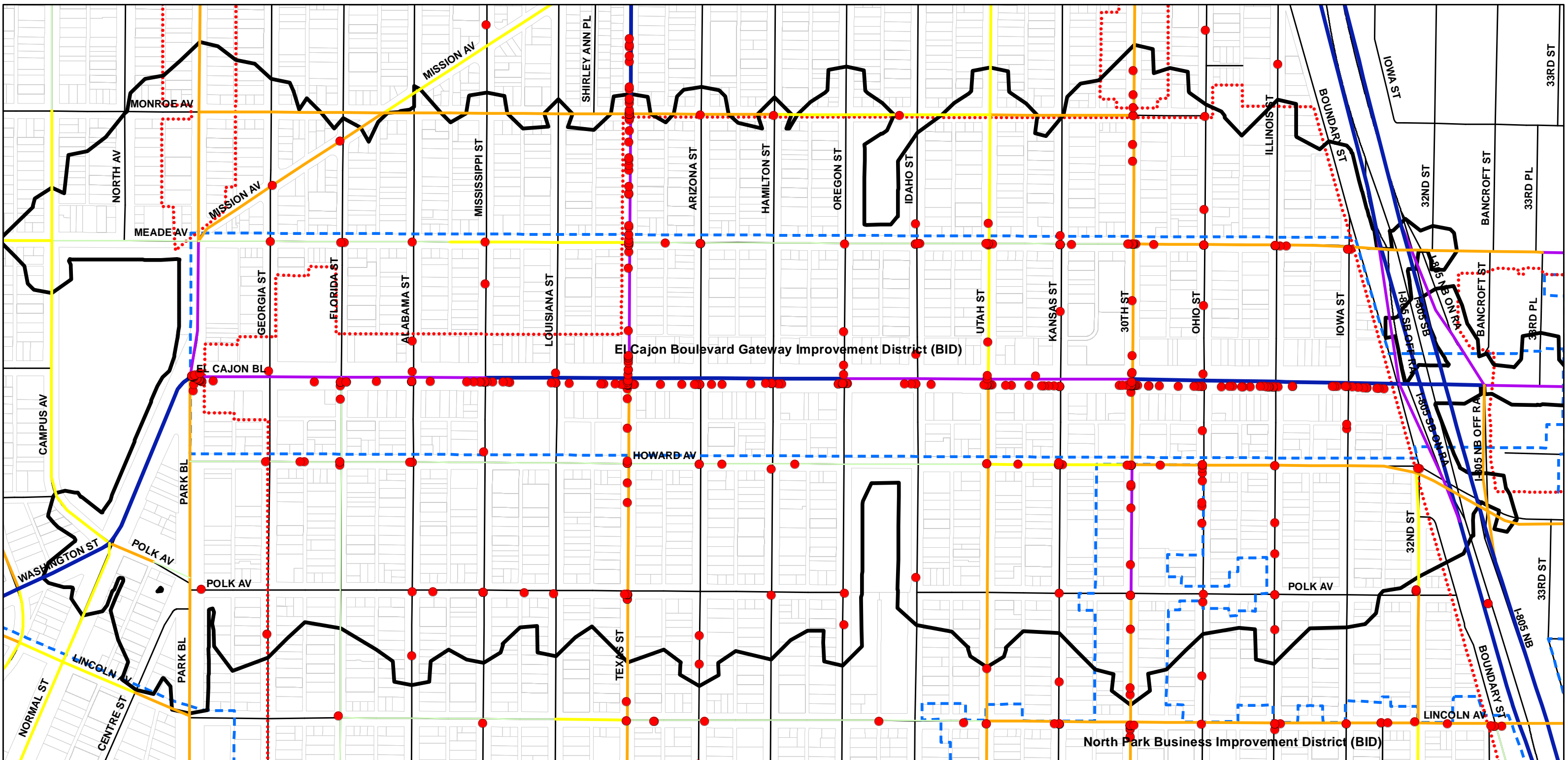
**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime

**ADT (2008)**

- 15 - 1,000
- 1,001 - 3,000
- 3,001 - 10,000
- 10,001 - 20,000
- 20,000+

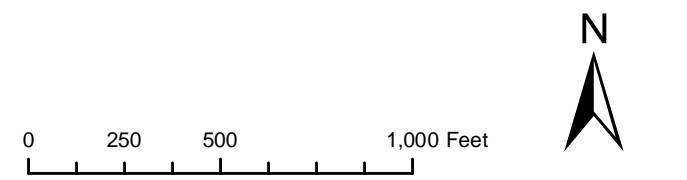
0 250 500 1,000 Feet

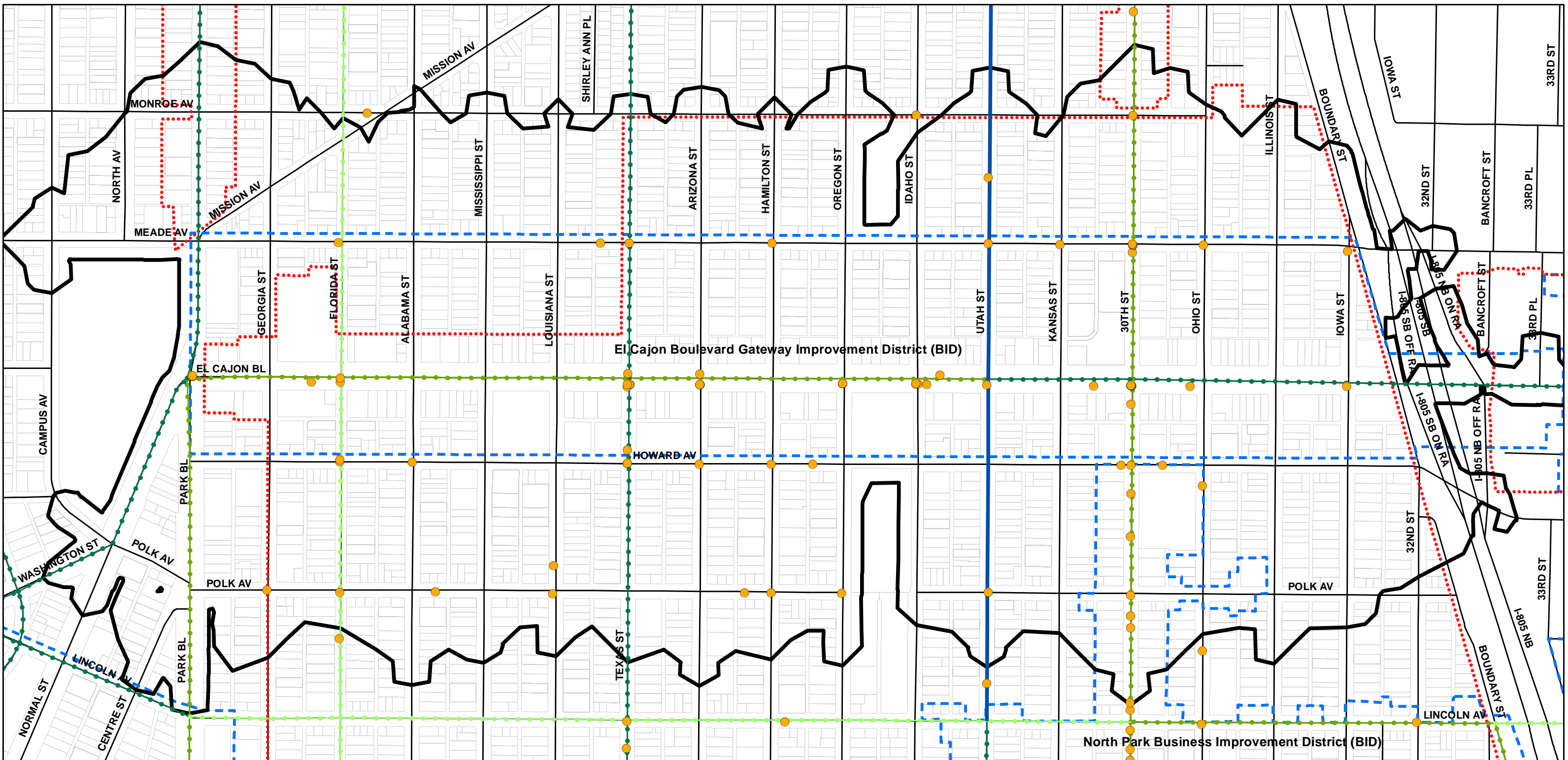


**Legend**

- ⋯ Maintenance Assessment Districts
  - - - Business Improvement Districts
  - 6 Minute Transit Walktime
- ADT (2008)**
- 15 - 1,000
  - 1,001 - 3,000
  - 3,001 - 10,000
  - 10,001 - 20,000
  - 20,000+

- Vehicle Collisions 2001-2010 (Source: Transportation Injury Mapping System, tims.berkeley.edu)
- \*Source: Transportation Injury Mapping System, tims.berkeley.edu

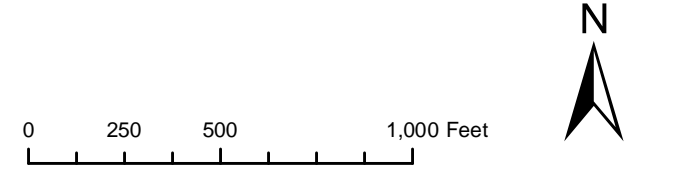


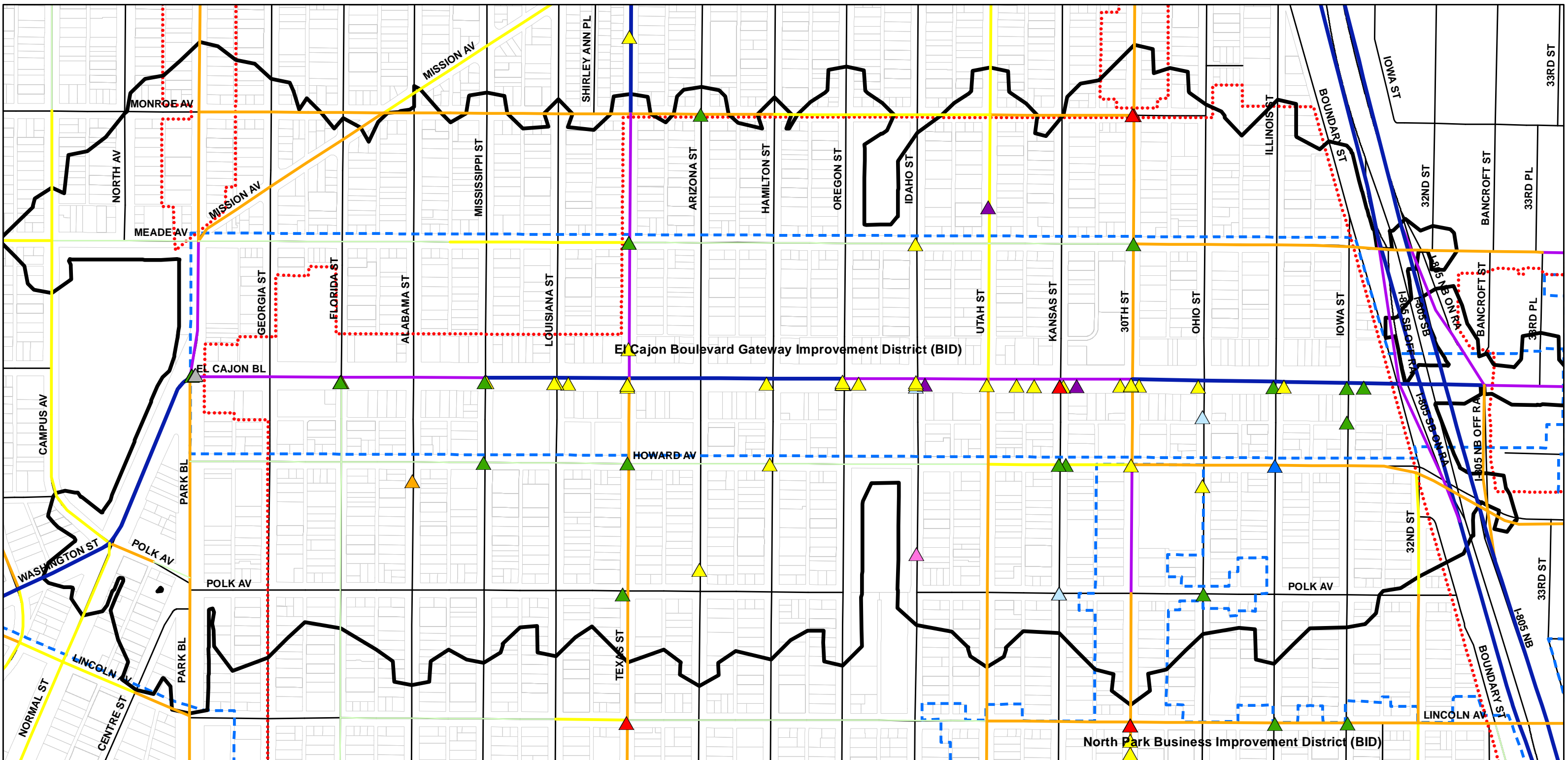


**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime
- Existing Bicycle Facilities**
- Bike Lane
- Proposed Bicycle Facilities**
- Bike Lane
- Bike Lane or Route
- Bike Route
- Bike Collisions 2001-2010

\*Source: Transportation Injury Mapping System, tims.berkeley.edu



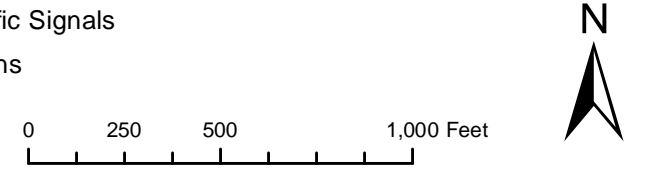


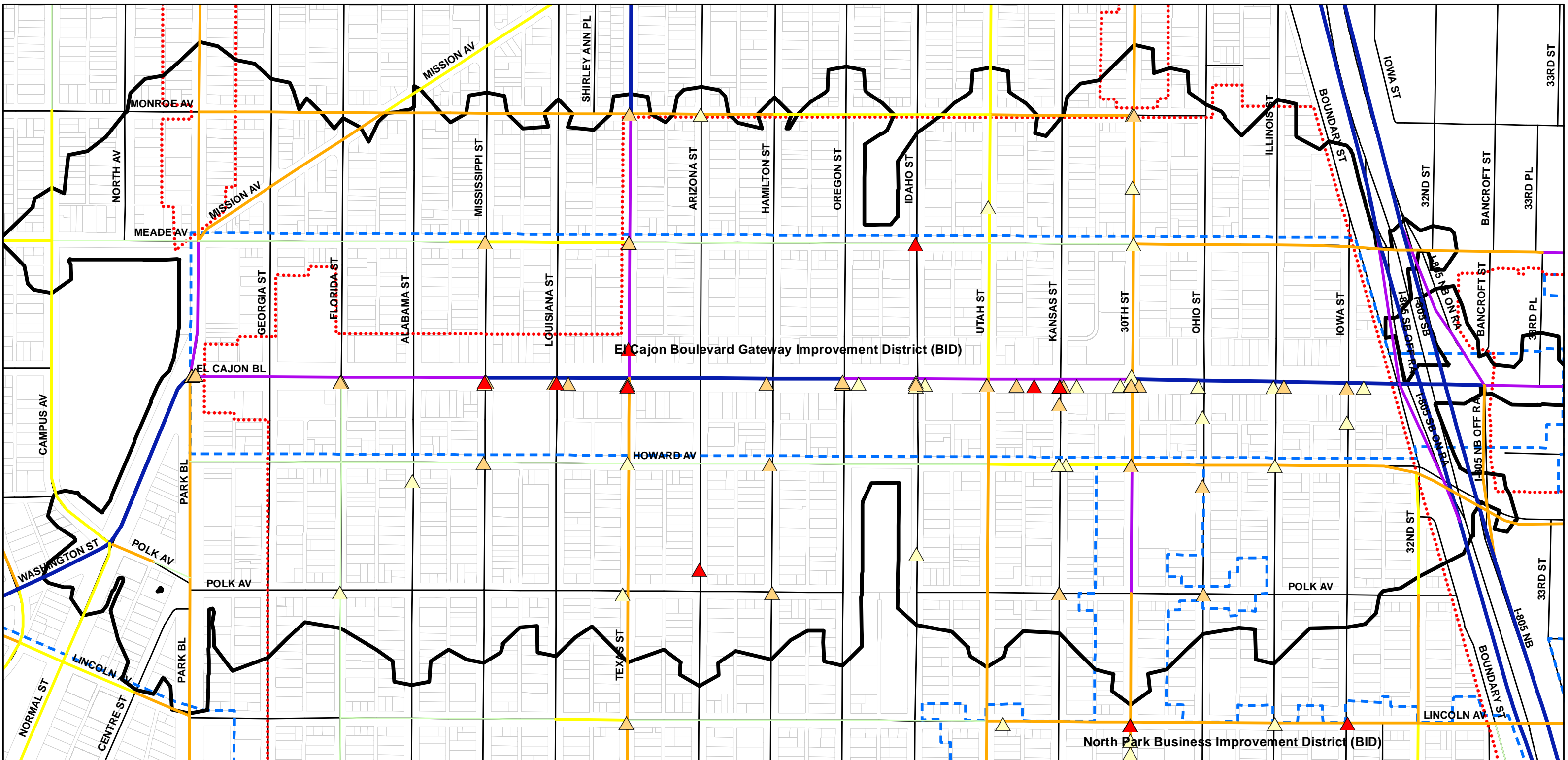
**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime

- ADT (2008)**
- 15 - 1,000
  - 1,001 - 3,000
  - 3,001 - 10,000
  - 10,001 - 20,000
  - 20,000+

- Reasons for Pedestrian Collisions 2001-2010**  
**Violation Category (Source: Transportation Injury Mapping System, tims.berkeley.edu)**
- ▲ Vehicle Impeded Traffic, Causing Secondary Pedestrian Collision
  - ▲ Unsafe Speed
  - ▲ Improper Passing
  - ▲ Pedestrian Violated Vehicle Right of Way
  - ▲ Vehicle Violated Pedestrian Right of Way
  - ▲ Pedestrian Jay Walking or Against Traffic Signals
  - ▲ Vehicle Ignored Traffic Signals and Signs
  - ▲ Unsafe Starting or Backing
  - ▲ Other Improper Driving





**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime

**ADT (2008)**

- 15 - 1,000
- 1,001 - 3,000
- 3,001 - 10,000
- 10,001 - 20,000
- 20,000+

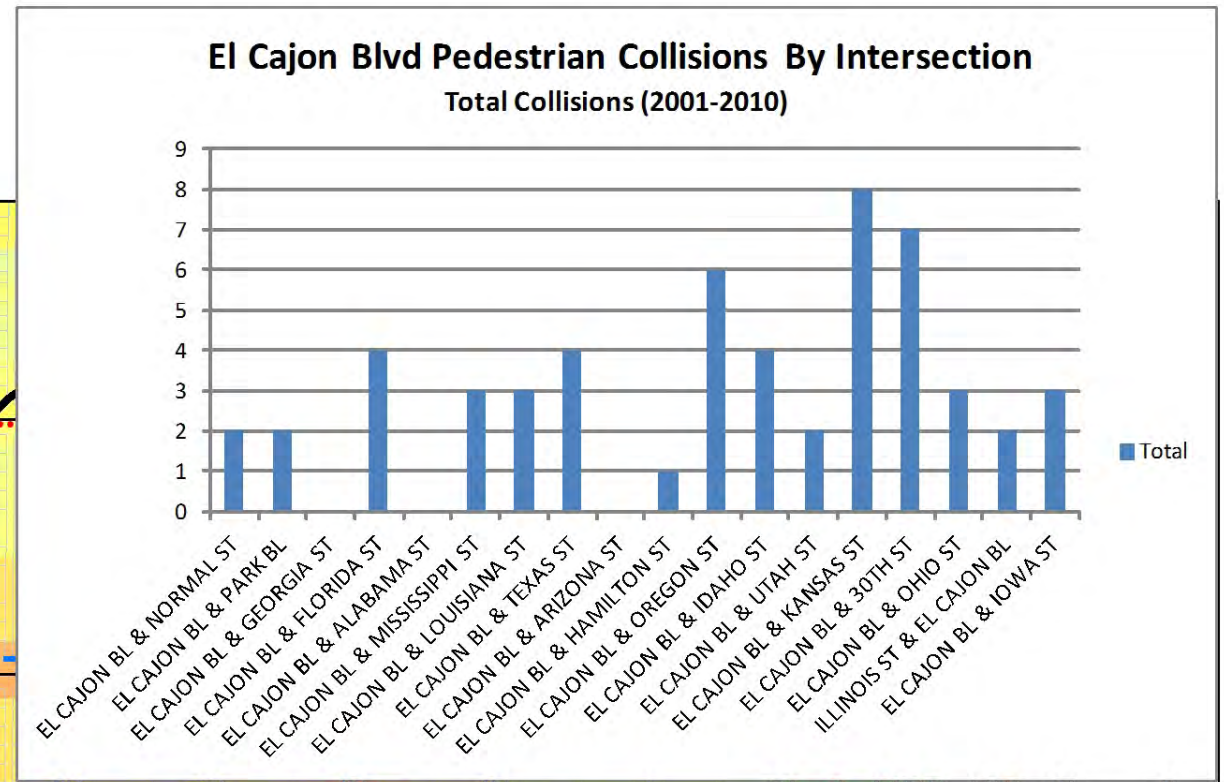
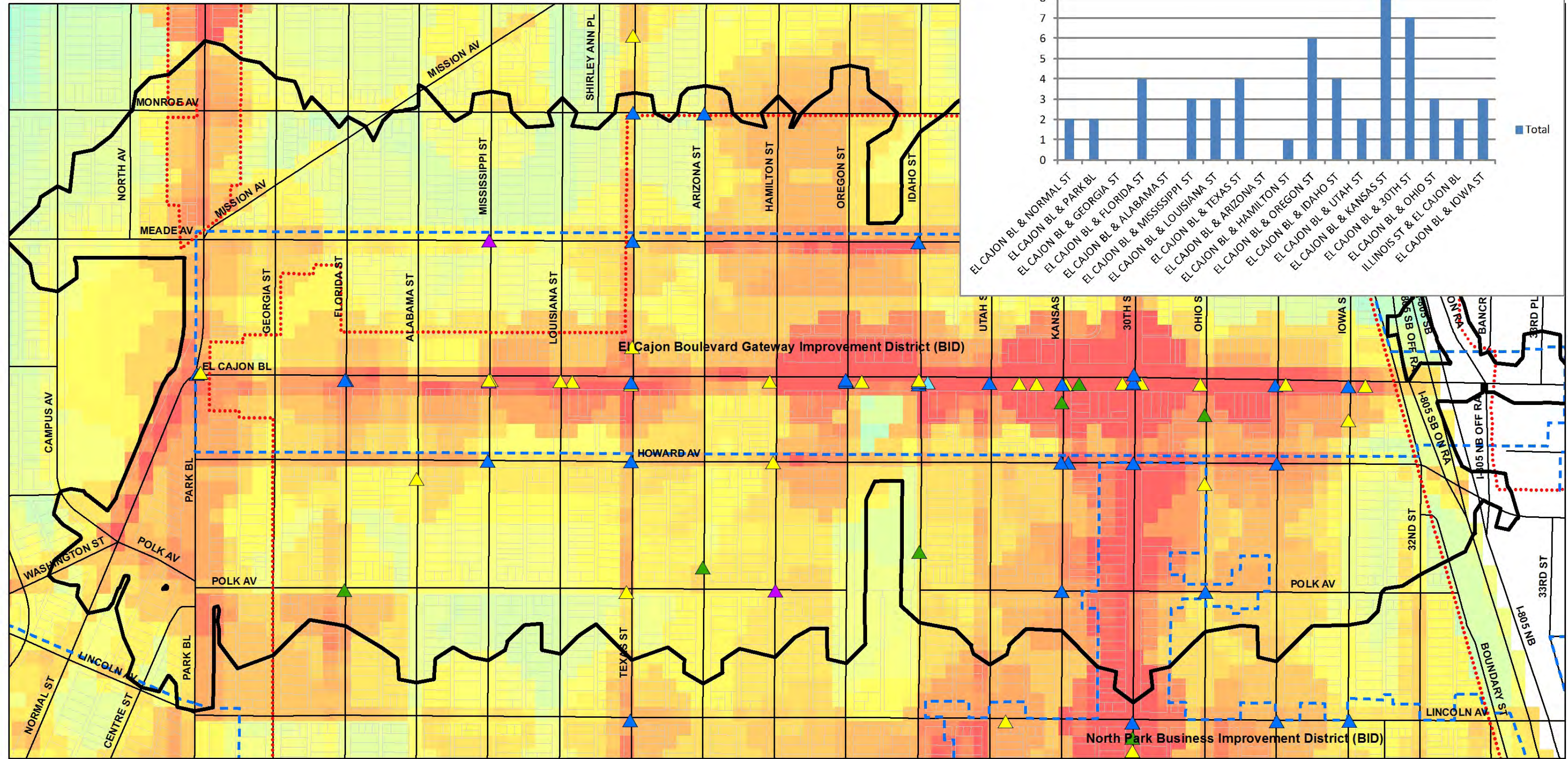
**Pedestrian Collision Degree of Injury 2001-2010**

- ▲ Complaint of Pain
- ▲ Other Injury (not severe)
- ▲ Severe Injury

0 250 500 1,000 Feet

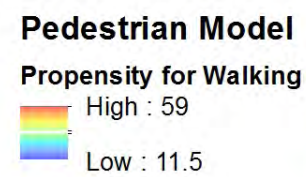


# El Cajon Blvd - West End Study



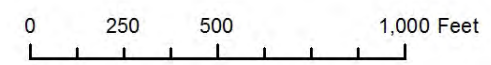
## Legend

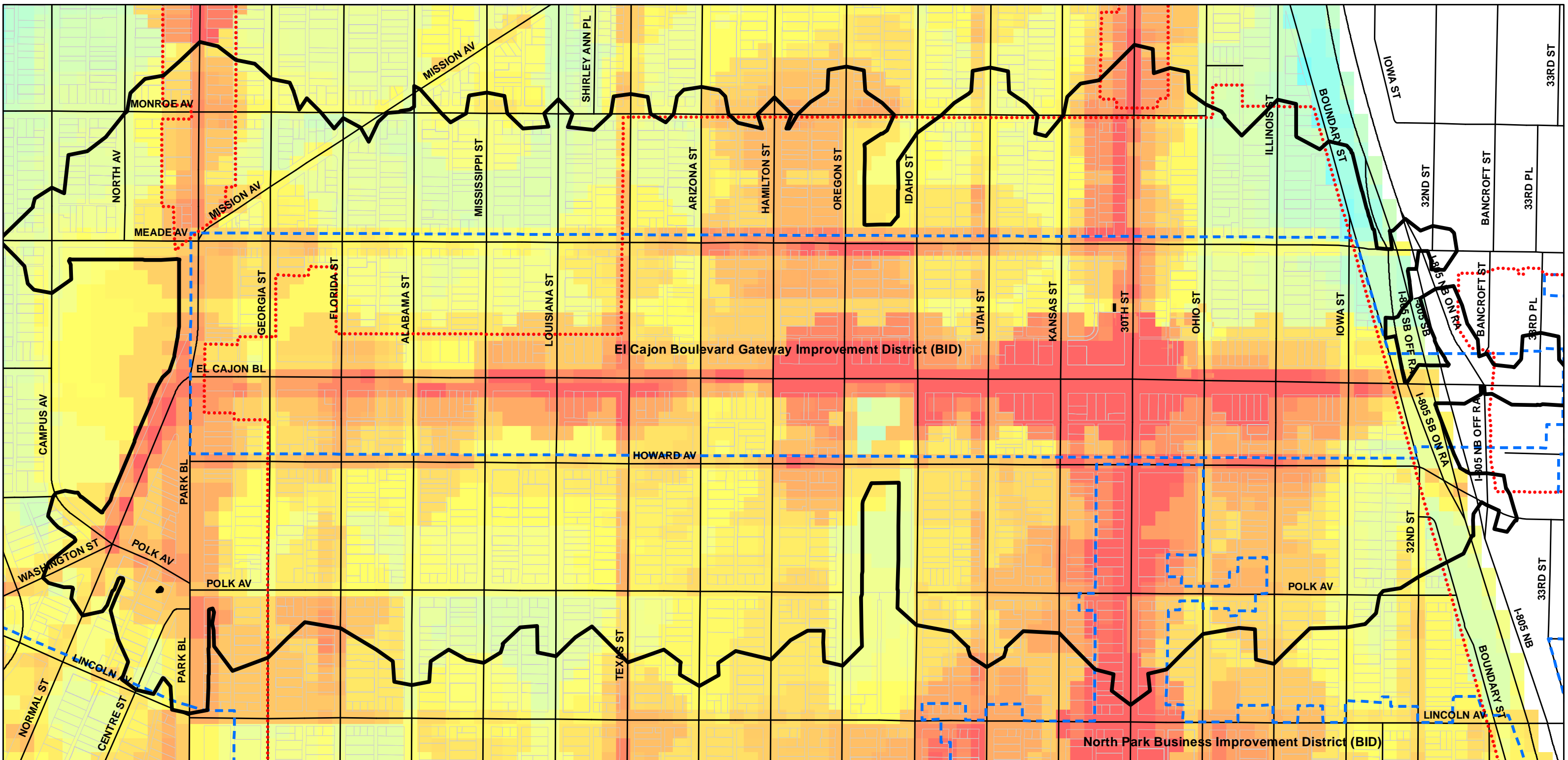
- Maintenance Assessment Districts
- Business Improvement Districts
- 6 Minute Transit Walktime



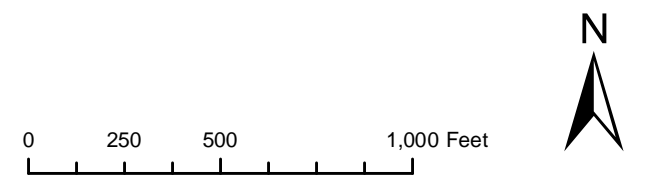
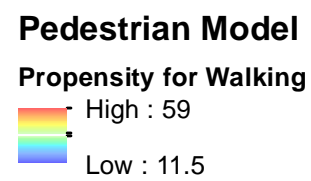
- ### Pedestrian Collision Locations 2001-2010
- Pedestrian Action (Source: Transportation Injury Mapping System, tims.berkeley.edu)
- Crossing in Crosswalk at Intersection
  - Not in Road

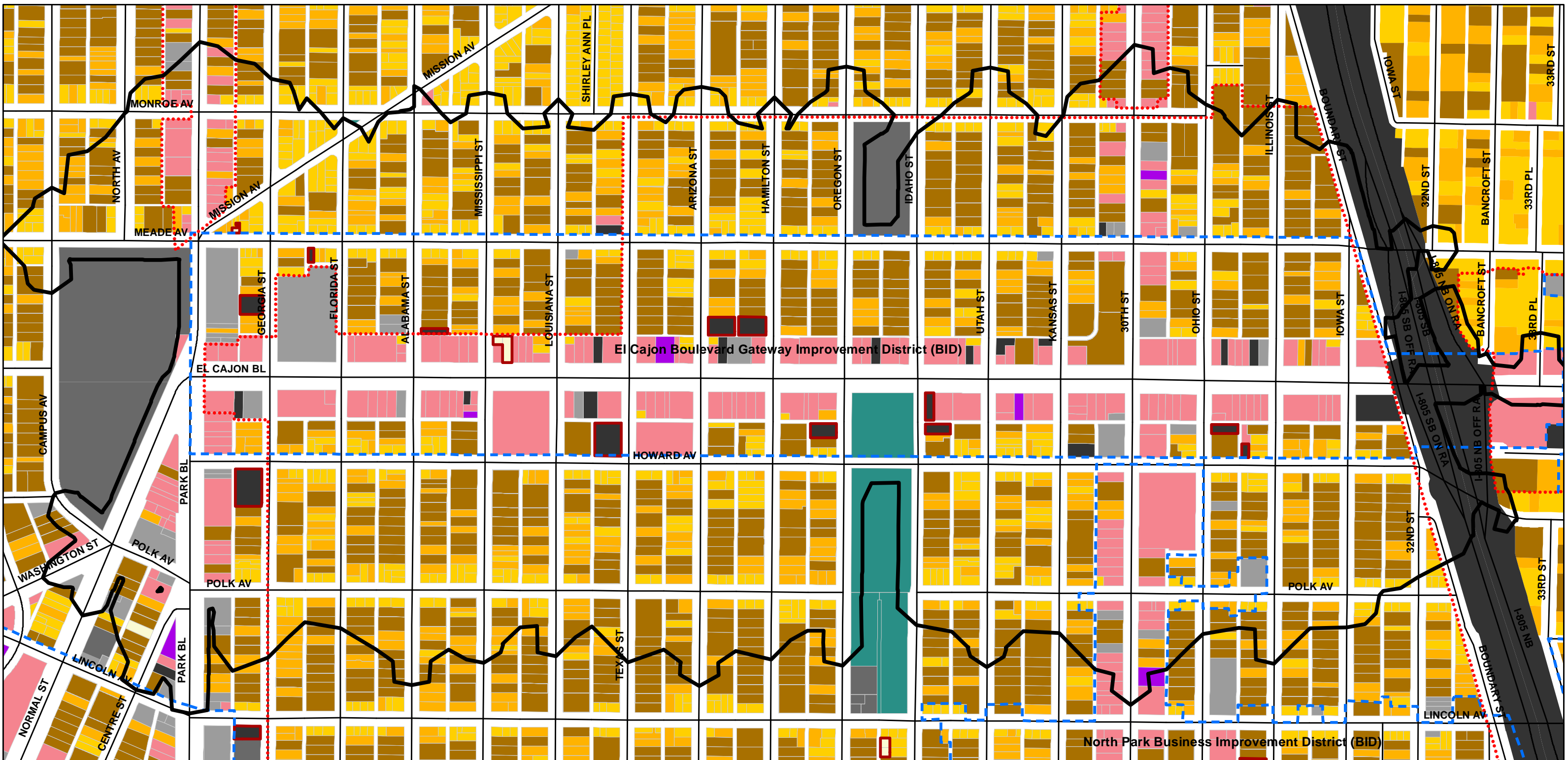
- Crossing Not in Crosswalk
- In Road, Including Shoulder
- Crossing in Crosswalk Not at Intersection





- Legend**
- ⋯ Maintenance Assessment Districts
  - - - Business Improvement Districts
  - 6 Minute Transit Walktime





**Legend**

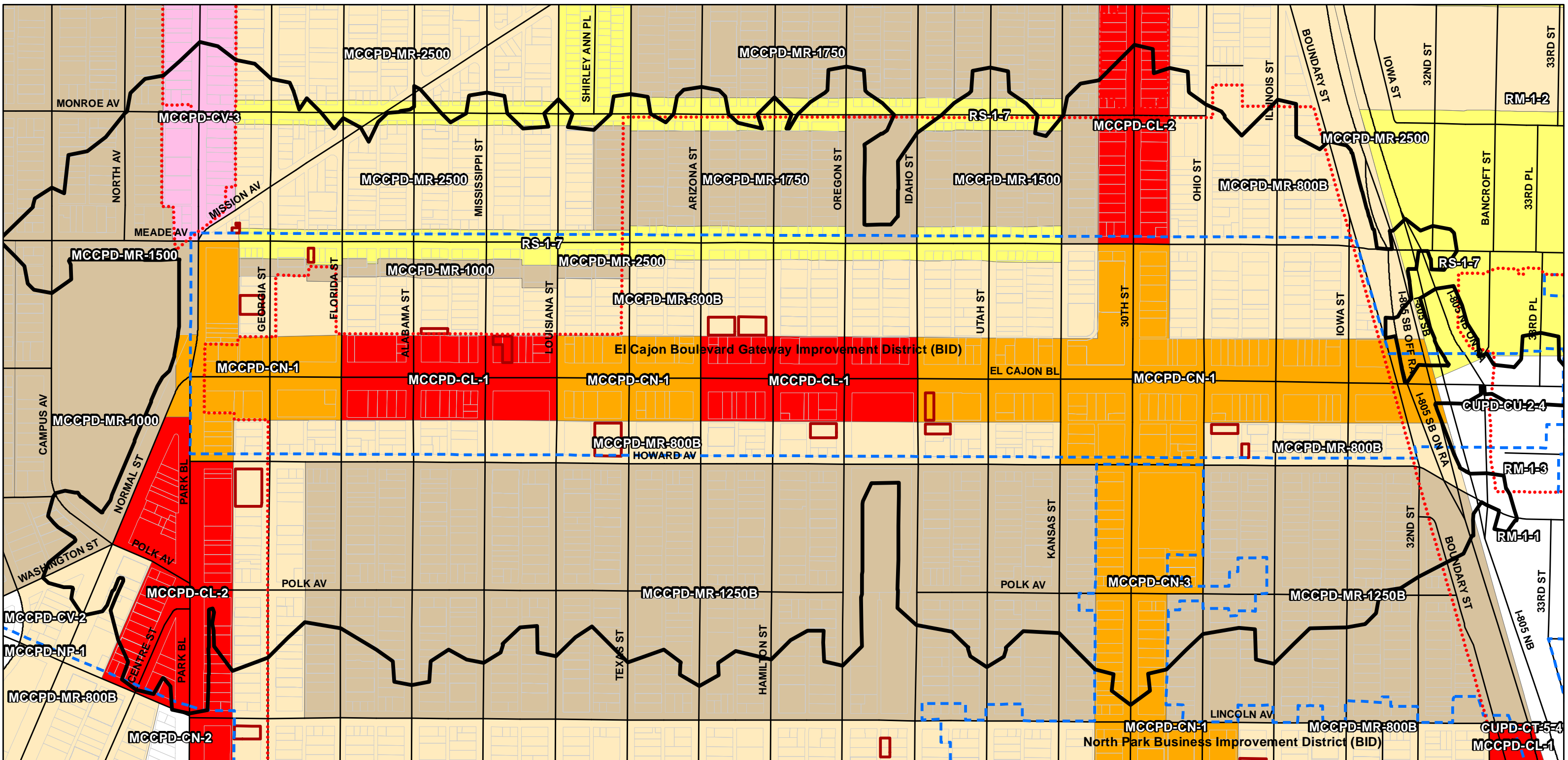
- Developable Land in Smart Growth or Transit Corridor
- Maintenance Assessment Districts
- Business Improvement Districts
- 6 Minute Transit Walktime

**SANDAG Current Land Use 2009**

<p><b>RESIDENTIAL</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; margin-right: 5px;"></span> Single Family Detached</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; margin-right: 5px;"></span> Single Family Attached</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; margin-right: 5px;"></span> Mobile Homes</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c48e3a; margin-right: 5px;"></span> Multiple Family</li> </ul>	<p><b>COMMERCIAL AND OFFICE</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f08080; margin-right: 5px;"></span> Commercial and Office</li> </ul> <p><b>INDUSTRIAL</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8000ff; margin-right: 5px;"></span> Light Industry</li> </ul> <p><b>PUBLIC FACILITIES AND UTILITIES</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #333; margin-right: 5px;"></span> Transportation, Communications, Utilities</li> </ul>	<p><b>Education</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #666; margin-right: 5px;"></span> Education</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ccc; margin-right: 5px;"></span> Institutions</li> </ul> <p><b>PARKS AND RECREATION</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #38a88d; margin-right: 5px;"></span> Recreation</li> </ul> <p><b>UNDEVELOPED</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff; border: 1px solid black; margin-right: 5px;"></span> Undeveloped</li> </ul>
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0 250 500 1,000 Feet

N



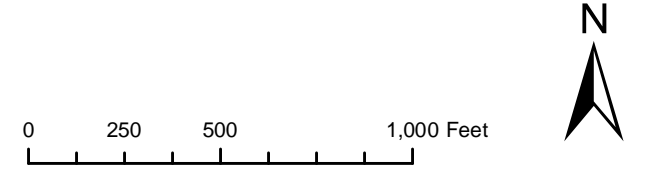
**Legend**

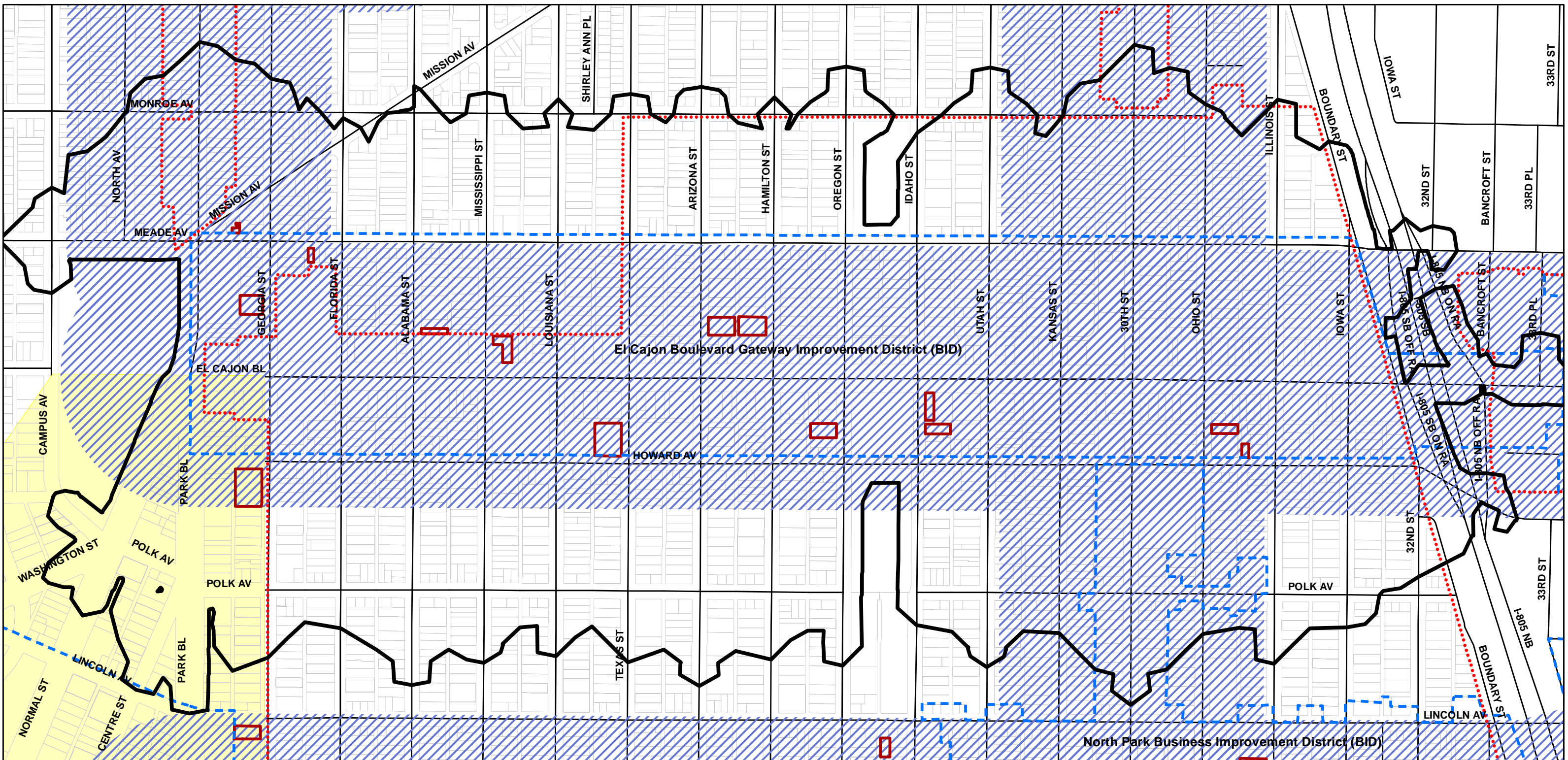
- Developable Land in Smart Growth or Transit Corridor
- Maintenance Assessment Districts
- Business Improvement Districts
- 6 Minute Transit Walktime

**Zoning- City of San Diego**

- MCCPD-CL-1: Linear Commercial
- MCCPD-CL-2: Linear Commercial
- MCCPD-CN-1: Commercial Node
- MCCPD-CN-3: Commercial Node
- MCCPD-MR-1000: Multi-Family Resid.
- MCCPD-MR-1250B: Multi-Family Resid.
- MCCPD-MR-1500: Multi-Family Resid.
- MCCPD-MR-1750: Multi-Family Resid.

- MCCPD-MR-2500: Multi-Family Resid.
- MCCPD-MR-800B: Multi-Family Resid.
- RM-1-2: Multi-Family Resid.
- RS-1-7: Single Family Resid.



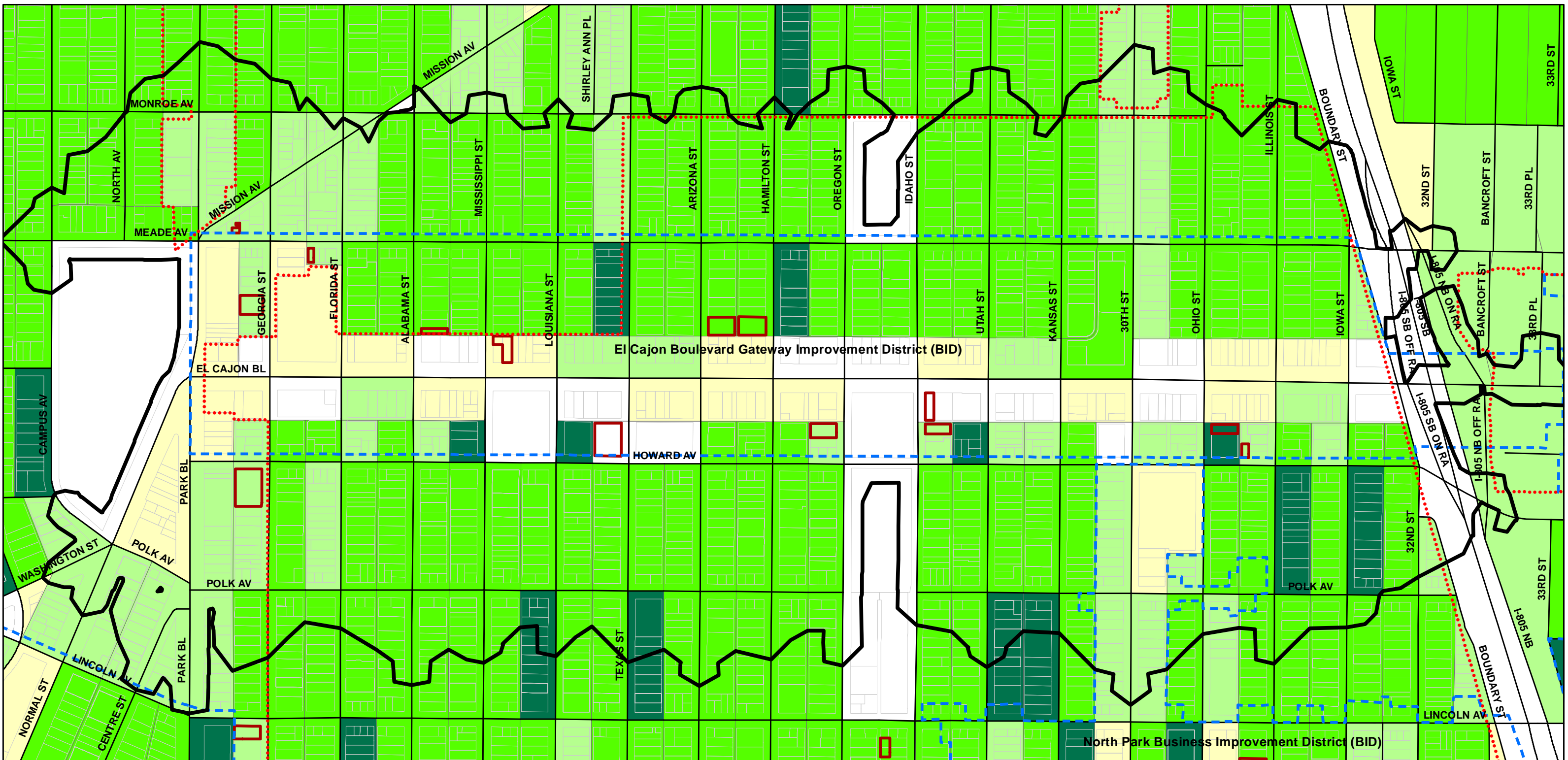


**Legend**

- Developable Land in Smart Growth or Transit Corridor
- Maintenance Assessment Districts
- Business Improvement Districts
- 6 Minute Transit Walktime
- SANDAG Smart Growth Urban Center
- SANDAG Smart Growth Mixed Use Transit Corridors

0 250 500 1,000 Feet



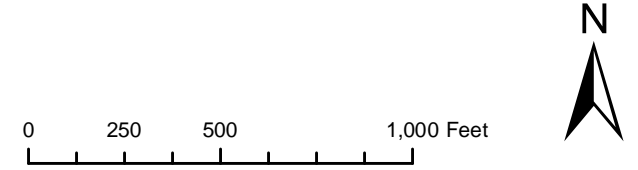


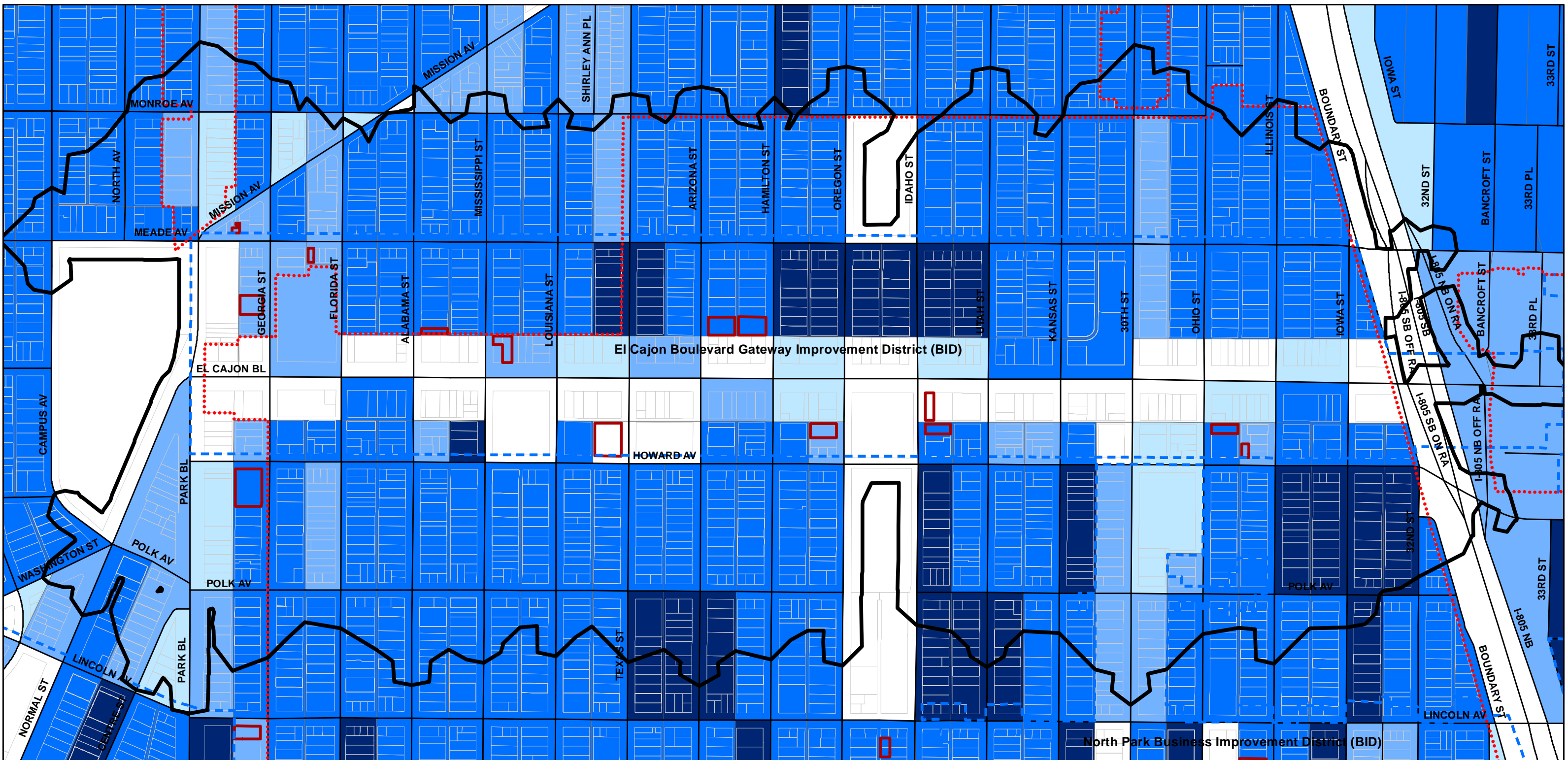
- Legend**
- Developable Land in Smart Growth or Transit Corridor
  - Maintenance Assessment Districts
  - Business Improvement Districts
  - 6 Minute Transit Walktime



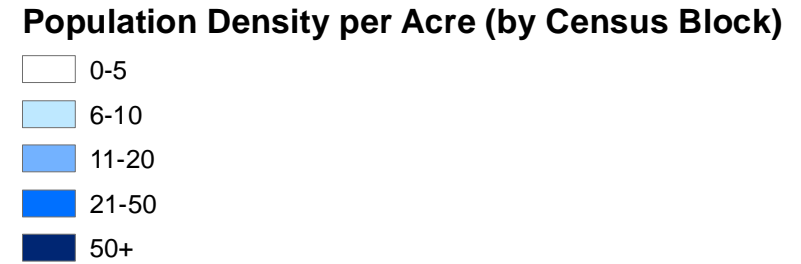
**Within Transit Walktime**

Total Units 2010	7,315
Additional Unit Increase (Community Plan)	5,067



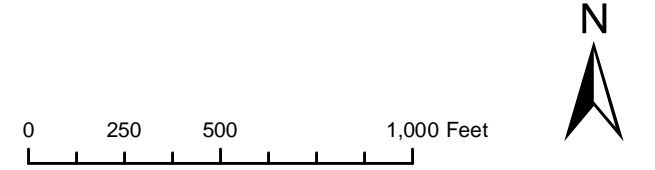


- Legend**
- Developable Land in Smart Growth or Transit Corridor
  - Maintenance Assessment Districts
  - Business Improvement Districts
  - 6 Minute Transit Walktime

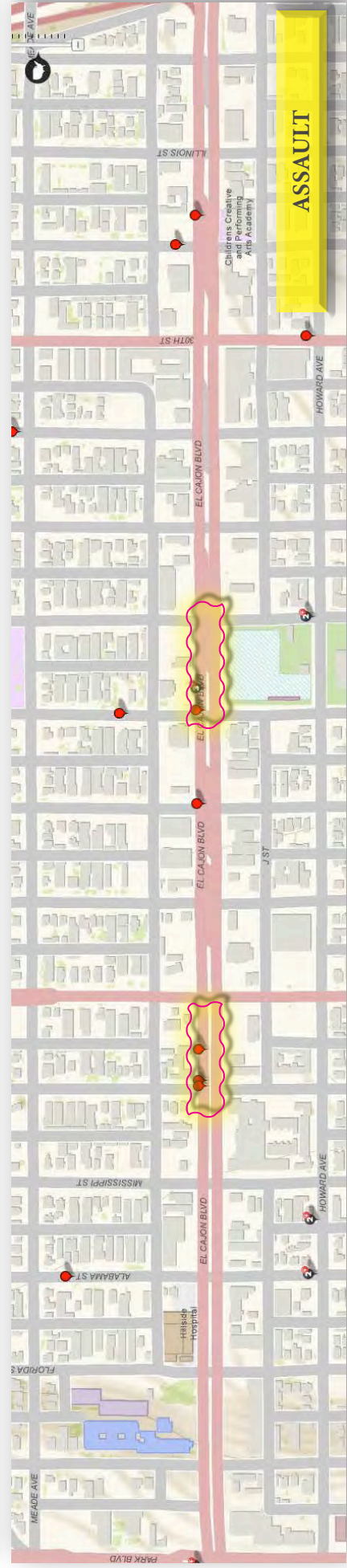
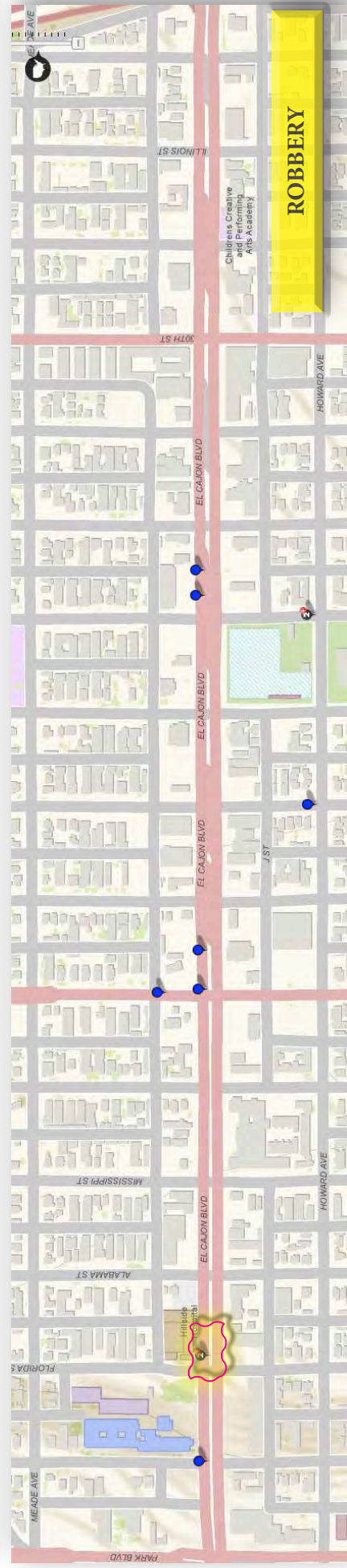
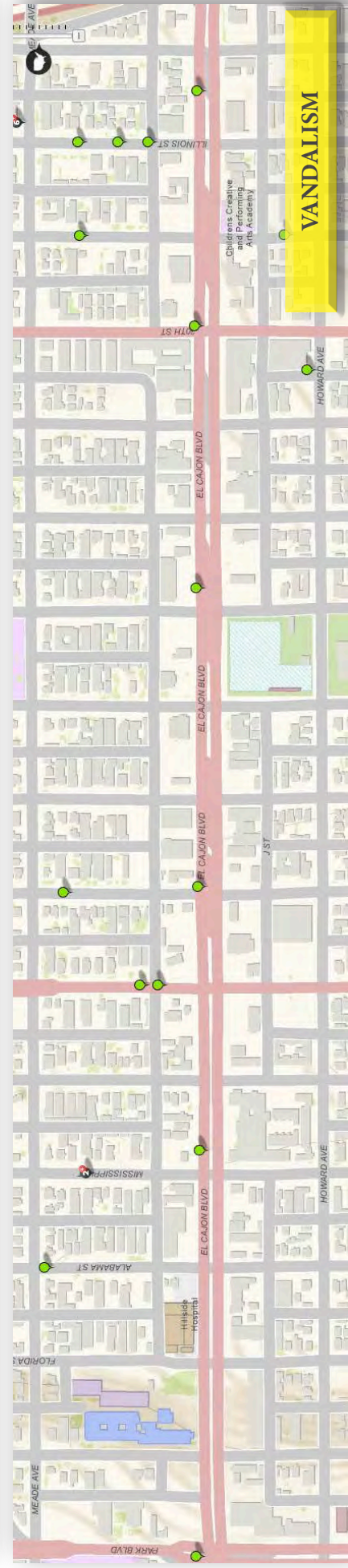
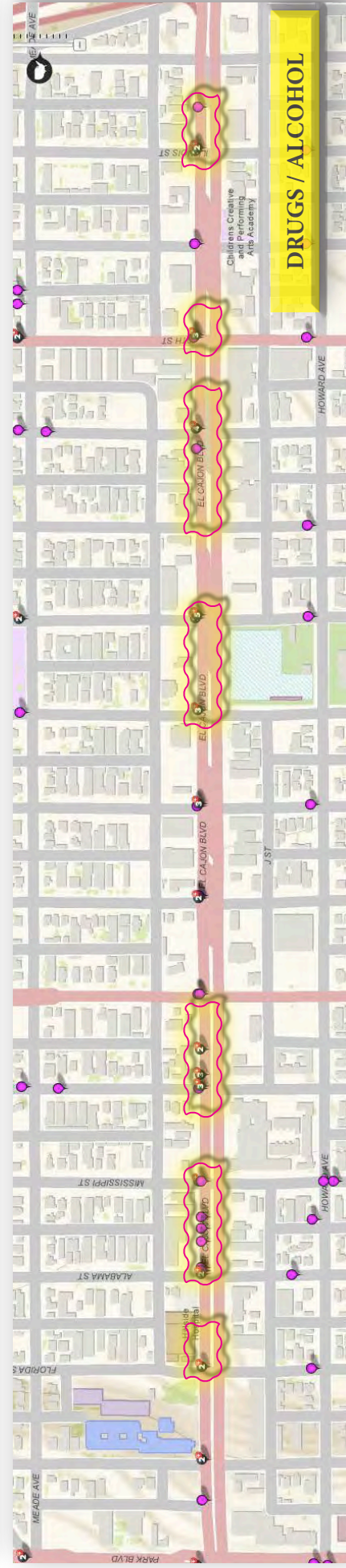
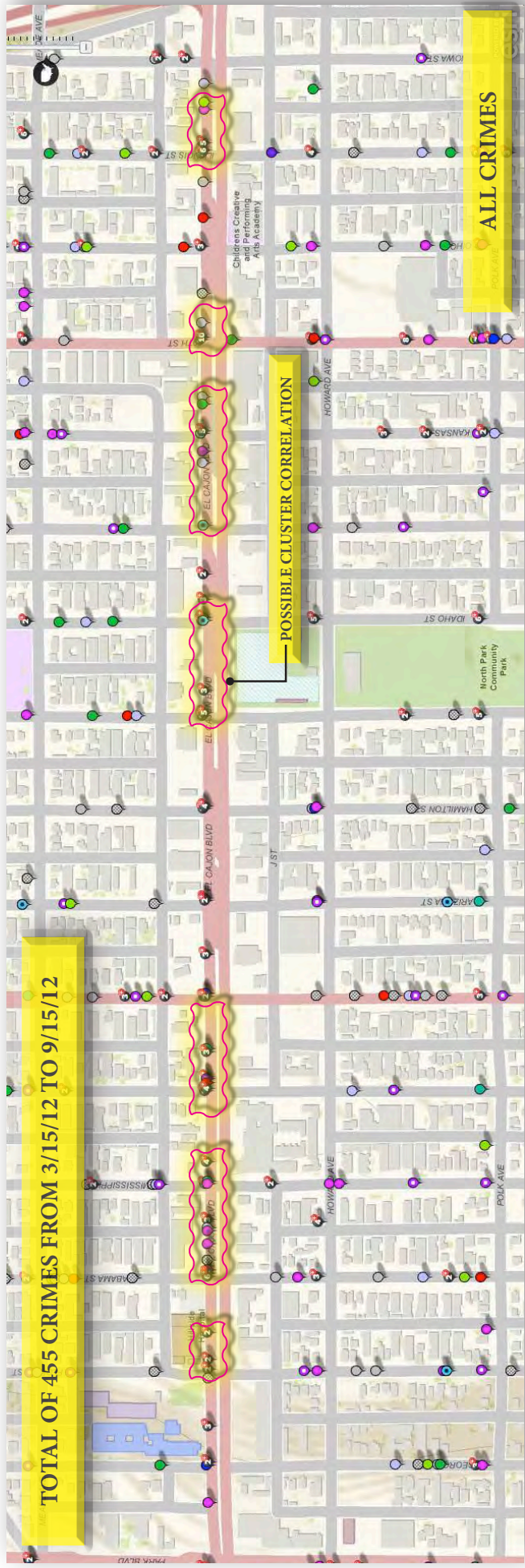


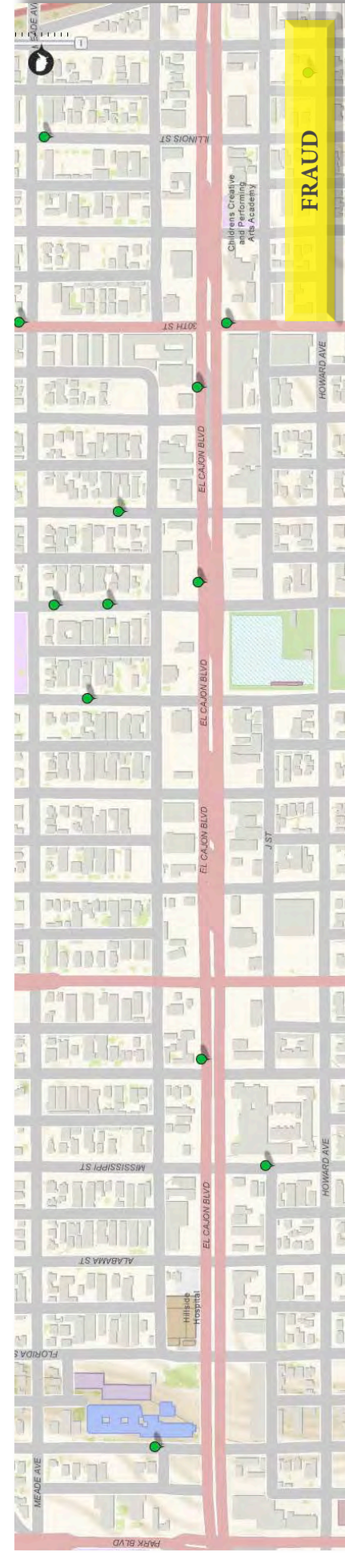
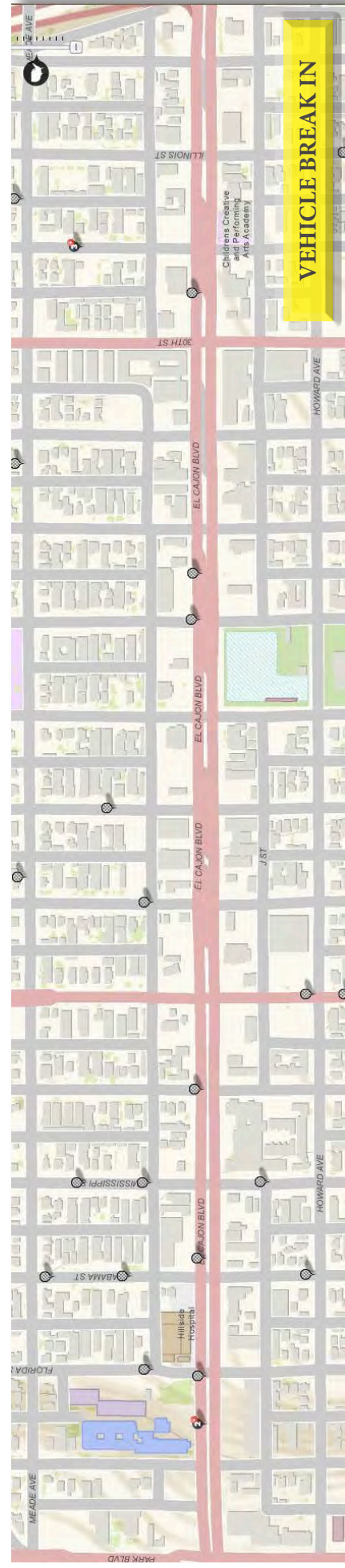
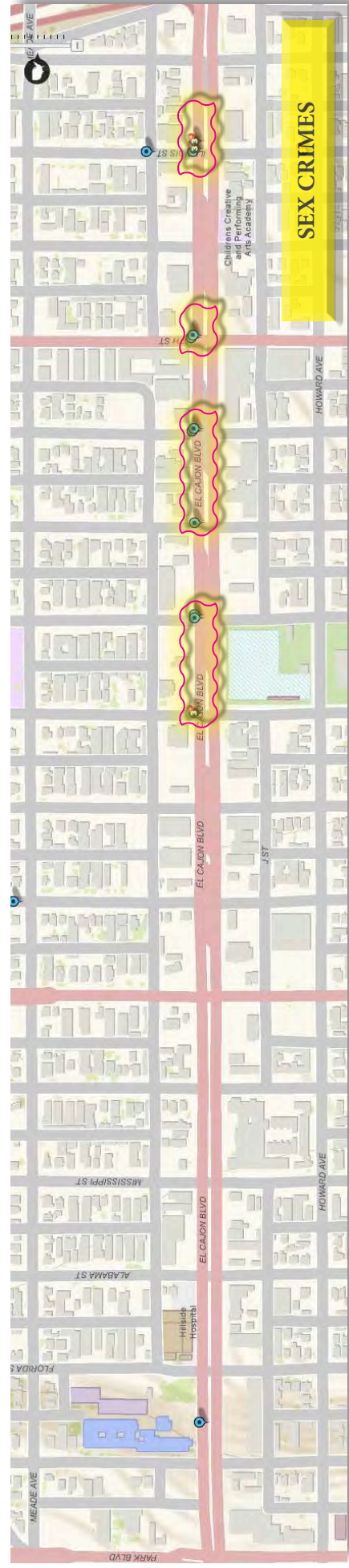
**Within Transit Walktime**

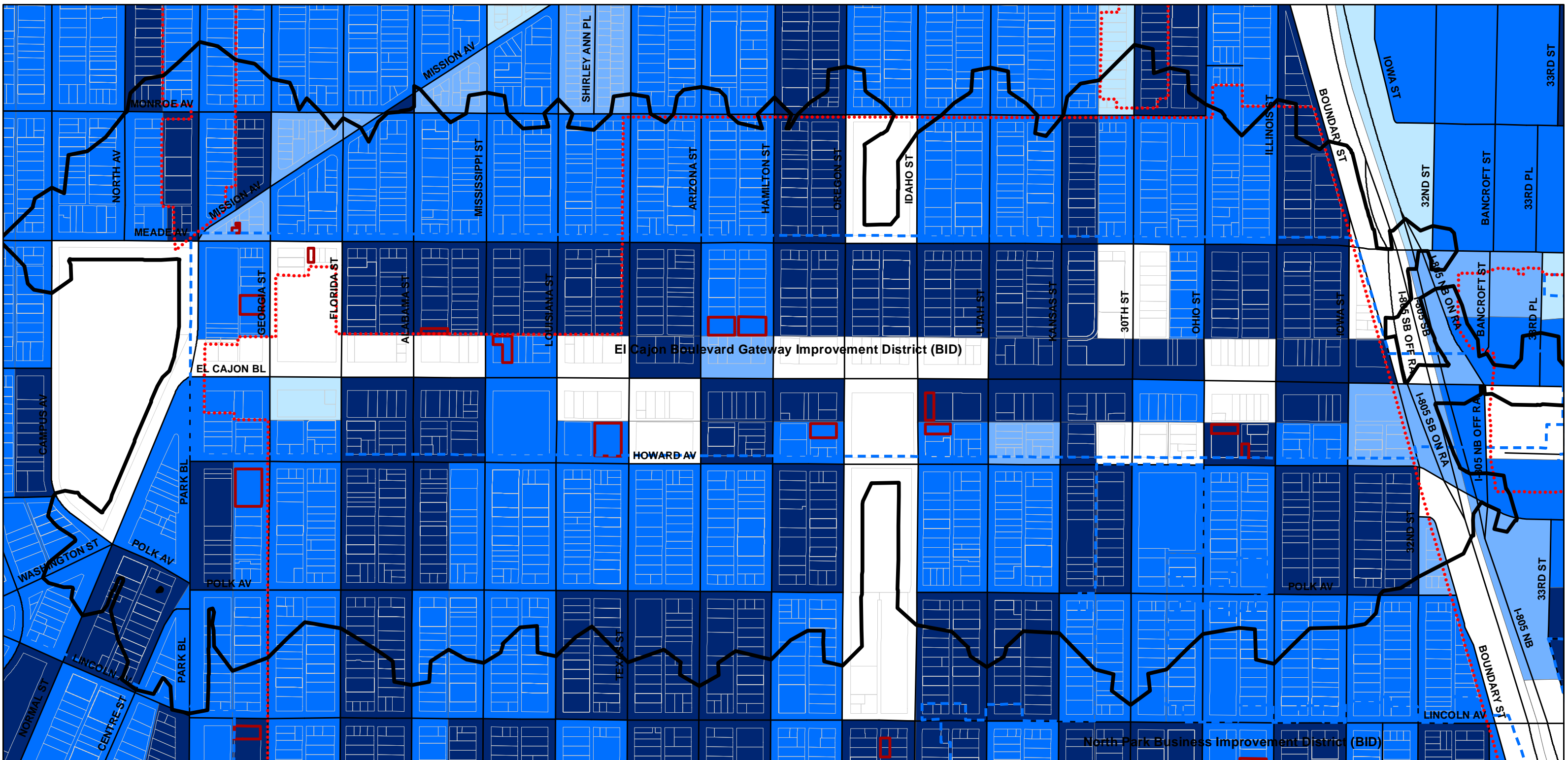
Total Population 2010	13,341
Projected Population 2030	18,662



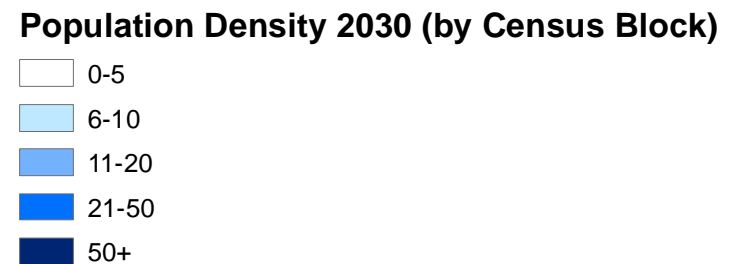






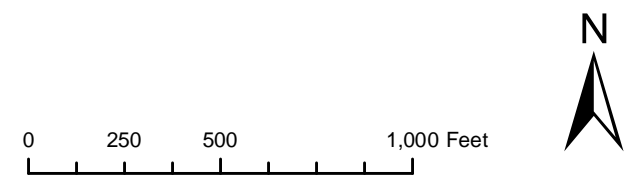


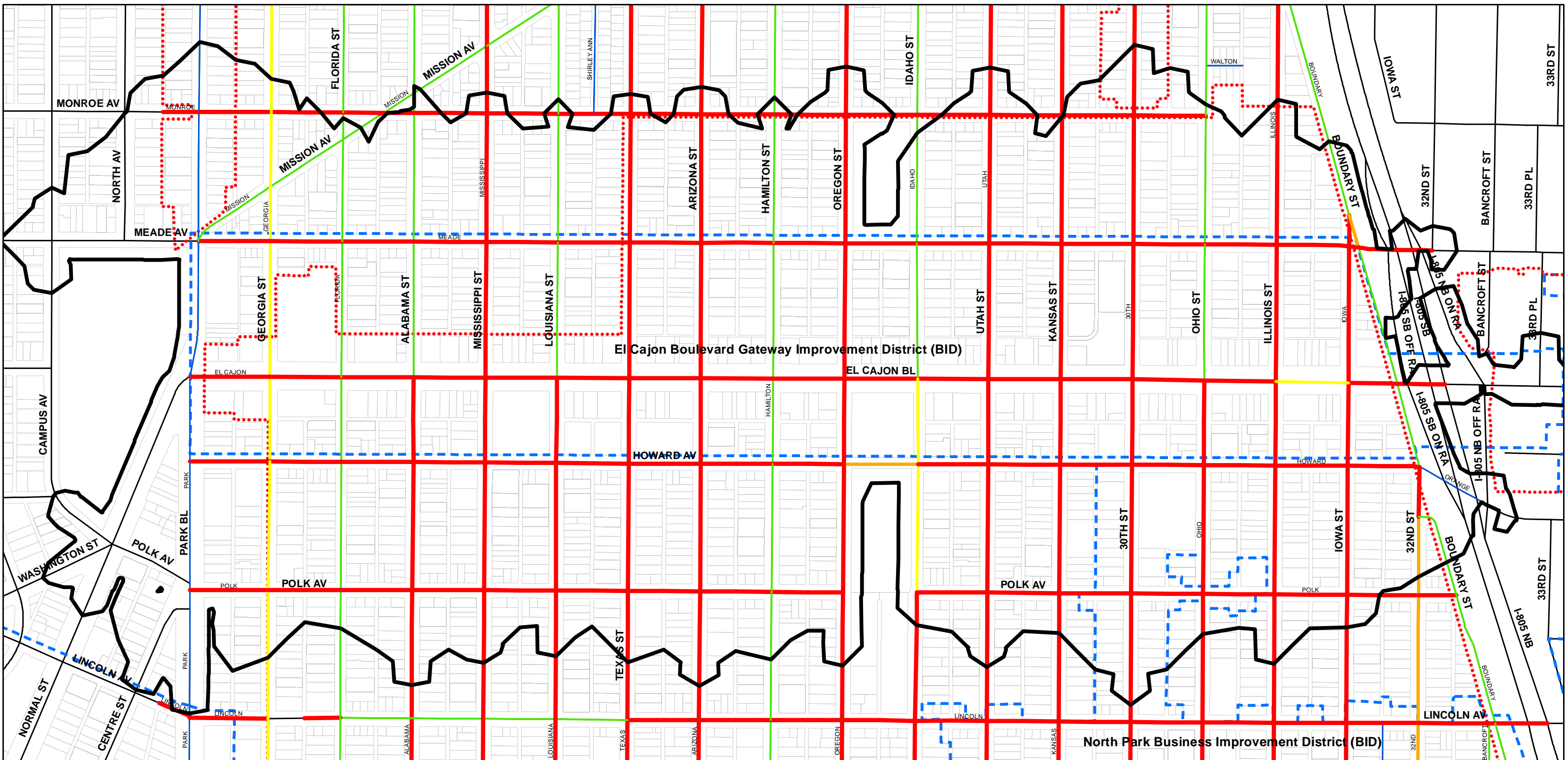
- Legend**
- Developable Land in Smart Growth or Transit Corridor
  - Maintenance Assessment Districts
  - Business Improvement Districts
  - 6 Minute Transit Walktime



**Within Transit Walktime**

Total Population 2010	13,341
Projected Population 2030	18,662



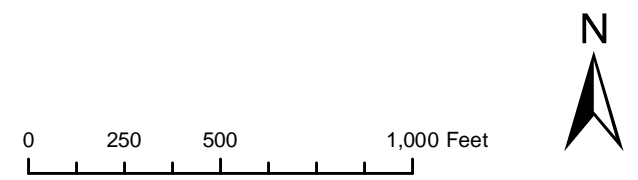


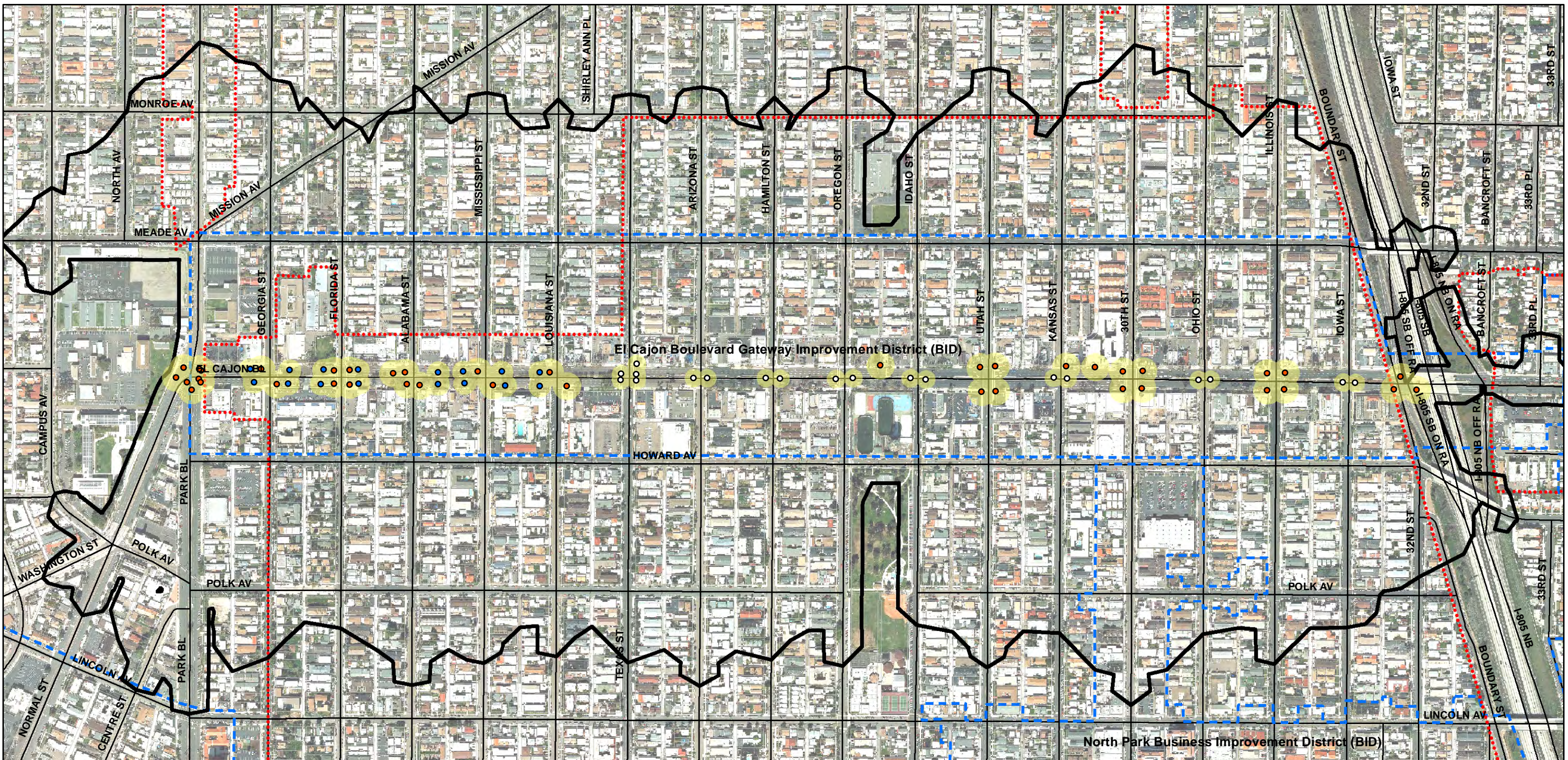
**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime

**Paved Street Width (ft)**

- 0 - 32
- 33 - 40
- 41 - 45
- 46 - 50
- 51 - 62



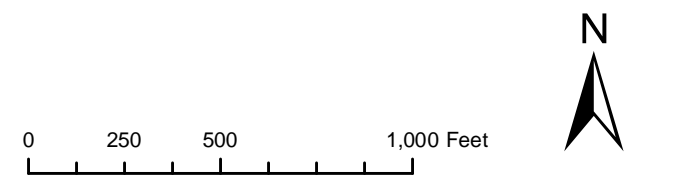


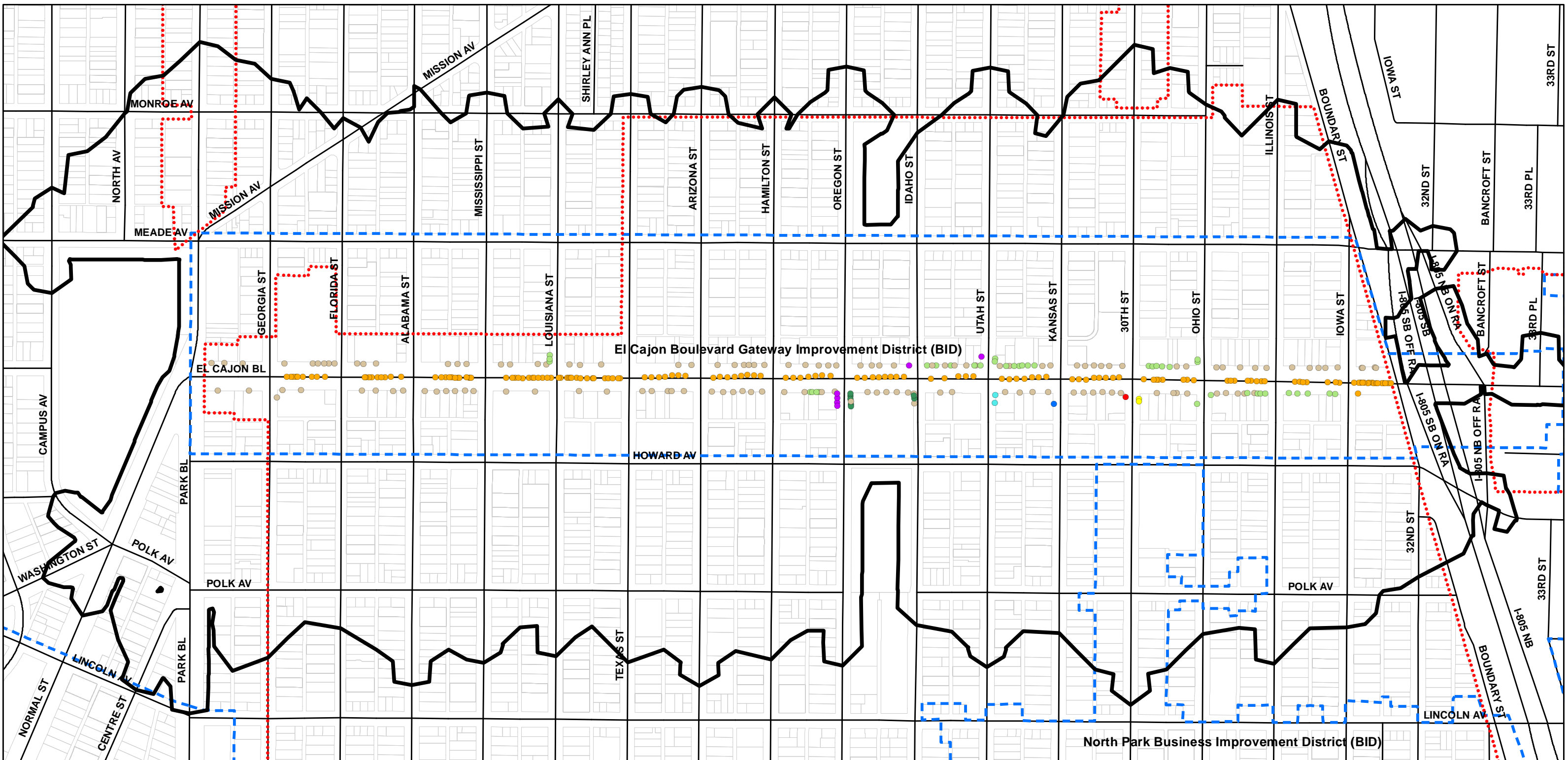
**Legend**

- ⋯ Maintenance Assessment Districts
- - - Business Improvement Districts
- 6 Minute Transit Walktime

**Street Light- Type, Radius of Perceived Well Lit Area**

- Median, 50'
- Decorative, 60'
- Corner, 75'
- Perceived Lit Area



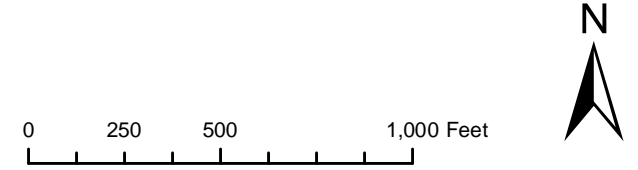


**Legend**  
 [Red Dotted Line] Maintenance Assessment Districts  
 [Blue Dashed Line] Business Improvement Districts  
 [Thick Black Line] 6 Minute Transit Walktime

**Street Trees Along El Cajon Blvd**

**SPECIES**

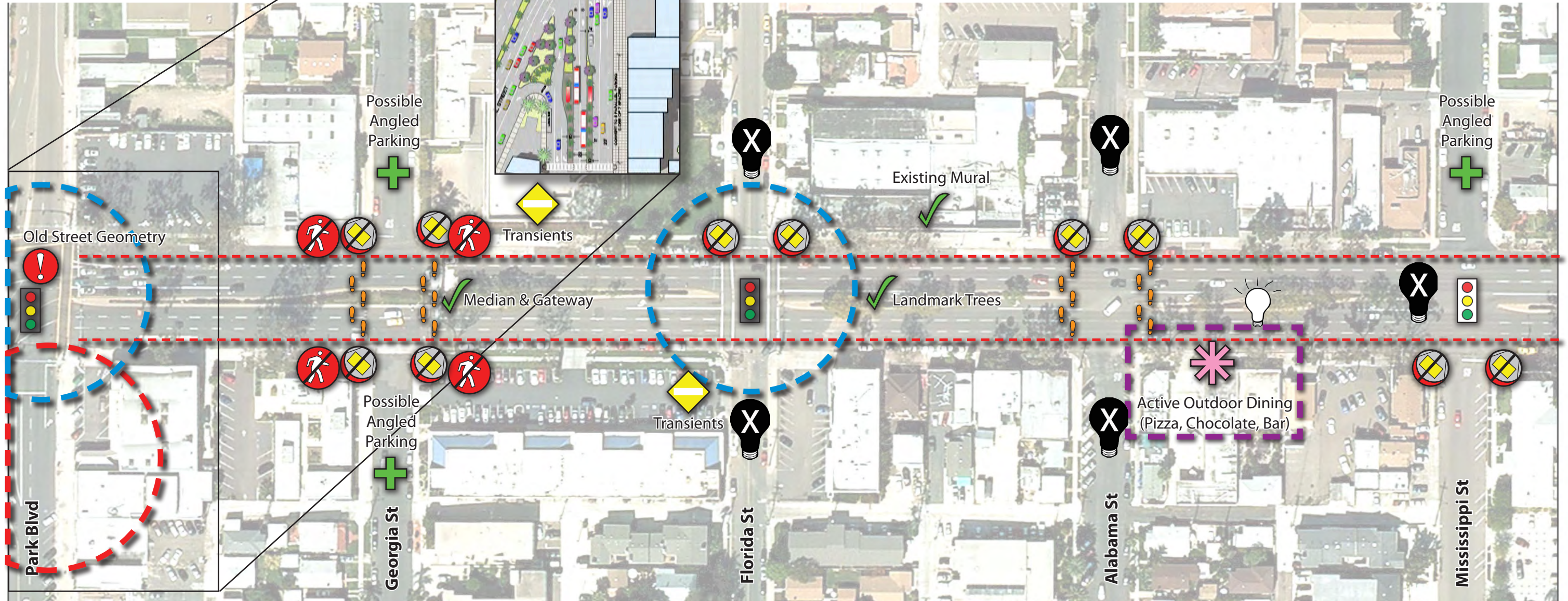
- [Purple Dot] CARROT WOOD
- [Yellow Dot] CHINESE FLAME
- [Brown Dot] EUCALYPTUS
- [Cyan Dot] EVERGREEN PEAR
- [Red Dot] FLOSS SILK
- [Orange Dot] JACARANDA
- [Green Dot] LEMON BOTTLE BRUSH
- [Blue Dot] MELALEUCA
- [Light Green Dot] QUEEN PALM



# Constraints and Opportunities

1 of 4

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project



**LEGEND:**

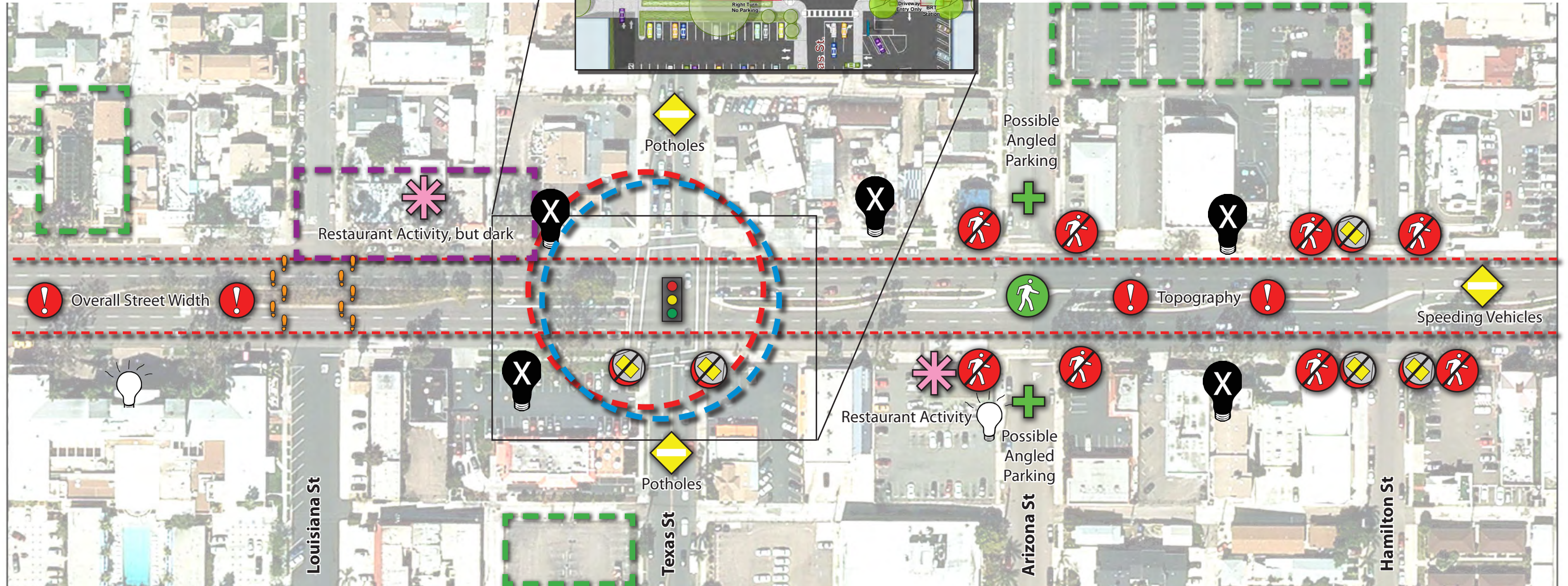
-  Opportunity
-  Asset
-  Liability
-  Constraint
-  SANDAG/MTS BRT Intersection Improvements
-  City of San Diego Pedestrian Master Plan Intersection Improvements
-  Shared BRT and Bicycle Lane
-  Cohesive Character District
-  Future Growth Likely
-  Non-compliant Curb Ramp
-  Opportunity for a Two-Phase Pedestrian Signal Crossing
-  Existing No Pedestrian Crossing Signage
-  Informal Pedestrian Crossing/ Crosswalk Needed
-  Activity Node
-  Well Lit
-  Poorly Lit
-  Opportunity for future Traffic Signal
-  Existing Traffic Signal

0 75 150 feet

# Constraints and Opportunities

## 2 of 4

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project



### LEGEND:

-  Opportunity
-  Asset
-  Liability
-  Constraint
-  SANDAG/MTS BRT Intersection Improvements
-  City of San Diego Pedestrian Master Plan Intersection Improvements
-  Shared BRT and Bicycle Lane
-  Cohesive Character District
-  Future Growth Likely
-  Non-compliant Curb Ramp
-  Opportunity for a Two-Phase Pedestrian Signal Crossing
-  Existing No Pedestrian Crossing Signage
-  Informal Pedestrian Crossing/ Crosswalk Needed
-  Activity Node
-  Well Lit
-  Poorly Lit
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-  Existing Traffic Signal

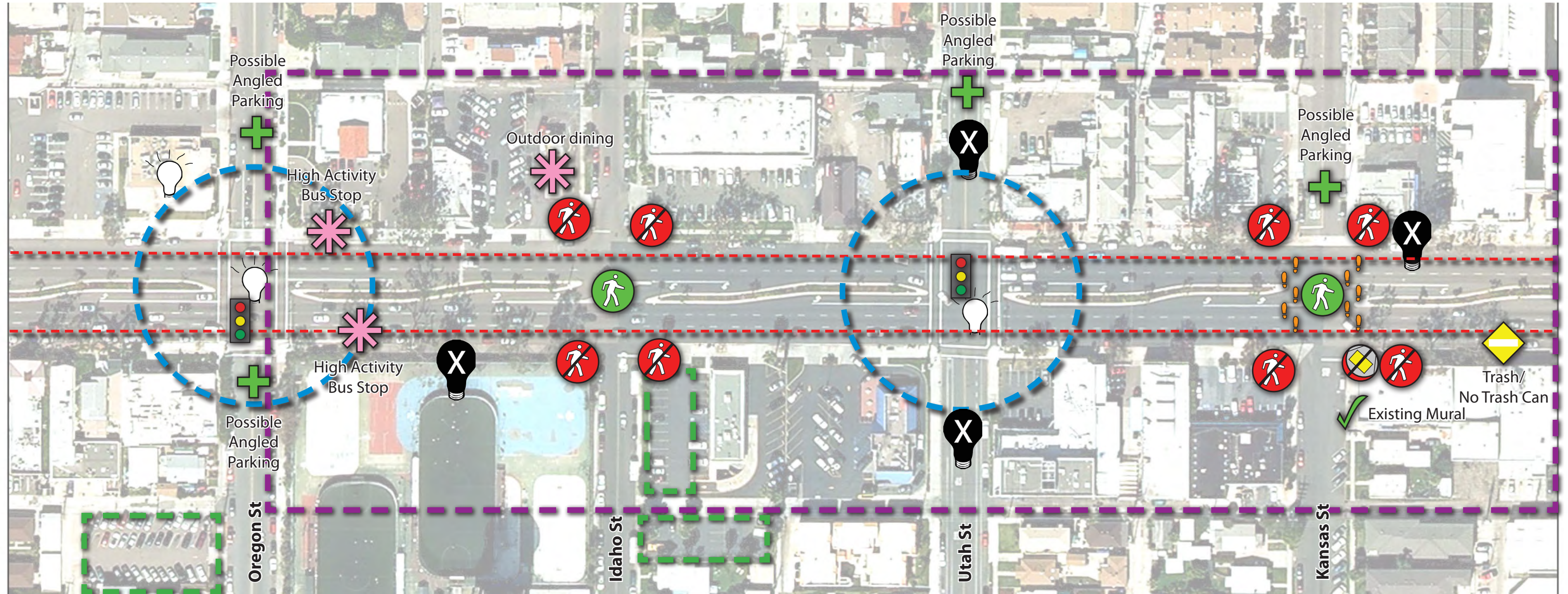
0 75 150 feet

10/16/2012 



Planning + Landscape Architecture





LEGEND:

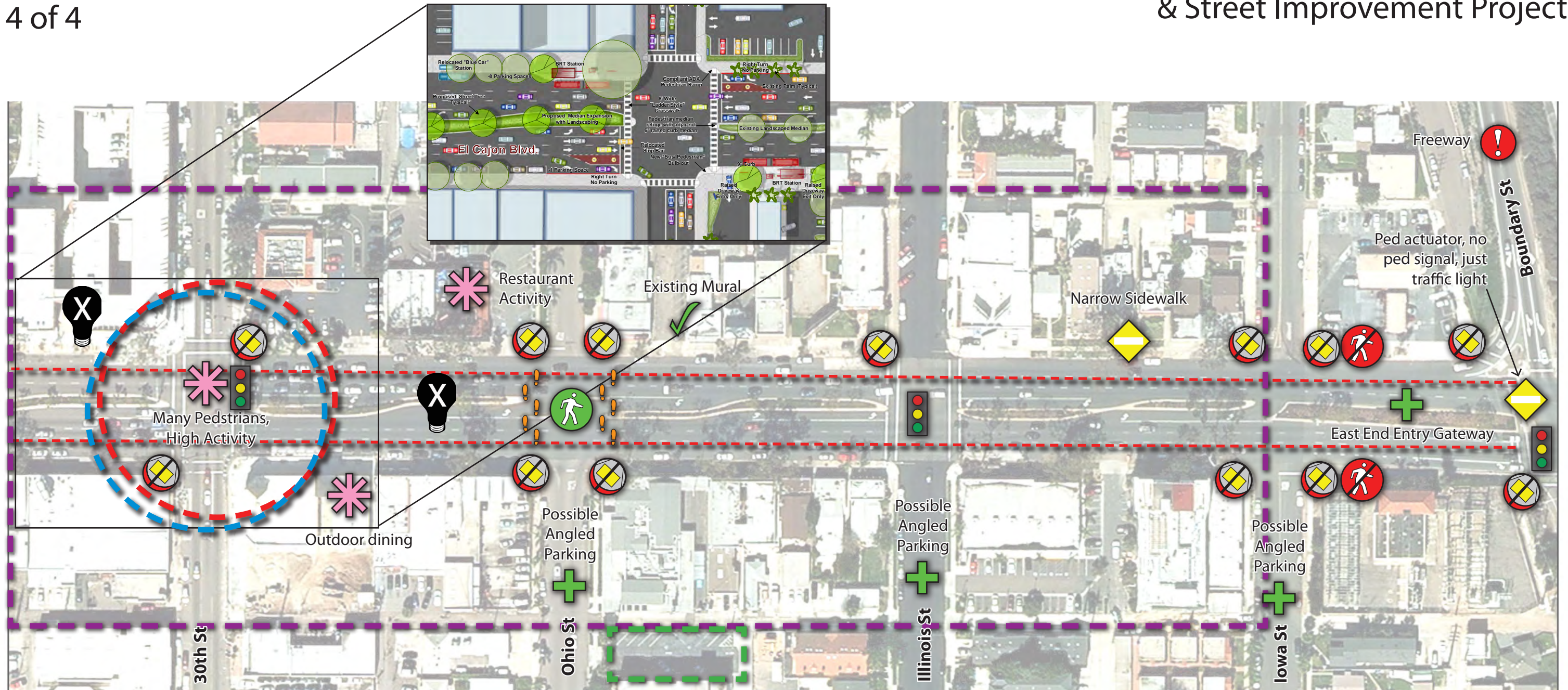
- Opportunity
- Asset
- Liability
- Constraint

- SANDAG/MTS BRT Intersection Improvements
- City of San Diego Pedestrian Master Plan Intersection Improvements
- Shared BRT and Bicycle Lane
- Cohesive Character District
- Future Growth Likely

- Non-compliant Curb Ramp
- Opportunity for a Two-Phase Pedestrian Signal Crossing
- Existing No Pedestrian Crossing Signage
- Informal Pedestrian Crossing/Crosswalk Needed
- Activity Node

- Well Lit
- Poorly Lit
- Opportunity for future Traffic Signal
- Existing Traffic Signal

0 75 150 feet



LEGEND:

-  Opportunity
-  Asset
-  Liability
-  Constraint
-  SANDAG/MTS BRT Intersection Improvements
-  City of San Diego Pedestrian Master Plan Intersection Improvements
-  Shared BRT and Bicycle Lane
-  Cohesive Character District
-  Future Growth Likely
-  Non-compliant Curb Ramp
-  Opportunity for a Two-Phase Pedestrian Signal Crossing
-  Existing No Pedestrian Crossing Signage
-  Informal Pedestrian Crossing/ Crosswalk Needed
-  Activity Node
-  Well Lit
-  Poorly Lit
-  Opportunity for future Traffic Signal
-  Existing Traffic Signal

0 75 150 feet

# RECOMMENDATIONS

## 3.0 Recommendations

El Cajon Boulevard is a diverse corridor, and thus, faces diverse challenges in improving both the public and private realms. In order to match an appropriate solution/treatment to a particular challenge, the planning team assembled a “menu” of possible solutions that could be combined to improve the corridor. The planning team made recommendations regarding solutions which were then vetted by El Cajon BIA staff and stakeholders. The following sections provide details on each of the proposed solutions as well as the recommended locations for the solutions.



### 3.1 Possible Solutions

Solutions to issues identified in the existing conditions phase of the project are listed below. The solutions shown are generic and can be applied to different areas with minor modifications.

#### 3.1.1 Bulb-outs and Ladder Style Crosswalks

Ladder style markings are one of the many crosswalk striping patterns available. The ladder style is considered high visibility and is thus recommended by this plan. The ladder style markings can be modified and spaced such that they are not driven on to lower the wear from vehicle tires.

Corner bulb-outs or curb extensions provide increased safety, improved visibility of pedestrians, and shorter pedestrian crossing distances. They also provide space for street furnishings, landscaping, social areas and bicycle parking. Additionally, because of the tightened curb radius and narrowed lane width, they also serve as traffic calming.



#### 3.1.2 Uncontrolled Single Lane Crossings

Advance stop bars, extra street lights, signs and high visibility markings are essential for uncontrolled multi-lane crossings. This treatment is really only appropriate on streets with low traffic volumes. This plan recommends against any pedestrian crossing on El Cajon Boulevard that are not positively controlled by traffic signals, stop signs or other methods that stop traffic for pedestrians. This stance is due to the concept of “Multi-Lane / Multi-Threat”. This is when one vehicle stops for a pedestrian to cross, but others in the adjacent lanes do not, while the first stopped vehicle may be blocking the visibility of the pedestrian, thereby creating a shadow affect that is often very dangerous.

#### 3.1.3 Uncontrolled Multi-Lane Crossings

The treatment for uncontrolled multi-lane crossings is similar to the single-lane crossing however; the danger is greater for a multi-threat collision when one vehicle blocks the view of a pedestrian for another. An advance stop line is even more important so that vehicles in all lanes of traffic have clear sight lines of the crosswalk.

Breaking each side of the roadway into a separate, staggered crossing with a median refuge staggered corral, can provide pedestrians with the option to cross one side of the street at a time.

#### 3.1.4 Semi-Controlled Multi-Lane Crossings

Semi-controlled multi-lane crossings offer additional features for increasing motorist awareness that a pedestrian is in the crosswalk. These features must not be constant flashing lights, but rather activated through a push button or passively by a pedestrian detection system so that they are only engaged when the crosswalk is in use. Additional features can include in pavement lighting or rectangular rapid flash beacon (RRFB). A RRFB is a set of amber LEDs that supplement warning signs and use an irregular flash pattern that is similar to emergency flashers on police vehicles. These features do not stop traffic with an official signal; they only increase visibility at an uncontrolled crossing. As indicated above, uncontrolled multi lane crossings are discouraged and not recommended by this study. Using the same logic, semi-controlled multi-lane crossings a wide and high speed and high ADT street are also not recommended by this study.

#### 3.1.5 Positively Controlled Multi-Lane Crossings

A positively controlled multi-lane crossing is controlled with a traffic signal or a High Intensity Activated Cross Walk (HAWK) flasher. The HAWK signals remain off until a pedestrian activates the system by pressing a button. Upon activation the signal will first flash yellow to warn motorists they will need to come to a stop, this is followed by a solid red light for motorists. During the solid red phase pedestrians are given a walk signal. This phase is followed by a flashing red light for motorists where they can proceed with caution after stopping if there are no pedestrians in the crosswalk. During the flashing red phase pedestrians see a Don't Walk flashing signal with a countdown timer.

#### 3.1.6 Upgraded Pedestrian Actuators and Pedestrian Heads

Countdown pedestrian heads/timers can provide information to the pedestrian about when they should enter the intersection and how much time they have to exit the crosswalk. Acceptable actuators must conform to ADA accessibility standards in both placement and button design. Audible crossing pedestrian heads are also encouraged at most intersections with the tone 2 dB to 5 dB above ambient noise levels.

#### 3.1.7 Leading Pedestrian Interval (LPI) Advance Three Second Pedestrian Phase

A leading pedestrian interval provides a pedestrian walk signal a few seconds before the adjacent green light. This allows pedestrians to establish a presence in the crosswalk and thereby reduce conflicts with turning vehicles. This option supports improved safety for pedestrians by allowing them increased visibility within the intersection and is applicable to intersections where there are significant pedestrian-vehicle conflicts.

### 3.1.8 Mid-City Shared BRT & Bike Lane

A shared lane for transit and bicycles was originally part of the recommendations for the transit lane associated with the Mid-City Bus Rapid Transit line running along El Cajon Boulevard. However, changes in priorities and the concern that some in the business community expressed in possible lowering the overall upper capacity of El Cajon Boulevard, resulted in this option being dropped. However, this study recommends that the option should be further analyzed for possible inclusion as a future project feature. A number of other proposals for bike facilities on El Cajon have surfaced, including a “cycle track” option that would be placed between a lane of parking and the curb. This would require the dropping of a travel lane and create bike and ped conflicts at the BRT / standard bus station locations. The



shared lane is the recommended approach. These lanes would be colored red (or green) and be for the exclusive use of bicycles, Bus Rapid Transit and turning vehicles. The simulation above is from the existing SANDAG Mid-City Bus Rapid Transit project. Engineering work for the segment of the project between Park Boulevard/University Avenue and El Cajon Boulevard/College Avenue has been completed. This includes development of a signal priority treatment plan, station designs, street improvements and a small segment of transit-only lanes.

### 3.1.9 Traffic Speed Monitoring

Many cite increased regulation and enforcement as the solution to controlling speeding and reckless driving. Physical improvements provide a long term solution. However, some devices, such as radar speed display systems, can help to educate the public and slow the driver down.

### 3.1.10 Signal Synchronization

The current progression of traffic along El Cajon Blvd. is not optimized due to very old signal controllers. The synchronization of these signals, timed to a desired 35 mph flow, would increase intersection throughput, lower overall speeds and be of benefit to the BRT system. Posting a sign that states “signals timed to a 35mph flow”, increases the conformance to lower speeds.



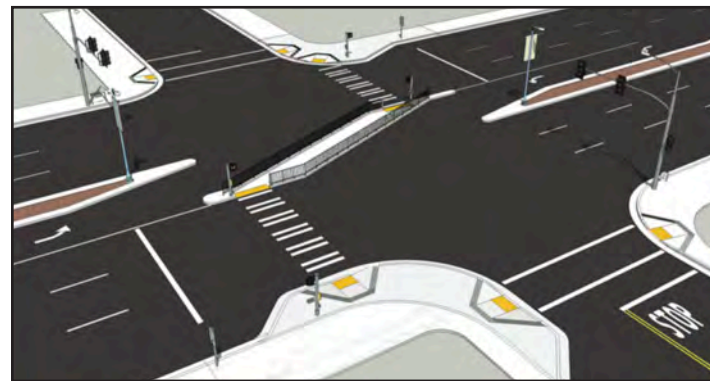
### 3.1.11 Traffic Diverters

The discussion below explains two types of traffic diverters: simple diverter with uncontrolled left turns and a two-phase, pedestrian actuated signalized intersection.



Typical Diverter with Unprotected Left Turns

This is the current existing condition on El Cajon Boulevard at intersections at Arizona, Idaho, Kansas and Ohio.



Two-phase, Pedestrian Actuated Signalized Intersection

The concept is to modify the existing permissive left intersections that currently include diverters that prevent the cross street traffic from crossing El Cajon Boulevard. The intent would be to add traffic signals that would provide for a protected left turn movement along with a two phased pedestrian crossing. The signals will be actuated by pedestrians or by left turning vehicles. One side of traffic would be stopped at a time. Infrared beam sensors and pedestrian actuators in the median would detect pedestrians and allow for the other side of the street to be stopped at the

appropriate time. The fenced corral, offset cross walks, and pedestrian restriction signs are needed to direct pedestrians to the opposite side of the street. Standard signals, markings and signage are proposed.

### 3.1.12 Green Streets

Green streets are designed to lessen the environmental impact of pedestrian and vehicular systems by reducing the urban heat island effect as well as stormwater runoff.

The urban heat island effect is created when materials used in the construction of buildings and roadways absorb heat during the day, retain the heat, and slowly release the heat during the night. Common construction materials that have this effect include concrete, asphalt, and roofing tiles (ceramic or asphalt). These materials have the effect of increasing both daytime and nighttime temperatures as compared to comparable undeveloped areas. Green streets can help reduce the urban heat island effect by reducing the amount of sunlight that reaches heat-absorbing materials and by reducing the amount of heat-absorbing materials used in construction.

The primary mechanism used in green streets to shade heat-absorbing materials is incorporation of street trees. Tree canopies not only reduce the amount of sunlight that reaches roadways and sidewalks, but they also have a cooling effect through evapotranspiration, helping to further offset the effects of heat gain. Street trees are typically planted at regular intervals on each side of the street between the sidewalk and on-street parking or travel lanes, although they can also be added to medians and between sidewalks and adjacent properties if space and functionality allow.

Green streets also reduce the amount of heat-absorbing materials used in roadway construction by narrowing roadway widths and increasing planted areas within the right-of-way. Every square foot of heat-absorbing surface that can be replaced with soil, mulch, or plant material will reduce the amount of heat gain during the day and facilitate cooling during the night. Added benefits of additional planted areas include aesthetic improvement and increased walkability.

Second, green streets help cities to manage stormwater. Stormwater runoff is a concern for cities in terms of both movement/conveyance and treatment.

The volume of stormwater that must be carried by a system is dictated by the amount of precipitation and the amount of impervious surfaces present in a system. The amount of precipitation a street receives cannot be controlled, and thus, improvements must focus on reducing the amount

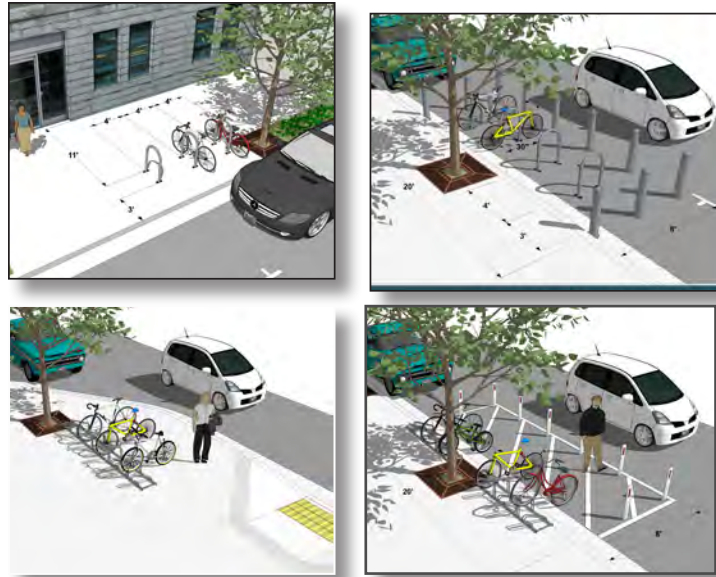
of impervious surface in the right-of-way. Impervious surfaces increase the amount of runoff that must be conveyed because they do not allow infiltration into the surrounding ground. Permeable surfaces, on the other hand, allow precipitation infiltration which reduces the amount of runoff created by a given area. A secondary benefit of allowing infiltration is the recharge of local groundwater, which benefits both plants and people in the surrounding area. Permeable pavements are not as durable as traditional roadway surfaces and are most commonly used as roadway shoulders, gutters, or sidewalks.

Green streets can also aid in the treatment of stormwater. Roadway runoff collects any number of pollutants and contaminants left behind by automobiles, pedestrians, and various other urban activities. Through the use of rain gardens, bioswales, and planters, stormwater can be retained and treated before it soaks into the ground or flows secondarily into the overall stormwater system. The local filtration of stormwater reduces the need for consolidated treatment, or in the worst case scenario, the amount of untreated water that is discharged elsewhere in the region.



### 3.1.13 Bike Parking Facilities

On street bike parking corrals allow for the addition of bike parking in an area with limited public right-of-way located in the sidewalk corridor by replacing a parking space with



a bike parking corral. An area that once accommodated a single parked car can provide parking for eight or more bicyclists. This feature is commonly used in Bicycle Friendly Business districts. San Diego currently has three corrals, one near the Lafayette Hotel, the Linkery and Snooze. Variations on the placement of these corrals and their barriers, are shown above.

Basic bike racks should also be added along the walkway environment, either in small bike racks or using stand along bike posts or simple racks. The most basic rack is one that attaches to poles and parking meters. Other simple bike racks are very affective. Potentially, an arts program could help to introduce fun, art and creative ideas for bike racks, that each property owner would help to sponsor up and down this corridor.

The bike rack should support the bicycle by its frame in two places, prevent the bicycle wheel from tipping over, allow the frame an one or both wheels to be secured and support bicycles with unconventional frames. "Inverted U" type racks are most recommended because each element can support two bicycles. Commonly used 'wave' type racks are not recommended because they support the bicycle at only one point. Also, cyclists often park their bikes improperly to wave style racks reducing the rack capacity to half or less. Proper installation of any chosen rack is also critical to proper and secure bike locking as well as the safety of passing pedestrians.

### 3.1.14 Streetscape Landscaping

Landscaping of the right-of-way yields multiple benefits for motorists, pedestrians, and property owners. Landscaping improves the appearance of a corridor. Landscape themes can be as simple as street trees or as elaborate as seasonal plantings, hanging planters, pocket parks, etc. The addition of street trees can provide both spatial definition and identity to a corridor. Landscaping can provide a dynamic element to the streetscape throughout the seasons as trees change color and flowers bloom. The shade provided by trees also increases the walkability of a corridor and can encourage outdoor activities such as sidewalk dining, public gatherings, street performances, and window shopping. Landscaping can be used to accentuate important architectural focal points or screen the visual blight of unsightly uses. In addition, streetscape landscaping can reduce the urban heat island effect and help to treat storm-water runoff.

### 3.1.15 Lighting

Adequate levels of pedestrian lighting are critical for public safety related to vehicular collisions or for the avoidance of crime related incidents. Lighting levels are determined by spacing, height, lumens of the light figure and orientation. Lighting should be concentrated on areas with collision potential. Lighting is also needed along the entire walkway in order to make walking feel safer at night.

### 3.1.16 Pedestrian Realm Recommendations

Below are recommendations for increasing the attractiveness and usability of the public realm. For the purposes of this study, "public realm" primarily refers to the space between the roadway and the adjacent business or residential property line along the El Cajon Boulevard corridor. Some of the following recommendations are allowable per existing City of San Diego policies, and some go above and beyond these guidelines.

- Encourage businesses to take advantage of the City's Public Right-of-Way (PROW) program, which allows for moveable sidewalk signage, outdoor displays, sidewalk seating/dining. In some cases, a portion of the sidewalk may be enclosed by low fencing to facilitate place-making and encourage activities such as outdoor dining. Use of the PROW activates the pedestrian realm and provides a transition space between the public sidewalk and private business.
- Increase the number of trash/recyclable receptacles throughout the study area. These design of the receptacles can contribute to a desired aesthetic for the corridor, while also helping to keep litter out of sight.

- Install banner hardware on light poles throughout the corridor. Banners are a way to help define the character of the corridor as well as inform pedestrians of local activities and destinations.
- Install hanging flower baskets and/or ground-level planters. Flower baskets help to beautify the corridor, have high visibility, and are out of the reach of vandals. Ground level planters also help to beautify the corridor and provide a buffer between the roadway and sidewalk, but are more prone to vandalism and sometimes serve as makeshift trash receptacles. Both will require regular watering and plant maintenance.
- Install kiosks with enclosed display panels for maps of the corridor and fliers of community events. The maps should display information such as street names, business locations, types of services offered, etc. Adequate kiosk lighting should be provided since many patrons will be using the kiosk at night.
- Discourage excessive signage in storefront windows. When windows are obscured, they essentially become walls, which reduce visual interest and sense of safety for pedestrians. Hanging signs, banners, and painted displays should be limited as much as possible. City signage standards allow up to a third of each window to be occupied by signage - the El Cajon BIA should encourage businesses to aim for 10-15% instead (alternating windows with signage, if necessary).
- Enhance street tree wells with tree grates, tree guards, and additional plantings. These items can add visual interest at the pedestrian level, contribute to the corridor's design theme, and help to protect the trees. Since many of the trees on El Cajon Boulevard are mature eucalyptus trees, custom grates/guards would be required. Improvements, such as enlarging tree wells (allowing for planting of additional vegetation) and adding sidewalk details around the tree wells could provide benefits to the trees and pedestrians as well.
- Encourage public art in various forms. Art can be either stand-alone or integral with projects, both in the public right of way and on private property. Limited murals already exist within the corridor. Opportunities for art are limitless, but murals, median art, sidewalk art (paving materials, designs, etc.), and custom street lights, tree guards, benches, trash receptacles, and signage are some of the most popular objects for artistic reinterpretation.



Use of Public Right of Way (PROW) for Sidewalk Dining



Excessive signage at El Cajon and 30th



Tree well/planter with decorative masonry and fencing



Existing Mural Artwork at Kansas Street



Only one bike corral currently exists within the study area



Street lighting should be expanded, like by the Lafayette

### 3.2 Site Specific Recommendations

The site plans on the following pages depict locations where the solutions mentioned in the first part of this chapter could be used to address the issues identified in Chapter 2. These recommendations include site-specific recommendations for:

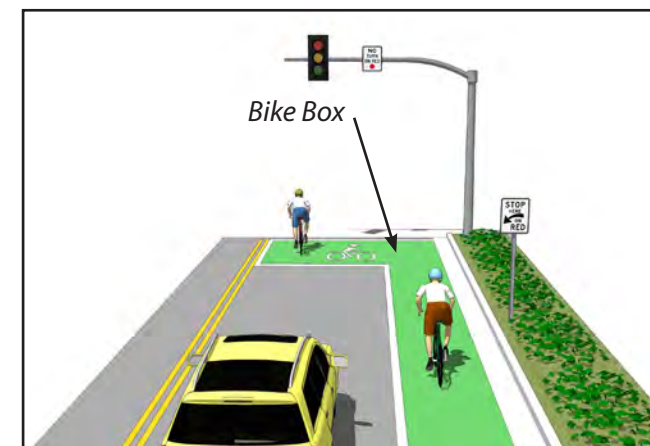
- Bulb Outs
- Curb Ramps
- Ladder Style Crosswalks
- Double/Single Acorn Lighting along El Cajon
- Pedestrian Refuges/Walkways
- New Traffic/Pedestrian Signals
- Bike Lanes/Routes
- Monumentation/Artwork
- Traffic Speed Monitors
- Closure of Select Left-Turn Pockets
- Conversion of Parallel Parking to Angled Parking

### 3.3 Items for Further Study

While the site plans provide location-specific recommendations, other recommendations will require further study corridor-wide:

- Further study is needed for the number, location, and configuration of bike racks and bike corrals. The corridor is currently under served in terms of bike parking.
- Pedestrian lighting on all side streets. An emphasis is needed for the first 150' from the intersection of the side street and El Cajon Blvd. The first 50' should be as bright as the lighting on El Cajon Blvd. The next 50' should be at least 1/2 as bright and the last 50' should be about 1/4 as bright. This allows for a transitional level of lighting from the dark streets of the residential neighborhoods to the brighter lighting levels of the commercial district.
- Further study is needed for the placement of pedestrian amenities such as benches, trash/recycling receptacles, bus/shade shelters, and information kiosks.

- Further study is needed to identify areas where the expansion of public art are possible. This would include murals, utility box paintings, window displays, unique architecture, monumentation, median artwork installations, banner systems, wayfinding signage and artful bike racks.
- Additional angled parking has been recommended by this study. Previous parking studies have indicated the streets where a net gain of parking would result from switching parallel parking with angled parking. This study indicates that a few more streets are wide enough to accommodate angled parking. However, without further investigations and site plan layouts, the number of spaces that these street can yield is not known.
- The El Cajon Boulevard study area should be analyzed for the possible integration and coordination of signal prioritization related to the BRT system that will employ que jumpers for their busses. A system that takes into account the BRT controls, along with the pedestrian two phase crossings requirements is needed. The system should inter-connect all signals from Park to 805 with the intent of persuading traffic to proceed at 35 miles per hour. Signage is needed to convey this preferred speed. Signs stating "Signals timed for 35 mph" would be needed in several locations, especially associated with the speed radar display panels.
- Traffic studies for signal additions and coordination should also include a study investigating the addition of a pedestrian scramble at the intersection of El Cajon Boulevard and 30th Street.
- Further study is needed to identify turning movements of cyclists along El Cajon. It may be found that a "Bike Box" will increase the safety and comfort of cyclists turning at El Cajon and Utah and/or El Cajon and Texas. Bicycle counts at these locations can be utilized to understand the patterns of cyclists in the area.



### 3.4 City of San Diego Angled Parking Standards

The City of San Diego is currently reviewing its standards related to angled parking on streets. One of the most dramatic potential changes to the parking standards is to allow head-in (90 degree) parking in certain locations. A pilot project on a section of Kansas Street, north of El Cajon, has already been undertaken. Although the changes have not yet been adopted, recommendations include:

- Allow for head-in and other parking angles, such as back-in parking
- Simplify the review process to change the on-street parking configuration
- Provide additional guidance as to required road conditions for different types of angled parking
- Provide a range of 12 feet to 20 feet of required red curb (rather than a blanket standard of 20 feet) when siting angled parking
- Identify where red curb can be reduced due to newer Fire Department equipment requirements

### 3.5 Initial Parking Yields

Various side streets that are at least 50' in width (52' preferred) have been laid out with angled parking on one side. The side with the lesser number of driveways has been utilized to get the most effective yield of spaces. This study assumed that an angled parking space requires 12' of linear curb measurement. Because of certain offset requirements, an available parking distance was divided by 12' and then rounded down. Some excessively wide driveways were assumed to be reduced to 22' in width in order to make more room for angled parking. When comparing the new number of spaces with existing parallel parking spaces, the total available parking distance was divided by 20'. A total of 82 angled spaces are indicated on the plans. These areas currently have 45 vehicles parallel parked, so a net parking yield of 37 is estimated. Practical experience indicates that probably only 75% of these are likely to be approved. However, if angled parking is analyzed extending further up these side streets, a higher parking yield is likely.

# Recommendations Legend

## 1 MTS BRT Upgraded Intersection (3 total)

(Park, Texas and 30th St)



- a. Bus Bulb-Outs
- b. Ladder-Style Crosswalk w/ Median Refuge & Secondary Accuator
- c. Upgraded Pedestrian Actuators and Ped Heads (where applicable)
- d. Leading Pedestrian Interval (LPI)
- e. Improved Curb Ramps (where applicable)
- f. Lighting
- g. BRT Shade Shelter & Amenities

## 2 Pedestrian Master Plan Upgraded Intersection (3 total)

(Florida, Oregon and Utah)



- a. Bulb-Outs
- b. Ladder-Style Crosswalk w/ Median Refuge & Secondary Acuator
- c. Upgraded Pedestrian Actuators and Ped Heads (where applicable)
- d. Leading Pedestrian Interval (LPI) (Texas, Utah and 30th only)
- e. Improved Curb Ramps (where applicable)
- f. Lighting

## 3 New 4-Way Signalized Intersection (1 total)

(Mississippi St)



- a. Bulb-Outs
- b. Ladder-Style Crosswalk
- c. New Traffic Signals, Upgraded Pedestrian Actuators and Ped Heads (where applicable)
- d. Leading Pedestrian Interval (LPI)
- e. Improved Curb Ramps (where applicable)
- f. Lighting
- g. Street Trees

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project

## 4 New Two Phase Signalized Intersection (4 total)

(Hamilton, Idaho, Kansas and Ohio)



- a. Bulb-Outs
- b. Ladder-Style Crosswalk
- c. New Traffic Signals, Ped Actuators & Ped heads
- d. Improved Pedestrian Refuge Area/Walkway
- e. Improved Curb Ramps (where applicable)
- f. Lighting
- g. Pedestrian Corral w/ Fencing, Two Phase Pedestrian Signals w/ Sensors
- h. Wrong Way Signage, Turn Markings and Stop Bar Striping

## 5 Intersection with Angled Parking on Side Streets (9 total)



- a. Partial Bulb-Outs w/ Stormwater Runoff Capture
- b. Lighting
- c. Permeable Paving
- d. Bioswale
- e. Street Trees
- f. Improved Curb Ramps (where applicable) w/ Bike Corral or Bike Racks

## 6 Intersection with Minor Improvements (10 total)



- a. Partial Bulb-Outs
- b. Removed Driveways
- c. Bike Racks
- d. Lighting
- e. Improved Curb Ramps (where applicable)
- f. Widen Sidewalks
- g. Stormwater Runoff Capture
- h. Street Trees

# Recommendations

1 of 4

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project



**LEGEND:**

- Bulb Out
- Improved Curb Ramp
- Ladder Style Crosswalk
- Lighting Single Acorn Style
- Lighting Double Acorn Style
- Improved Pedestrian Refuge Walkway
- Improved Pedestrian Refuge Area
- Traffic Signal with Cobra Street Light

- Shared Transit / Bike Lane
- Bike Route
- Bike Lane
- Traffic Speed Monitor
- NPCP "Reclaimed St" Corridor
- NPCP "Green St" Corridor
- Entry Monumentation
- Boundary St. Improvements

- MTS BRT Upgraded Intersection
- Pedestrian Master Plan Upgraded Intersection
- New 4-Way Signalized Intersection
- New Two Phase Signalized Intersection
- Intersection with Angled Parking on Side Streets
- Intersection with Minor Improvements

0' 75' 150'



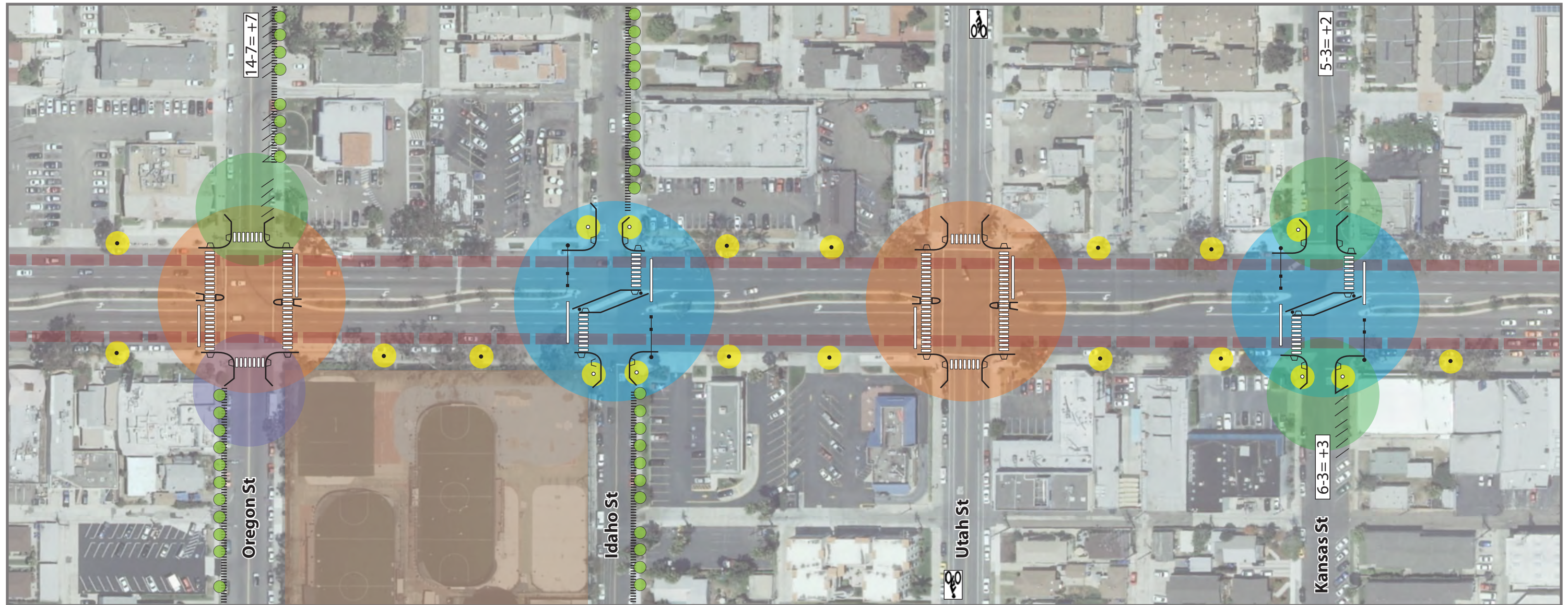



























# Recommendations

3 of 4

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project



## LEGEND:

-  Bulb Out
-  Improved Curb Ramp
-  Ladder Style Crosswalk
-  Lighting Single Acorn Style
-  Lighting Double Acorn Style
-  Improved Pedestrian Refuge Walkway
-  Improved Pedestrian Refuge Area
-  Traffic Signal with Cobra Street Light
-  Shared Transit / Bike Lane
-  Bike Route
-  Bike Lane
-  Traffic Speed Monitor
-  NPCP "Reclaimed St" Corridor
-  NPCP "Green St" Corridor
-  Entry Monumentation
-  Boundary St. Improvements
-  MTS BRT Upgraded Intersection
-  Pedestrian Master Plan Upgraded Intersection
-  New 4-Way Signalized Intersection
-  New Two Phase Signalized Intersection
-  Intersection with Angled Parking on Side Streets
-  Intersection with Minor Improvements
-  North Park "Park" - Urban Park After Lease Expires

0' 75' 150'



# Recommendations

4 of 4

# West End El Cajon Blvd. Traffic Calming & Street Improvement Project



## LEGEND:

- |  |                              |  |
|--|------------------------------|--|
| Bulb Out                               | Shared Transit / Bike Lane   | MTS BRT Upgraded Intersection                    |
| Improved Curb Ramp                     | Bike Route                   | Pedestrian Master Plan Upgraded Intersection     |
| Ladder Style Crosswalk                 | Bike Lane                    | New 4-Way Signalized Intersection                |
| Lighting Single Acorn Style            | Traffic Speed Monitor        | New Two Phase Signalized Intersection            |
| Lighting Double Acorn Style            | NPCP "Reclaimed St" Corridor | Intersection with Angled Parking on Side Streets |
| Improved Pedestrian Refuge Walkway     | NPCP "Green St" Corridor     | Intersection with Minor Improvements             |
| Improved Pedestrian Refuge Area        | Entry Monumentation          |  |
| Traffic Signal with Cobra Street Light | Boundary St. Improvements    |  |

0' 75' 150'

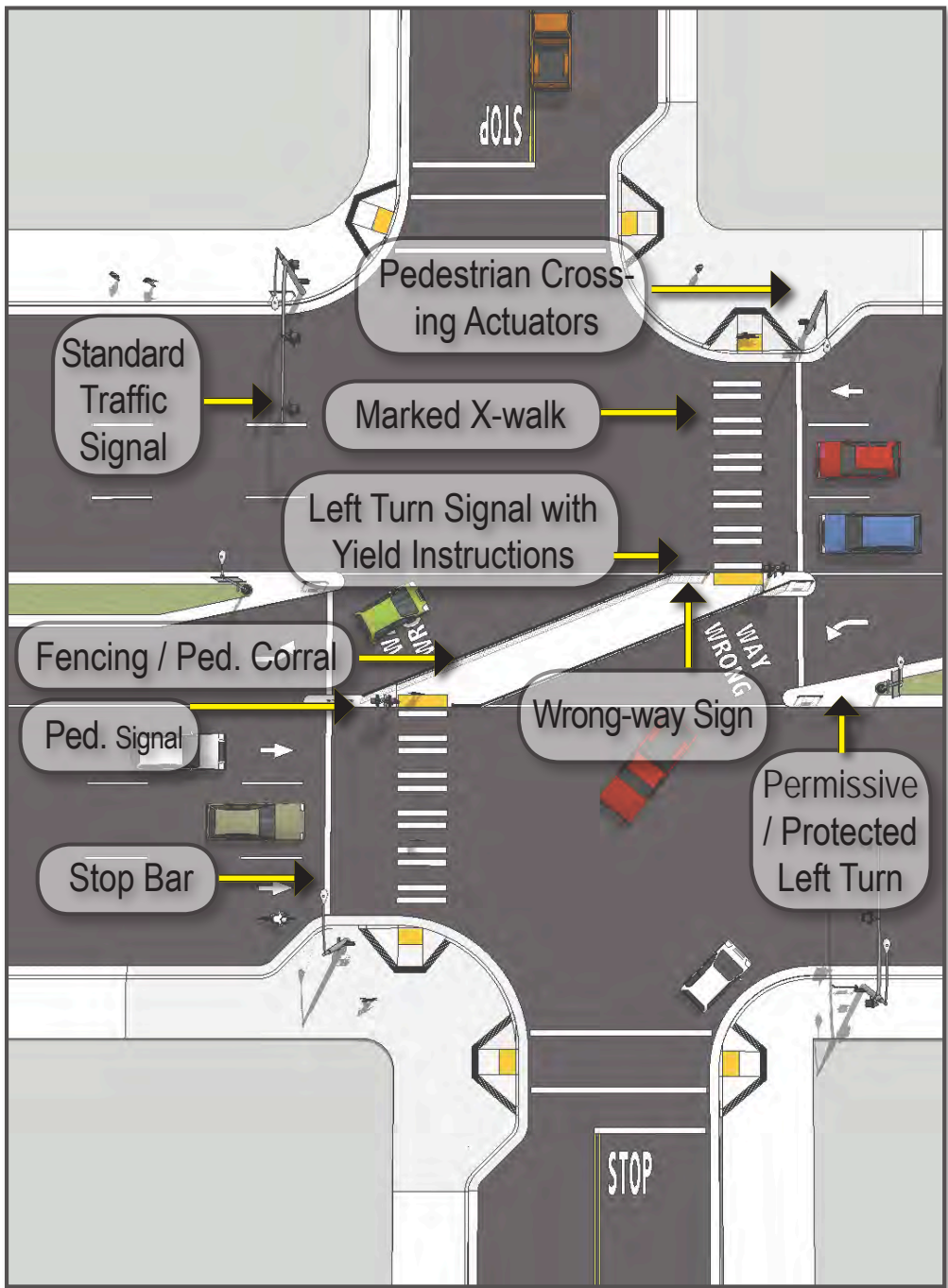
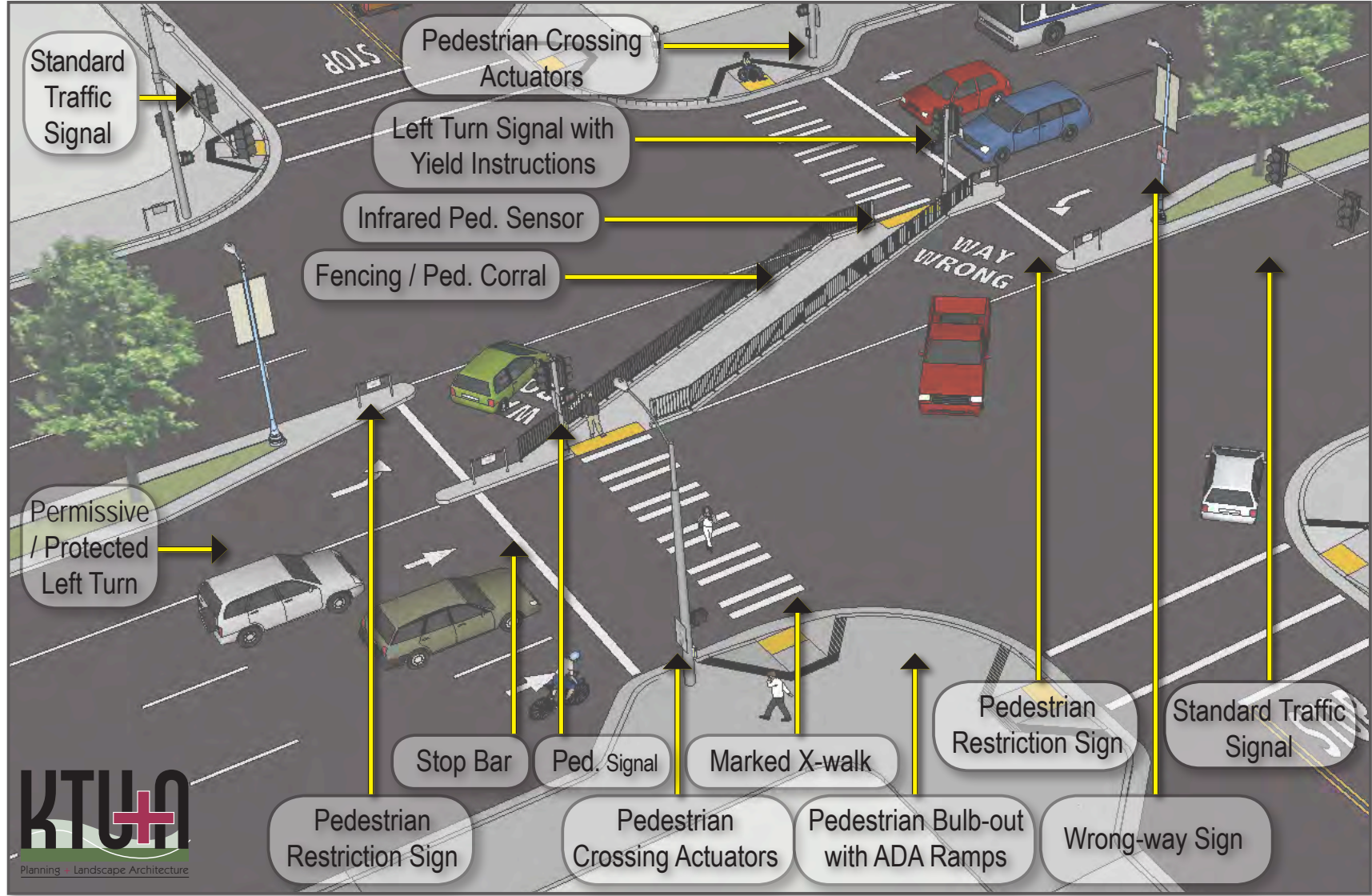




**Concept Statement:**

El Cajon Boulevard was modified as a major arterial with the introduction of medians and left turn controls and limited intersections with traffic signals. This resulted in making pedestrian crossing even more difficult. In some cases, several hundred feet exist between safe and legal pedestrian crossings. The concept is to modify the permissive left intersections that currently include diverters that prevent the cross street traffic from crossing El Cajon Boulevard. The intent would be to add traffic signals that would provide for a protected left turn movement along with a two phased pedestrian crossing. The signals will be actuated by pedestrians or by left turning vehicles. One side of traffic would be stopped at a time. Infrared beam sensors and pedestrian actuators in the median would allow for the other side of the street to be stopped at the appropriate time. The fenced corral, offset cross walks, and pedestrian restriction signs are needed to direct pedestrians to the opposite side of the street. Standard signals, markings and signage are proposed.

**3D Model of Proposed Two-Phase Pedestrian Crossing**



Plan View of Two-Phase Pedestrian Crossing



Oblique Aerial of Existing Diverters



Existing Pedestrian Restricted Intersection

### 3.6 Parking and Congestion Relief

Parking and congestion relief can result from an improved walking and biking environment along the El Cajon corridor. Bicycle and pedestrian improvements may reduce congestion to the extent they shift mode choice from single occupancy vehicles to bikes and walking. Projects are often more successful in reducing VMT in locations where short driving trips, such as trips to local shopping areas, schools, or commercial districts, are common. This can also result in reduced demand for parking. When parking is scarce and bicycling and walking are reasonable options, a driver is more likely to park once and walk between destinations or choose not to drive at all.

Bicycle and pedestrian projects can contribute to improvements in mobility by providing additional options for people who might choose walking or biking. These projects improve the ability to reach desired goods, services, activities and destinations using non-motorized forms of transportation and may help diminish the need for automobile travel therefore reducing parking demand and congestion. By providing bicycle and pedestrian access across barriers such as arterial roads like El Cajon Boulevard, increased access may not only reduce driving trips but also can improve mobility and access for non-drivers.



Parking is Needed for Both Autos and Bicycles

### 3.7 Financial/Funding Analysis

The close of the chapter provides information on financial aspects of the improvements recommended as a part of the study. These sections provide initial cost estimates, potential funding sources, and phasing/“level of difficulty” information for implementation.

#### 3.7.1 Initial Cost Estimates

The following tables capture the various aspects of the project and makes an initial attempt at determining costs. These costs are very preliminary and should not yet be used for programming projects or in discussing expectations on improvement costs. Also, many of the items listed as possible recommendations are not yet included in these costs.

#### 3.7.2 Potential Funding Sources

An initial listing of the potential funding sources that could be applied to some aspects of this project have been included on the following tables. As the project is refined, these funding sources will be narrowed to only those that are likely to be useful for this project.



Improved Mobility Options Can Reduce Auto Traffic

#### 3.7.3 Phasing and Implementation

The projects in this report are a combination of planned and recommended projects. The BRT and Pedestrian Plan are planned projects and are on individual timelines and therefore not part of this phasing plan.

Implementation of the recommended projects is subject to various factors of funding, city projects already in the Capital Improvement Project process and local interest. The projects have been split into implementation categories based upon the process it may take to have them shovel ready. Some projects, such as the double acorn lights, can be done without delay. The single acorn lights will need to be installed in conjunction with the bulbouts and a side street lighting study.

Additionally, it should be kept in mind that not each project needs to be fully implemented right away. The bulbouts and parking can be installed with pavement striping and a curb can be installed at a later date if funding is limited.

Some improvements will need further study prior to construction. For example, treatments for crossing and traffic calming synchronization on El Cajon Boulevard will need further study.

Finally, several intersections have similar recommendations, it might be more feasible to start with implementing one as a pilot study. Often, funding for pilot studies is easier to obtain than funding the entire set of intersections. Then, as the facility is built and monitored, there is an opportunity for increased support from an already implemented and proven design.

No approvals	Possible Funding Sources
Acorn style Double Heads on the Boulevard	L1, L2, L6, L7
General non-intersection Streetscape Improvements	
Easy approval	
Traffic Speed Monitor	S5, F5
Intersection with Angled Parking on Side Streets	L1, L2, L6, L7
Intersection with Minor Improvements	L1, L2, L6, L7
Permitted/Studies	
New 4-Way Signalized Intersection	L9, L10, S2, F5
New Two Phase Signalized Intersection	
Area Street Lighting Improvements (Single Acorn Lighting)	L1, L2, L6,
Independent Timeline	
MTS BRT Upgraded Intersection & Shared Transit / Bike Lane	N/A
Pedestrian Master Plan Upgraded Intersection	N/A
NPCP Reclaimed Street and Greet Street Corridors	N/A

**Possible Funding Sources and Grant Types**

Source	Administrator	Description	Funding Cycle	Match Required?	
F1	Community Development Block Grants (CDBG)	Council Districts	Available for low-income neighborhoods to improve land use and transportation infrastructure. Can be used for accessibility improvements citywide.	Annual Budget	None
F2	FDA Nutrition Network Mini Grants	San Diego Nutrition Network	From time to time, Nutrition Network offers mini grants focused on neighborhood or street-level walkability assessments.	Varies	None
F3	Congestion Mitigation and Air Quality (CMAQ)	FHWA/Caltrans	Funding available for projects or programs that shift traffic demand to non-peak hours or other transportation modes during peak hours.	Annual	11%
F4	Transportation Alternatives	FHWA/Caltrans	Funds recreational trails, Safe Routes to School and Transportation Enhancement projects.	Annual	TBD
F5	Highway Safety Improvement Plan (HSIP)	FHWA/Caltrans	Goal to increase highway safety with bicycle and pedestrian infrastructure specifically named. Must include data collection to measure increased safety.	Annual	10%

Source	Administrator	Description	Funding Cycle	Match Required?	
O1	Health Foundations	Various foundations	Focus on planning for pedestrian improvements as an obesity prevention strategy. Examples include California Wellness Foundation, Kaiser and California Endowment.	N/A	N/A
O2	Donations	Depends on nature of project	Corporate or individual donations, sponsorships, merchandising or special events.	N/A	N/A
O3	In-kind Services	Depends on nature of project	Donated labor & materials for facility construction or maintenance such as tree planting programs.	N/A	N/A

Source	Administrator	Description	Funding Cycle	Match Required?	
O4	Adjacent land owners	City of San Diego Streets Division	Adjacent land owners are responsible for constructing & maintaining walks along the property edge that includes a public right of way.	N/A	N/A
O5	Voluntary Easements	City of San Diego Streets Division	Voluntary easements from adjacent property owners help make new pedestrian facilities affordable for local governments.	N/A	N/A

**Possible Funding Sources and Grant Types**  
Continued

Source	Administrator	Description	Funding Cycle	Match Required?
L1	Business Improvement Districts	City of San Diego Approved Business Improvement Districts	A BID is established by a vote of affected businesses, who pay a yearly assessment for use in planning, marketing & physical improvements. Often used as a local match for streetscape improvement programs, which can include pedestrian facilities.	Annual Budget N/A
L2	Capital Improvement Program (CIP)	City of San Diego	Includes sidewalk replacement, 50/50 Sidewalk Replacement Cost Sharing Program, temporary repairs, lighting, landscaping, and maintenance of all devices and facilities.	Annual Budget N/A
L3	50/50 Cost Sharing Program	City of San Diego	The City splits the cost of sidewalk replacement with the adjacent homeowner.	Annual Budget N/A
L4	Developers - General Requirements	City of San Diego Development Services Department	City transportation standards and building codes require new construction and alterations to include pedestrian facilities, lighting and landscaping. Standards may also require dedication of open space for a trail and trail construction.	N/A N/A
L5	Developers - Impact Fees (Infill Development)	City of San Diego Development Services Department	For development on previously developed parcels (infill development), Developer Impact Fees are assessed by the city to offset public costs required to provide infrastructure supporting the new development.	N/A N/A
L6	Maintenance Assessment Districts	City of San Diego Park & Rec. Dept. (some MADs are administered locally)	Requires a neighborhood ballot to initiate this tax, which usually is levied for landscaping and lighting.	Annual Budget N/A
L7	Parking Meter Districts	City of San Diego Economic Development Dept.	Parking Meter Districts use parking meter revenues for streetscape improvements such as ped. facilities, landscaping & lighting.	Annual Budget N/A
L8	Transportation Sales Tax (TRANSNET) Local Share	City of San Diego	In 2004, voters approved Prop. A, a 40-year extension of TransNet. The proposition will generate \$14 billion for transportation projects. Several new programs will fund pedestrian facilities, smart growth development & neighborhood traffic safety projects.	Annual or biennial starting in '08 None

Source	Administrator	Description	Funding Cycle	Match Required?
L9	Smart Growth Incentive Program	SANDAG	Regional funds dedicated to smart growth projects, which include pedestrian facilities.	Annual None
L10	Active Transportation Grant Program	SANDAG	These competitive grants support capital and planning projects toward local system improvements for bicycle, pedestrian, neighborhood safety, and traffic calming. Only cities and the County of San Diego may apply, all other organizations must partner with their local jurisdiction. The funding source for this grant program is TDA & TRANSNET sales taxes and CMAQ.	Annual None

Source	Administrator	Description	Funding Cycle	Match Required?
S1	Bicycle Transportation Account (BTA)	SANDAG	Provides \$5 million statewide for bicycle facilities, which includes trails that are used by pedestrians.	Annual (Fall) None
S2	Community-Based Transportation Planning (CBTP) Grants	CALTRANS	CBTP grants fund planning activities for livable community projects such as affordable housing, sustainable developments, land use & transportation integration, transit-oriented developments, jobs/housing balance & expanded transportation choices.	2-3 years 20%
S3	Environmental Justice (EJ) Planning Grants	CALTRANS	EJ planning grants help engage low-income and minority communities in transportation projects early in the planning process to ensure equity and positive social, economic and environmental impacts occur.	Annual (Oct.) 10%
S4	Safe Routes to School (SR2S) Program	FHWA/Caltrans	SR2S is administered by Caltrans, and funds engineering and education projects that improve safety to/from schools.	Annual 10%
S5	Office of Traffic Safety (OTS)	Office of Traffic Safety (OTS)	Funds are used to address infrastructure-related highway safety improvements on any publicly-owned roadway or bicycle/pedestrian pathway or trail.	Annual None

**Preliminary Cost Estimates**

**EL CAJON BOULEVARD WEST END CAPITAL IMPROVEMENT ESTIMATES**

3/6/13

**INTERSECTION / PEDESTRIAN IMPROVEMENTS**

	QUANTITY	UNIT	UNIT PRICE	SUB-TOTALS
<b>Intersection Type 1: MTS BRT Upgraded Intersection (3 total): Covered under MTS funding</b>				
<b>Intersection Type 2: Projects Identified by the City of SD Ped. Master Plan (3 Total): Costs not included here, but could be added</b>				
<b>Intersection Type 3: Full Signalization at Mississippi</b>				
	1	Location		
Over the road traffic signals with cobra lighting	1	EA	\$175,000	\$175,000
Ped. Signals (including countdown, audible & LPI)	2	EA	\$1,000	\$2,000
Bulb-outs & compliant ramps	4	EA	\$25,000	\$100,000
Street trees and plantings	2	EA	\$1,000	\$2,000
Street markings/crosswalks (incl. detectors)	4	EA	\$1,500	\$6,000
SUB-TOTAL PER INTERSECTION				\$285,000
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$51,300
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$42,750
SUB-TOTAL PER INTERSECTION				\$379,050
<b>TOTAL COSTS ALL LOCATIONS</b>				<b>\$379,050</b>
<b>Intersection Type 4: Two Phase Ped. Intersection</b>				
<b>Controlled Pedestrian Crossings</b>				
	4	Locations		
Bulb-outs & compliant ramps	4	EA	\$25,000	\$100,000
Intersection corral fence & ramps	1	EA	\$10,000	\$10,000
Pedestrian countdown / audible / LPI signal heads	4	EA	\$1,000	\$4,000
Over the road traffic signals	2	EA	\$50,000	\$100,000
Cobra lighting on signal pole	2	EA	\$10,000	\$20,000
Stand alone vertical turn signals	2	EA	\$15,000	\$30,000
Modified ladder style crosswalks	2	EA	\$500	\$1,000
Pedestrian sensors	4	EA	\$750	\$3,000
Misc. signage & lane markings	1	EA	\$500	\$500
SUB-TOTAL PER INTERSECTION				\$268,500
<b>PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$48,330
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$40,275
SUB-TOTAL PER INTERSECTION				\$357,105
<b>TOTAL COSTS ALL LOCATIONS</b>				<b>\$1,428,420</b>
<b>Intersection Type 5: Intersections with Angled Parking</b>				
	9	Locations (1/2 intersection)		
Bulb-outs & compliant ramps (2 per 1/2 intersection)	2	EA	\$12,500	\$25,000
Street trees	4	EA	\$1,000	\$4,000
Modified drainage & bio-swales	2	EA	\$2,500	\$5,000
Permeable pavement at curb	2	EA	\$2,000	\$4,000
Lighting improvements (4 per 1/2 intersection)	4	EA	\$7,500	\$30,000
Larger bike racks or corral	1	EA	\$2,000	\$2,000
Modified angled striping & signage	1	EA	\$900	\$900
SUB-TOTAL PER 1/2 INTERSECTION				\$70,900
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$12,762
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$10,635
SUB-TOTAL PER INTERSECTION				\$94,297
<b>TOTAL COSTS ALL LOCATIONS</b>				<b>\$848,673</b>
<b>Intersection Type 6: Intersections with Minor Changes</b>				
	10	Locations (1/2 intersection)		
Bulb-outs & compliant ramps (2 per 1/2 intersection)	2	EA	\$12,500	\$25,000
Modified walkway / removed driveways	1	EA	\$1,000	\$1,000
Street trees	4	EA	\$1,000	\$4,000
Modified drainage & bio-swales	2	EA	\$2,500	\$5,000
Lighting improvements (2 per 1/2 intersection)	2	EA	\$7,500	\$15,000
Individual bike racks	4	EA	\$1,000	\$4,000
Misc. parking striping	1	EA	\$900	\$900
SUB-TOTAL PER 1/2 INTERSECTION				\$54,900
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$9,882
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$8,235
SUB-TOTAL PER INTERSECTION				\$73,017
<b>TOTAL COSTS ALL LOCATIONS</b>				<b>\$730,170</b>

**EL CAJON BOULEVARD WEST END CAPITAL IMPROVEMENT ESTIMATES**

3/6/13

**OTHER CORRIDOR IMPROVEMENTS**

	QUANTITY	UNIT	UNIT PRICE	SUB-TOTALS
<b>Area Street Lighting Improvements</b>				
	70	Locations		
Acorn style double heads on the Boulevard	40	EA	\$9,000	\$360,000
Cobra head on standard galvanized pole (covered above)	10	EA	\$0	\$0
Acorn style single heads on side streets (covered above)	20	EA	\$0	\$0
SUB-TOTAL FOR CORRIDOR				\$360,000
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$64,800
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$54,000
<b>TOTAL PROJECT</b>				<b>\$478,800</b>
<b>Traffic Calming Improvements</b>				
	4	Locations		
Install radar display systems	4	EA	\$10,000	\$40,000
Install additional speed limit signs	8	EA	\$250	\$2,000
SUB-TOTAL FOR CORRIDOR				\$42,000
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$7,560
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$6,300
<b>TOTAL PROJECT</b>				<b>\$55,860</b>
<b>General non-intersection Streetscape Improvements</b>				
	1	EA	\$15,000	\$15,000
Entry monument at east end	1	EA	\$15,000	\$15,000
Infill median trees	20	EA	\$800	\$16,000
Infill parkway street trees and grates	60	EA	\$1,000	\$60,000
Arizona Street extended medians demo	3,363	SF	\$3	\$10,089
Arizona Street extended medians grading & compaction	3,363	SF	\$4	\$13,453
Arizona Street extended medians curb & gutter	400	LF	\$35	\$14,000
Arizona Street filled in trees, planting and irrigation	3,363	SF	\$6	\$20,179
Benches/seats	32	EA	\$1,200	\$38,400
Trash receptacles	32	EA	\$1,000	\$32,000
Information/directional kiosks	8	EA	\$3,000	\$24,000
Public art/murals	4	EA	\$10,000	\$40,000
SUB-TOTAL FOR CORRIDOR				\$283,121
<b>FACILITATION / PERMITTING / DESIGN / ENGINEERING / ENVIRONMENTAL</b>				<b>18%</b> \$50,962
<b>CONSTRUCTION COST CONTINGENCY &amp; CONTRACTOR FEES</b>				<b>15%</b> \$42,468
<b>TOTAL PROJECT</b>				<b>\$376,550</b>
<b>Misc. Projects Not Estimated</b>				
North Park "Park" Lease Reclaimed as Urban Park (too conceptual to estimate & funded as a different project)				
NPCP Reclaimed St: Mississippi (too conceptual to estimate & funded as a different project)				
NPCP Green St: Oregon & Idaho (too conceptual to estimate & funded as a different project)				
North Park "Park" Lease Reclaimed as Urban Park (too conceptual to estimate & funded as a different project)				
Synchronized Traffic Signals in Corridor (not estimated at this time, too conceptual)				
Boundary Street Project (too conceptual to estimate & funded as a different project)				
<b>GRAND TOTAL IMPROVEMENTS</b>				<b>\$4,297,523</b>
<b>ROUNDED IMPROVEMENT COSTS</b>				<b>\$4,300,000</b>
TOTAL SOFT COSTS- PERMITS/DESIGN/ENG/ENV				\$245,596
CONSTRUCTION COST CONTINGENCY & CONTRACTOR FEES				\$204,663