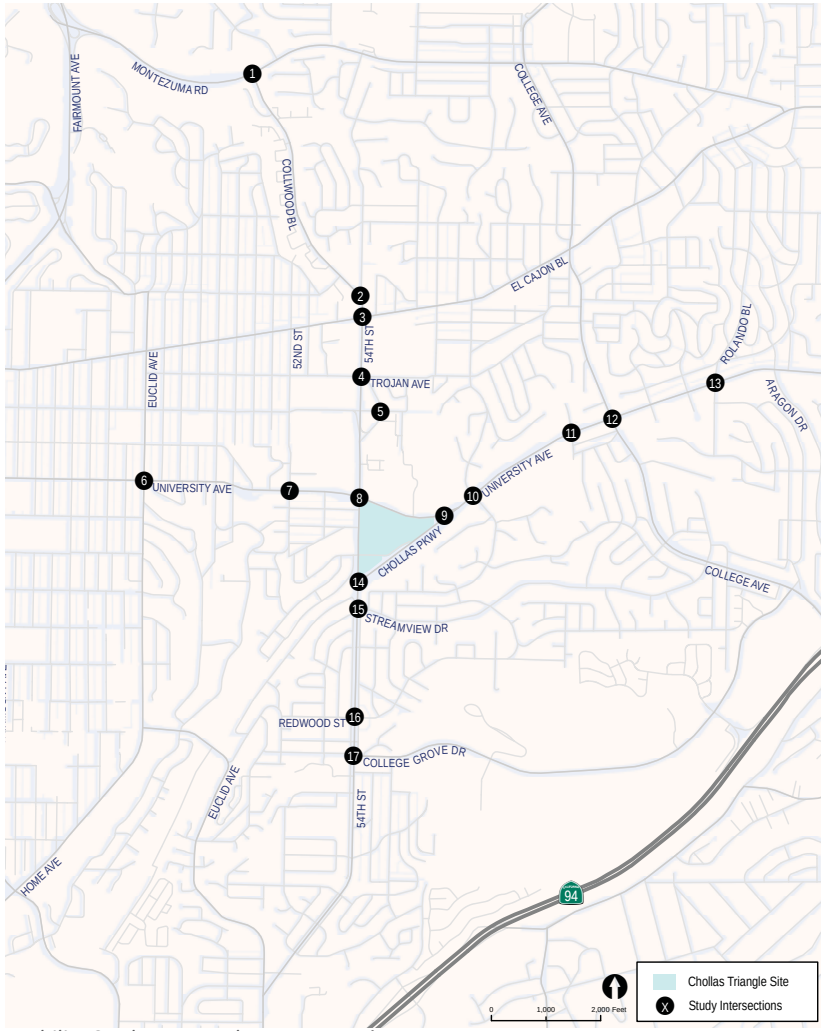
4 mobility context

This chapter includes a summary of the transportation conditions within the Chollas Triangle study area, including the following:

- An overview of the base year (2011) transportation system serving the Chollas Triangle study area including an inventory of the pedestrian network, bicycle transportation system, public transit system, and roadway system.
- Local and regional programmed/planned transportation improvements within or in the vicinity of the Chollas Triangle study area.
- Existing operating conditions and levels of service (LOS) are reported for each of the transportation mode types.

Further technical analysis can be found in the Chollas Triangle Master Plan: Mobility Existing Conditions Report prepared by Fehr and Peers for the City of San Diego.



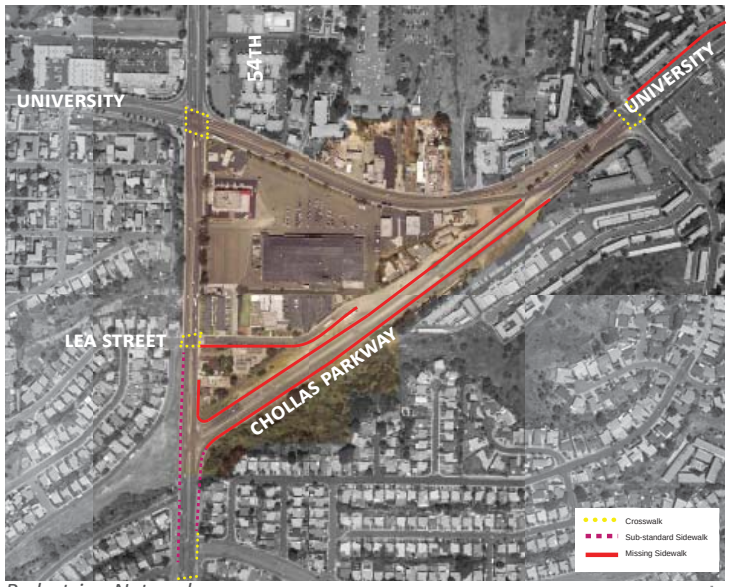
Mobility Study Area and Key Intersections

MOBILITY STUDY AREA

The study area for the Chollas Triangle Master Plan is generally bounded by Montezuma Road to the north, Rolando Boulevard to the east, College Grove Drive to the south, and Euclid Avenue to the west. Chollas Triangle study area and key study intersections are shown in the accompanying diagram.

The analysis locations for this project include LOS evaluations for pedestrians, bicycles, transit, and vehicles. The LOS evaluations for pedestrians, bicycles, and transit are discussed within the context of the Chollas Triangle site, where these modes of travel interact with each other and the existing land uses. The vehicular LOS analysis covers a broader area based on review of forecasted traffic patterns from the SANDAG Regional Transportation Model (Series 12). A summary of key points is included below:

- The intersection of 54th Street & University Avenue borders the Chollas Triangle and is an important component of the transportation network for all modes as it includes the highest number of peak period pedestrians, peak period bicyclists, daily transit boardings and alightings, and among the highest vehicular volumes in the study area;
- The Chollas Triangle study area is served by nine transit routes. A planned Bus Rapid Transit route on nearby El Cajon and arterial transit priority measures that will enhance transit service along University.
- The Multi-modal LOS analysis indicates that facilities in the study area generally operate at acceptable levels of service, with the exception of one pedestrian segment, one transit segment, two vehicle segments, and two vehicular intersections;
- The topography and transportation facilities surrounding the Chollas Triangle site tend to act as a barrier that separates the Chollas Triangle from the surrounding neighborhoods.



Pedestrian Network

PEDESTRIAN NETWORK

According to the City of San Diego's Pedestrian Master Plan, pedestrian facilities are generally categorized into seven types based on function, adjacent uses, and physical characteristics. The following key pedestrian facilities are found at or adjacent to the Chollas Triangle site:

University Avenue – The segment of University Avenue adjoining the northern portion of the Chollas Triangle site includes **corridor sidewalks,** characterized by moderate density business and commercial destinations, along an urban major arterial with moderate pedestrian levels.

54th Street - The segment of 54th Street adjoining the western portion of the Chollas Triangle site includes **connector sidewalks,** are characterized by commercial uses, open space, and limited pedestrian access to residential uses, along an urban major arterial with low pedestrian levels. South of Lea Street, 54th Street includes missing sidewalks and sub-standard sidewalks on the east and west sides of the street.

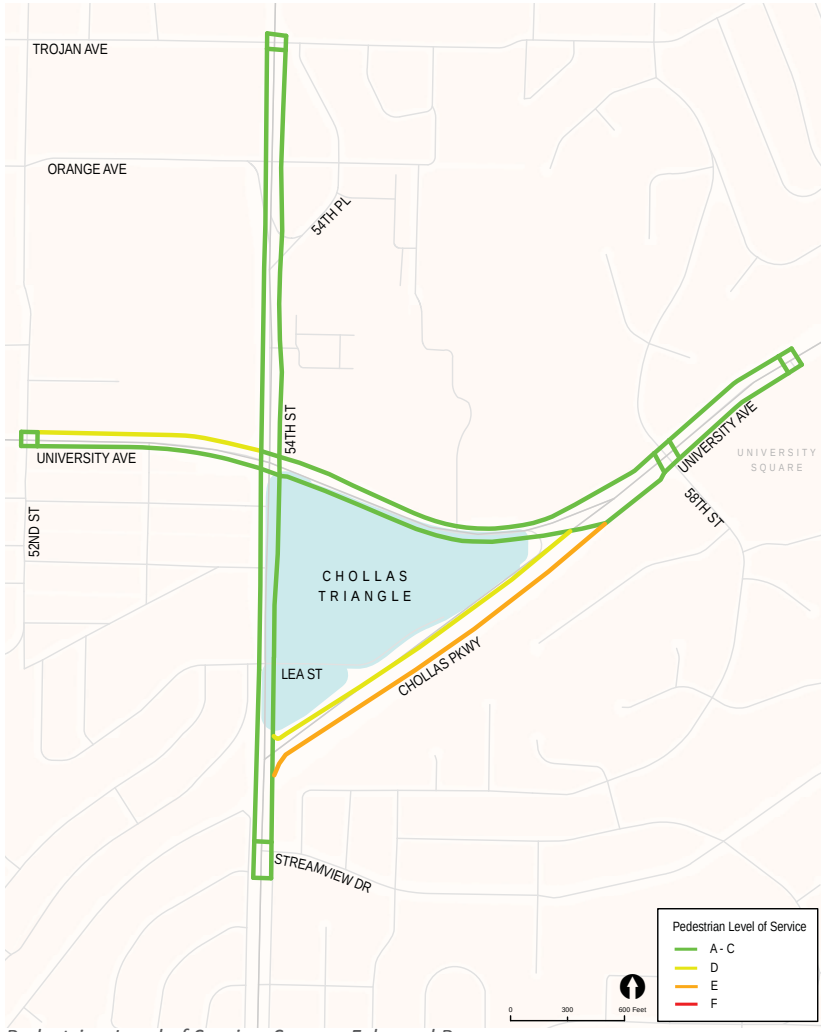
Chollas Parkway - The segment of Chollas Parkway adjoining the southwestern portion of the Chollas Triangle does not include sidewalks.

Lea Street - The segment of Lea Street intersecting the Chollas Triangle site includes **neighborhood sidewalks**, characterized by moderate density single-family and multi-family residential, along a local street with low pedestrian levels. Missing or sub-standard sidewalks are located along the southern section of Lea Street.

Observations:

Pedestrian Level of Service (LOS) is a measure of pedestrian experience at intersections and street links between intersections. Pedestrian LOS is a function of the following variables: lateral separation between pedestrians and vehicular traffic, width of sidewalk, speed and makeup of the vehicular traffic, difficulty of crossing arterial, directional vehicular traffic volumes, right-turn on red, left-turn during "Walk" phase, delay waiting to cross at signal, intersection crossing distance, cross-street vehicular traffic volume and speed, and pedestrian density. Pedestrian counts were collected in spring of 2011 at adjacent intersections.

While the CSLOS software includes inputs that are intended to assess the pedestrian LOS through a variety of considerations such as the presence of facilities, pedestrian density, and pedestrian perceptions of comfort and convenience, there are some limitations to the CSLOS evaluation methodology that result in LOS reports that may differ from user experiences.



Pedestrian Level of Service. Source: Fehr and Peers

The pedestrian LOS reported near the Chollas Triangle is generally attributable the presence of sidewalks, wide curb lanes that provide separation from traffic, and signalized crossing locations. However, there are some elements of the pedestrian environment that can limit pedestrian mobility or make travel by foot less appealing, such as relatively wide intersections, vehicle speeds, lack of mid-block crossings, and relatively high cross-street and directional traffic volumes.

Observations:

- Chollas Parkway operates at a LOS of E. It is characterized by a lack of pedestrian facilities, crossings and sidewalks. Pedestrians are forced to share the street with 45 mile per hour traffic.
- The surrounding intersections can be a challenge to maneuver due to lack of sidewalks, pedestrian crossings, wide crossings, and heavy vehicle volumes (University Avenue & 54th Street, University Avenue & Chollas Parkway, 54th Street & Chollas Parkway).
- There are no marked pedestrian crossings on University Avenue between 54th Street and 58th Street and there are is one marked crossing on 54th Street between University Avenue and Streamview Drive.
- There is limited pedestrian connectivity within the Chollas Triangle (i.e. connectivity between University Avenue and Chollas Creek).
- There is a lack of elements that contribute to a positive pedestrian experience such as pedestrian-scale lighting, comfortable pedestrian zones, “eyes on the street,” or active uses fronting streets .
- The provision of additional pedestrian facilities on surrounding streets and proposal to close or reduce the capacity of Chollas Parkway can enhance pedestrian connectivity.

Opportunities:

- Improve sidewalk and pedestrian connections surrounding Chollas Triangle to nearby destinations including College Avenue, Crawford Champs School, Colina del Sol Park, Chollas Creek, and community gardens to the west.
- Explore potential additional pedestrian crossings and improve pedestrian connectivity along University Avenue between 54th Street and 58th Street.
- Encourage internal pedestrian circulation and connectivity throughout site (i.e. between University Avenue and Chollas Creek) during concept development.

Bicycle Network Diagram: San Diego Bicycle Master Plan

BICYCLE SYSTEM

The City of San Diego has developed a network of bicycle facilities that are classified based on a standard typology. The diagram shows the locations of various existing and planned bicycle facilities providing access to the Chollas Triangle site.

A review of the City of San Diego's Draft Bicycle Master Plan (April, 2011), indicates that a variety of bicycle facilities are planned near the Chollas Triangle, including:

Class I Bikeway (Bike Path) provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

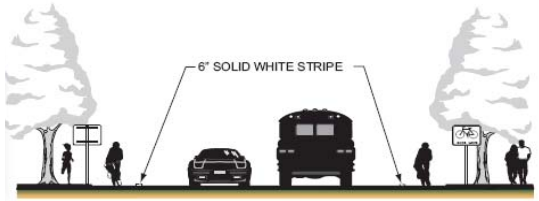
Class II Bikeway (Bike Lane) provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

Class III Bikeway (Bike Route) provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

Another option is a Commuter Bikeway. This provides some of the benefits of the Class II Bikeways by restricting curbside vehicle parking during morning and evening peak hours. The minimum curb lane width is typically 14 feet.

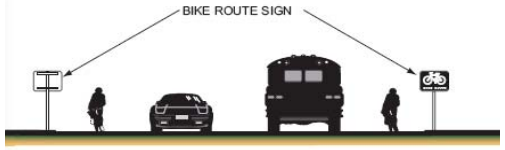
BICYCLE SYSTEM ANALYSIS AND LEVELS OF SERVICE

The bicycle Level of Service (LOS) is a weighted combination of the bicyclists' experiences at intersections and on the street links in between the intersections. Bicycle LOS is a function of the following five (5) variables: Lateral separation between bicycles and vehicular traffic, speed and makeup of the vehicular traffic, pavement conditions, directional vehicular traffic volumes, and intersection crossing distance.



Class II Bikeway (Bike Lane)

Class I Bikeway (Bike Path)



Class III Bikeway (Bike Route)

Bicycle Level of Service. Source: Fehr and Peers

Bicyclists generally experience acceptable levels of service along segments surrounding the Chollas Triangle, with the exception of 54th Street between University Avenue & Lea Street (northbound) which operates at LOS E.

54th Street, south of University Avenue is characterized by a lack of designated bicycle facilities, lack of separation for traveling vehicles at high speeds, and average pavement conditions. The substandard LOS in the northbound direction is generally associated with the higher proportion of northbound traffic volumes. The only existing bicycle facility providing access to the Chollas Triangle is a Class III Bicycle Route on 54th Street north of University Avenue.

The LOS resulting from this analysis may differ from user experiences. For instance, although 54th Street north of University Avenue is the only analyzed bicycle segment that includes a designated bicycle facility, most other locations report an acceptable bicycle LOS. This is attributable to the similar physical characteristics of these street segments that include similar travel speeds, wide curb lanes, acceptable pavement conditions, and comparable intersection crossing distances, regardless of the presence of bicycle facilities. For a number of potential bicyclists the lack of a marked or separated bicycle facility may translate to an unacceptable LOS for that facility.

Observations:

- Limited parking and wide curb lanes are conducive to bicycle circulation, however, topography, relatively high vehicular travel speeds, and high traffic volumes in close proximity to bicycles may deter inexperienced bicyclists.
- There is a local perception of unsafe conditions for bicyclists (and pedestrians) along Chollas Creek and Chollas Parkway with existing configuration.
- There is a lack of bicycle parking serving the existing uses.
- Frequent curb cuts along University create more potential conflict zones with automobiles.

Opportunities:

- Facilitate connections to nearby destinations such as College Avenue, Crawford Champs School, Colina del Sol Park, Chollas Creek, and community gardens to the west.
- Consider dedicated bicycle facilities that provide a greater buffer between vehicles and bicyclists.
- Use a combination of signage, striping, and pavement treatments to communicate to motorists the potential for cyclists.
- Enhance comfort, safety, and experience of cyclists utilizing Chollas Parkway and surrounding facilities.

Public Transit System: San Diego Transportation Plan

PUBLIC TRANSIT SYSTEM

Fixed-route public transportation services in the Chollas Triangle study area are currently provided by the Metropolitan Transit System (MTS). A brief description of the bus lines immediately adjacent to the site is as follows:

MTS Line 1: This local bus service route travels between Hillcrest and the Grossmont Trolley Station. In the study area, this bus route travels east and west along El Cajon Boulevard.

MTS Line 7: This local bus service route travels between La Mesa and downtown San Diego. In the study area, this bus route travels east and west along University Avenue.

MTS Line 10: This limited stop service bus route travels between University Avenue & College Avenue and the Old Town Transit Center. In the study area, this bus route travels east-west along University Avenue.

MTS Line 916/917: This local bus route travels between City Heights, College Grove, Lemon Grove, and Emerald Hills, with Route 916 traveling in a clockwise direction and Route 917 traveling in a counterclockwise direction. In the study area, this bus route travels east-west along Streamview Drive.

MTS Line 955: This local bus service route travels between SDSU Transit Center and 8th Street Trolley station. In the study area, this bus route travels east-west along Montezuma Road and north-south along 54th Street/Collwood Boulevard.

Bus tops located along 54th Street serve route 955 and bus stops along University serve routes 7 and 10.

A review of the City of San Diego's 2030 Regional Transportation Plan (April, 2007), indicates that a number of transit improvements are planned near the Chollas Triangle, including:

- El Cajon Boulevard to Centre City Bus Rapid Transit Service (anticipated MTS Route 611).
- Arterial transit priority measures, vehicles, stations and operations for MTS Route 11.
- Arterial transit priority measures, vehicles, stations and operations for MTS Route 955.

Transit Level of Service (LOS). Source: Fehr and Peers

PUBLIC TRANSIT SYSTEM ANALYSIS AND LEVELS OF SERVICE

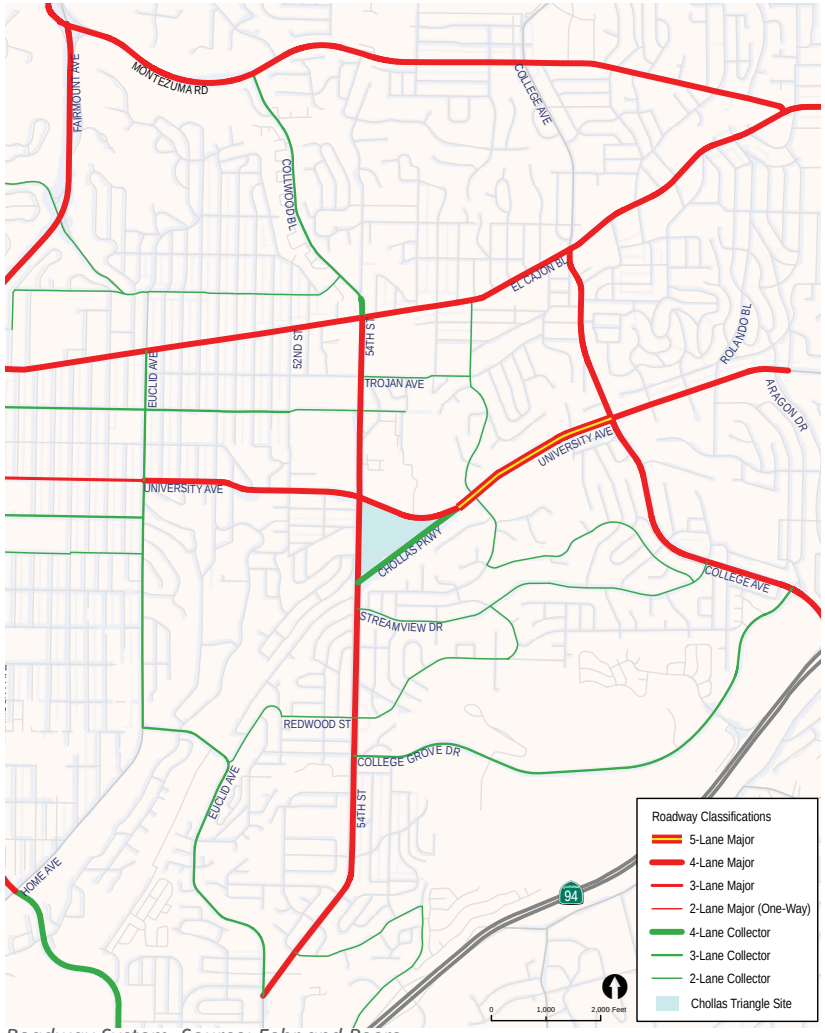
The transit Level of Service (LOS) is based on a combination of the access experience, the waiting experience, and the ride experience. The access experience is represented by the pedestrian LOS score for pedestrian access to bus stops in the direction of travel along the street. The waiting and riding experiences are combined into a transit wait/ride score. The transit wait/ride score is a function of the average headway between transit vehicles and the perceived travel time. The following six (6) variables are used to determine the transit LOS: frequency of service, mean speed, reliability of service, load factors, quality of pedestrian access to transit stops, transit stop amenities.

Observations:

- Multiple bus stops along University Avenue (Route 7 and Route 10) and 54th Street (Route 955) serving the same routes allow for shorter walking distances to destinations and transfer points; however, the proximity and frequency of stops can result in slower travel speeds for transit.
- The Regional Transportation Plan indicates there will be arterial improvements along existing routes on University. There is an opportunity for the Chollas Master Plan to suggest potential stop locations that coordinate with future land uses.
- The Chollas Triangle development is located near several existing bus lines and proposed rapid bus service, providing the opportunity for multi-modal hub.
- Residents in the neighborhood southwest of the site have to transfer twice to reach access a bus with service to downtown.
- The existing level of bus service and proposed Bus Rapid Transit Line along University make Chollas Triangle a prime location for a local bus transit station.
- While there are no regional transit centers within the study area, the College Grove Transit Center, City Heights Transit Plaza, and (El Cajon) Boulevard Transit Plaza are found near the study area.
- The four busiest bus stops are located 54th Street and University Avenue in all directions.
- Near-side bus stops can reduce visibility between pedestrians and motorists and impede right-turning traffic. Explore opportunities to provide far-side bus stops and additional amenities including shade, benches, and trash receptacles.

Opportunities:

- Explore mid-block crossings and connectivity along University Avenue between 54th Street and 58th Street.
- Future development should provide convenient and comfortable access to existing and future transit stops.



Roadway System. Source: Fehr and Peers

ROADWAY SYSTEM

The Chollas Triangle study area contains a variety of roadway types and facilities, including several freeways, major roadways, and a network of collector and local streets, as shown in Figure 1-8.

The major streets in the study area, as classified by the City of San Diego, are discussed below.

Freeways

Freeway facilities are high-volume/high-speed roadways with limited access occurring only at grade-separated interchanges. Major freeways providing access to the study area include the Interstate 8 (I-8), Interstate 15 (I-15), Interstate 805 (I-805), and the State Route 94 (SR-94).

I-8 extends along the northern edge of the study area in an east-west alignment, connecting to I-15 and I-805. West of the study area, I-8 continues on a westerly route providing access to destinations such as Ocean Beach, Mission Bay, and Sea World. East of the study area, I-8 continues on an easterly route providing access to East County and Imperial County.

I-15 extends along the western edge of the study area in a north-south direction, connecting to I-8, I-805, and SR-94. North of the study area, I-15 continues on a northerly route providing access to North County and Riverside County. South of the study area, I-15 continues on a southerly route, providing access to the Logan Heights Community near the southern edge of San Diego.

I-805 extends along the western edge of the study area in a north-south direction, connecting to I-8, I-15, and SR-94. North of the study area, I-805 continues on a northerly route providing access to North San Diego and terminating at I-5 near Sorrento Valley. South of the study area, I-805 continues on a southerly route, providing access to Otay Mesa and the adjacent border crossing.

SR-94 extends along the southern edge of the study area in an east-west path. West of the study area, SR-94 continues along a westerly route through the City of San Diego where the freeway terminates into the downtown area of San Diego. East of the study area, SR-94 continues on an easterly route toward East County.

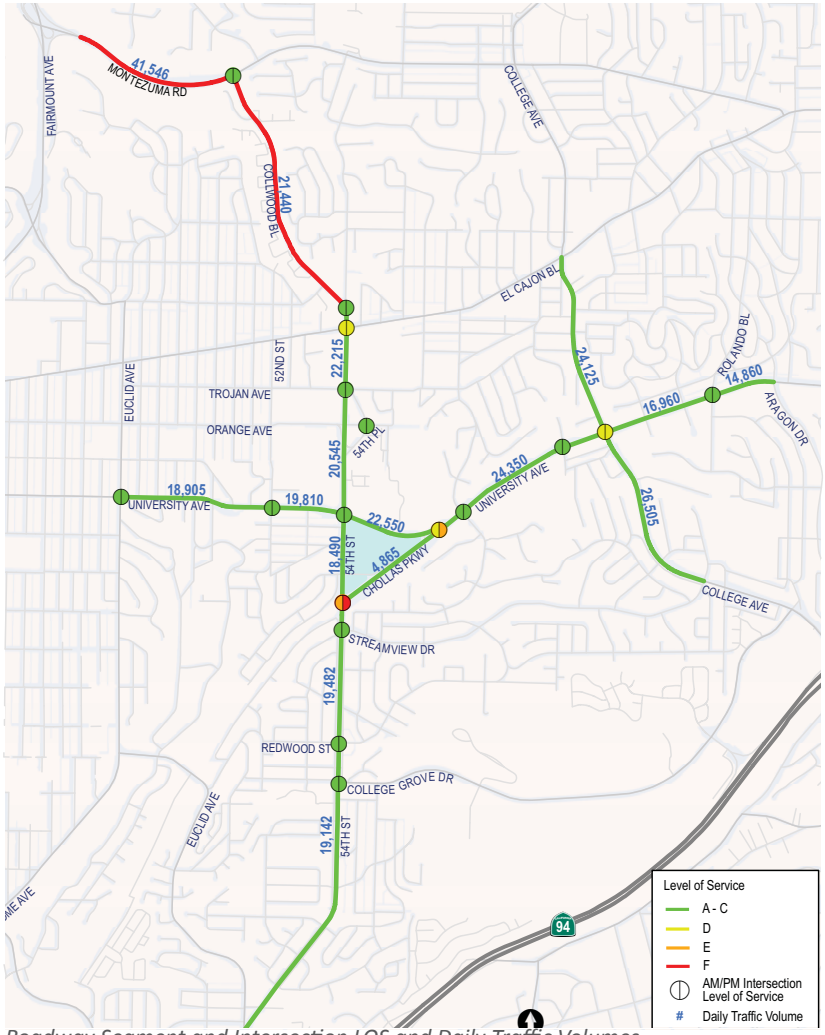
Arterial Roadways

The Chollas Triangle study area contains a network of major arterials traveling both north-south and east-west. These major arterials generally have four to five travel lanes and are designed to carry high volumes of traffic while providing some access to adjacent properties. Major arterials in the study area include 54th Street, University Avenue, El Cajon Boulevard, and College Avenue.

Collector Streets

The network of Arterial Roadways is complemented by an extensive network of collector streets. Collector streets provide connections between the arterial system and the local streets which provide direct access to adjacent properties. Example collector streets within the study area include Chollas Parkway, 58th Street, Streamview Drive, Redwood Street, Orange Avenue, Trojan Avenue, Euclid Avenue, and College Grove Drive.

The Regional Transportation Plan did not provide any specific information on roadway improvements near the Chollas Triangle site. The City of San Diego is currently conducting the University Avenue Mobility Study, which is exploring options for enhancing mobility along University Avenue east of 54th Street. While no recommendations have been made at this time, the mobility concepts explored for the Chollas Triangle project will be informed by the ongoing study and considered in future analyses.



Roadway Segment and Intersection LOS and Daily Traffic Volumes.
Source: Fehr and Peers

ROADWAY SYSTEM

The accompanying diagram analyzed intersections and analyzed segments, including corresponding levels of service The results of the intersection LOS analysis are detailed in the Existing Conditions Mobility Report prepared by Fehr and Peers. As shown, motorists generally experience acceptable levels of service at intersections in the Chollas Triangle study area. The following intersections were found to operate at LOS E or F:

- Chollas Parkway & University Avenue (LOS E PM peak hour)
- 54th Street & Chollas Parkway (LOS E AM peak hour & LOS F PM peak hour)

Observations

- It can be challenging to maneuver surrounding intersections.
- Lea Street provides the only connection to the western neighborhood.
- The Chollas Parkway serves local traffic and has excess automobile capacity. Complete closure would eliminate an alternate route and potentially alter local traffic patterns.
- There is ample parking on the Chollas Triangle site and minimum parking requirements may limit some development potential.
- There are several major (in terms of size and traffic volume) corridors and intersections in the study area that may limit the comfort and convenience of pedestrian and bicycle activity.

Opportunities:

- Explore additional connections to adjacent neighborhoods and use of Lea Street as future access point.
- Explore options for redevelopment of large parking area, particularly active ground floor uses that front University and interact with the built environment and local community.
- Consider modifications to Chollas Parkway that result in reductions to vehicular capacity and provision of facilities for other modes (City of San Diego owns Chollas Parkway).
- Explore new traffic controls, access points, modifications to adjacent intersections, and internal circulation to facilitate vehicular circulation in conjunction with other modes.

ON-STREET PARKING

An inventory of all on-street parking spaces surrounding the Chollas Triangle Master Plan site was conducted in February and June 2011. The area consisted of University Avenue between Shiloh Road and 58th Street and 54th Street between Trojan Avenue and Chollas Parkway. Parking is not allowed on Chollas Parkway between University Avenue and 54th Street. On-street parking in the area is generally parallel parking, free of charge, and without time restrictions.

TRUCK ACCESS

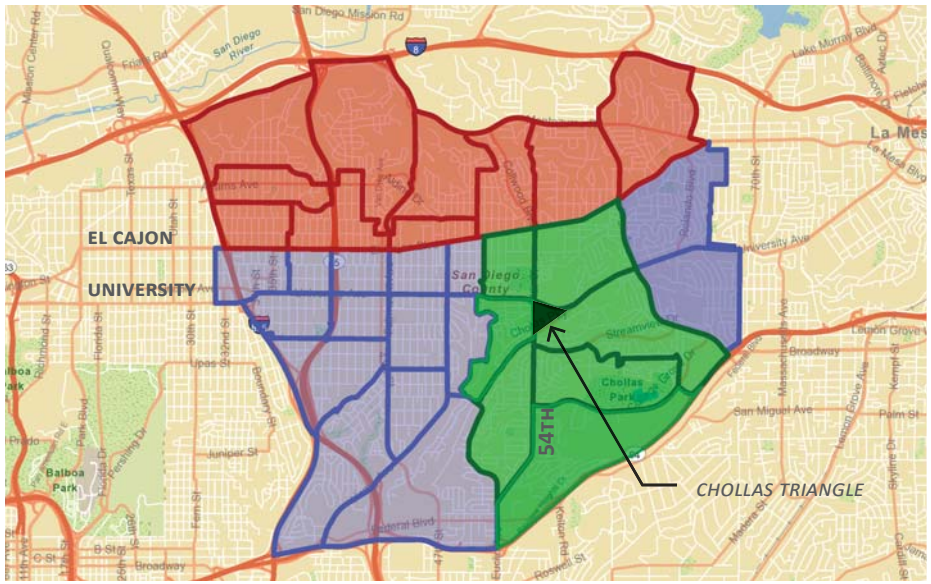
While the City of San Diego does not have a system of designated truck routes, truck access to the Chollas Triangle study area is provided by the major freeways serving the study area, including I-8, I-15, I-805, and SR-94. Once within the study area, industrial and commercial destinations are generally concentrated along El Cajon Boulevard, University Avenue, College Grove Drive, and 54th Street. Such destinations include the Chollas Triangle, University Square Shopping Center, Campus Plaza Shopping Center, and Marketplace at the Grove Shopping Center. The local roadways providing access to these locations include Montezuma Road, Collwood Boulevard/54th Street, College Avenue, El Cajon Boulevard, University Avenue, and College Grove Drive.

This section provides an overview of the existing economic and social conditions within the Chollas Triangle area. The data in this section is based on a combination of demographic and economic data sources. The principal resource used in preparing this quantitative overview was provided from the US Census. Two data sets were used. The first was the recently released 2010 census this included basic information about population and households but lacks details about social and economic characteristics. The second source also from the US Census is the American Community Survey (ACS) which represents a rolling four-year survey sample that covers dates from 2005 to 2009. Data from the ACS will be adjusted to conform to the 100% counts of the 2010 census in this review.

Topics Covered:

- Population and Households
- Race and Ethnicity
- Income
- Housing
- Consumer Expenditures
- Employment
- Public Facilities

5 economic and social context



Study Area

STUDY AREA

In terms of geographic area being analyzed this section proceeds on the basis of analysis of three areas of geography.

1. **Plan area**-- This consists of the census tracts that include the Chollas Triangle and the first ring of census tracts that are adjacent to the site. This covers an area roughly from El Cajon Blvd. in the north to SR-94 in the south, Gayle Street on the east and Euclid Avenue on the west.
2. **Secondary market area**-- This is made up of a set of census tracts located to both the east and west of the plan area. The secondary market area's boundaries on the west side run from a northern boundary along El Cajon Blvd., west along I-805 south along SR- 94 and east along Euclid Ave. The eastern section of the secondary market covers an area from Gayle Street on the west to the city boundary with La Mesa in the east and the area south of El Cajon Blvd.
3. **Tertiary market area**-- This market area covers the area north of El Cajon Blvd., south of I-8 and Montezuma Blvd.

The market area includes portions of City Heights, Eastern Area, Normal Heights and Kensington Talmadge. However, the study area is not coterminous with any of the existing plan areas of the City of San Diego.

Where possible, data for the Plan area will be compared to values for the County as a whole. The objective is to provide a relative measure of the proportional representation of any given variable within the plan area. This information is presented either as a percentage share of the total County amount or as an index comparing the proportion of variable within the plan area to its representation on the County wide level. For each variable, an index level above 100% represents a relative overrepresentation of the characteristic within the Plan area when compared to San Diego County. An index level below 100% represents a relative underrepresentation of the characteristic in the Plan area when compared to the County. Note that these indices are not additive, and they are intended to represent proportional shares rather than an absolute measure of the amount of any particular characteristic.

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,487	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Population by Age						
Population 0-4	3,682	9,221	3,639	90,397	221,845	
Population 5-9	3,170	7,672	2,840	83,991	209,316	
Population 10-14	2,460	5,961	2,751	76,221	195,078	
Population 15-19	2,730	7,600	3,106	96,161	224,861	
Population 20-24	3,646	9,313	4,038	120,285	258,856	
Population 25-29	3,620	8,807	4,127	115,837	246,575	
Population 30-34	3,126	6,543	3,106	103,687	221,556	
Population 35-39	2,387	5,512	3,151	95,284	211,759	
Population 40-44	2,047	5,081	3,017	91,624	211,269	
Population 45-49	1,939	4,763	3,195	93,682	224,698	
Population 50-54	1,805	3,972	2,724	86,367	211,893	
Population 55-59	1,396	3,204	2,219	71,632	179,361	
Population 60-64	1,125	2,428	1,785	58,056	145,725	
Population 65-69	848	1,538	1,172	40,055	101,888	
Population 70-74	654	1,092	879	30,657	77,126	
Population 75-79	570	787	841	26,150	66,045	
Population 80-84	488	656	760	21,857	54,821	
Population 85+	508	709	1,024	22,738	57,607	
Median Age	28.3	29.70	31.5	33.8	34.6	81.8%
Percentage						
Population 0-4	10.2%	10.9%	8.2%	6.8%	7.1%	143.1%
Population 5-9	8.8%	9.0%	6.4%	6.3%	6.7%	130.5%
Population 10-14	6.8%	7.0%	6.2%	5.8%	6.3%	108.7%
Population 15-19	7.5%	9.0%	7.0%	7.3%	7.2%	104.6%
Population 20-24	10.1%	11.0%	9.1%	9.1%	8.3%	121.4%
Population 25-29	10.0%	10.4%	9.3%	8.7%	7.9%	126.5%
Population 30-34	8.6%	7.7%	7.0%	7.8%	7.1%	121.6%
Population 35-39	6.6%	6.5%	7.1%	7.2%	6.8%	97.2%
Population 40-44	5.7%	6.0%	6.8%	6.9%	6.8%	83.5%
Population 45-49	5.4%	5.6%	7.2%	7.1%	7.2%	74.4%
Population 50-54	5.0%	4.7%	6.1%	6.5%	6.8%	73.4%
Population 55-59	3.9%	3.8%	5.0%	5.4%	5.7%	67.1%
Population 60-64	3.1%	2.9%	4.0%	4.4%	4.7%	66.5%
Population 65-69	2.3%	1.8%	2.6%	3.0%	3.3%	71.7%
Population 70-74	1.8%	1.3%	2.0%	2.3%	2.5%	73.1%
Population 75-79	1.6%	0.9%	1.9%	2.0%	2.1%	74.4%
Population 80-84	1.3%	0.8%	1.7%	1.6%	1.8%	76.7%
Population 85+	1.4%	0.8%	2.3%	1.7%	1.8%	76.0%

Table 1: Population and households 2010: Chollas Plan Area
Source: ESRI, US Census and MR+R

POPULATION AND HOUSEHOLDS

Table 1 shows the basic characteristics for population, households and age for the Chollas Triangle area. The Plan area itself is home to population of approximately 36,000 people in 11,400 households. This represents 1.2% of the total population of San Diego County. The surrounding market area includes an additional 85,000 people in just over 25,000 households. The combined populations of the two areas would be equivalent to a medium-sized California city population of over 121,000.

In terms of age distribution, the population within the Plan area is considerably younger than the population in the County as a whole. The Plan area has a median age of 28.3 years compared to 34.6 for San Diego County. Consistent with this, populations under age 34 are significantly overrepresented in the plan area when compared to San Diego County with 10% of the total Plan area population made up of children under five years old, 10% aged 20-24 and 10% aged 25-29. The presence of children in the Plan area is reflected in the average household size of 3.14 persons per household which is 13% larger than the County average of 2.77 persons per household.

Observations:

If the Plan area and Secondary market were its own city, it would be larger than Carlsbad, El Cajon or Vista. In this respect, the total market area represents a significant population base with Chollas Triangle at the center of a sizable community in its own right.

- The population of the plan area is significantly younger than the population in the County as a whole. One factor that stands out is the large representation of children under 10 living in the community.
- The plan area and secondary market have a significant number of family households (households with more than one related person living together) whereas the tertiary market has a large percentage of non-family households.

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,487	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Race and Ethnicity						
White	12,383	28,909	28,229	750,779	1,949,861	
African American	6,274	9,248	3,872	88,119	154,010	
American Indian	233	786	330	8,130	27,229	
Asian	7,108	12,734	4,195	206,804	327,657	
Pacific Islander	137	261	162	6,015	15,056	
Other Race	7,345	27,163	5,156	192,062	476,542	
Two or More Races	2,721	5,758	2,403	72,773	169,924	
Total Hispanic Population	13,678	47,675	11,716	392,163	994,502	
Percentage						
White	34.2%	34.1%	63.6%	56.7%	62.5%	54.74%
African American	17.3%	10.9%	8.7%	6.7%	4.9%	351.13%
American Indian	0.6%	0.9%	0.7%	0.6%	0.9%	73.76%
Asian	19.6%	15.0%	9.5%	15.6%	10.5%	186.98%
Pacific Islander	0.4%	0.3%	0.4%	0.5%	0.5%	78.43%
Other Race	20.3%	32.0%	11.6%	14.5%	15.3%	132.85%
Two or More Races	7.5%	6.8%	5.4%	5.5%	5.4%	138.02%
Total Hispanic Population	37.8%	56.2%	26.4%	29.6%	31.9%	118.55%

Table 2: Race and Ethnicity *Source: ESRI, US Census and MR+R*

RACE AND ETHNICITY

In terms of its racial and ethnic profile, the population of the Plan area is very diverse and has several significant variations from San Diego County's average distributions. Examples of these populations that occur at a higher rate than the County as a whole include an African-American population of 17.3%, compared to only 4.9% for the County. The Asian population of the Plan area is 19.6% compared to 10.5% for the County as a whole. Amongst the population that defines itself as "Other" the plan area is home to 32% more persons in that self-identified classification when compared to the distribution for the County. The Hispanic population, which is an ethnicity that can be made up of members of any race, accounts for 37.8% of the Plan area population. This is somewhat greater than the County distribution of 31.9%. Table 2 provides detailed information for the plan area and the additional market areas.

Observations:

- The plan area is a location of significant racial and ethnic diversity. Observations of the cultural institutions and specialized business located in the community are consistent with the data.
- The area appears to be a location of "first landing" for a broad variety of immigrants and ethnic groups.
- Asian, African American and Hispanic groups are present in the plan area at a rate greater that they occur in the county as a whole.
- Ethnic diversity represents an opportunity for the community that can be used to stimulate small business development.

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,487	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Household Income						
HHs w/Inc <$1,0000	1,141	3,092	18,487	29,869	55,973	2.04%
HHs w/Inc $10,000-14,999	748	2,133	1,532	18,234	36,462	2.05%
HHs w/Inc $1,5000-19,999	1,016	2,652	1,301	23,000	47,984	2.12%
HHs w/Inc $20,000-24,999	779	1,901	1,274	18,555	39,730	1.96%
HHs w/Inc $25,000-29,999	796	1,775	880	22,166	48,958	1.63%
HHs w/Inc $30,000-34,999	758	1,436	868	18,383	41,579	1.82%
HHs w/Inc $35,000-39,999	814	1,684	1,052	24,620	56,130	1.45%
HHs w/Inc $40,000-44,999	610	1,396	869	25,322	58,084	1.05%
HHs w/Inc $45,000-49,999	586	1,261	885	20,465	47,110	1.24%
HHs w/Inc $50,000-59,999	1,121	2,470	592	45,270	104,343	1.07%
HHs w/Inc $60,000-74,999	1,320	2,340	1,797	56,805	134,094	0.98%
HHs w/Inc $75,000-99,999	898	1,795	1,619	70,528	164,004	0.55%
HHs w/Inc $100,000-12,4999	427	672	2,364	37,860	89,534	0.48%
w/Inc $125,000-149,999	196	324	1,252	28,648	65,374	0.30%
HHs w/Inc $150,000-199,999	115	219	771	22,397	50,627	0.23%
HHs w/Inc $200,000-249,999	102	165	629	10,682	24,098	0.42%
HHs w/Inc $250,000-499,999	49	84	401	9,335	20,021	0.24%
HHs w/Inc $500,000+	7	17	401	2,123	4,444	0.16%
Median HH Income	37,929	40,584	49,913	59,025	60,699	62.49%
Average HH Income	48,259.0	48,927	65,103	77,395	78,340	61.60%
Aggregate HH Income	554,162,638	1,114,137,322	1,203,559,161	37,479,488,346	85,277,390,088	0.65%
Median Value Owner Occupied DU	211,374	232,366	545,185	353,681	342,408	61.73%
Percentage						
HHs w/Inc <$1,0000	9.9%	12.2%	100.0%	6.2%	5.1%	193.2%
HHs w/Inc $10,000-14,999	6.5%	8.4%	8.3%	3.8%	3.3%	194.5%
HHs w/Inc $1,5000-19,999	8.8%	10.4%	7.0%	4.7%	4.4%	200.7%
HHs w/Inc $20,000-24,999	6.8%	7.5%	6.9%	3.8%	3.6%	185.9%
HHs w/Inc $25,000-29,999	6.9%	7.0%	4.8%	4.6%	4.5%	154.1%
HHs w/Inc $30,000-34,999	6.6%	5.6%	4.7%	3.8%	3.8%	172.8%
HHs w/Inc $35,000-39,999	7.1%	6.6%	5.7%	5.1%	5.2%	137.5%
HHs w/Inc $40,000-44,999	5.3%	5.5%	4.7%	5.2%	5.3%	99.6%
HHs w/Inc $45,000-49,999	5.1%	5.0%	4.8%	4.2%	4.3%	117.9%
HHs w/Inc $50,000-59,999	9.8%	9.7%	3.2%	9.3%	9.6%	101.8%
HHs w/Inc $60,000-74,999	11.5%	9.2%	9.7%	11.7%	12.3%	93.3%
HHs w/Inc $75,000-99,999	7.8%	7.1%	8.8%	14.6%	15.1%	51.9%
HHs w/Inc $100,000-12,4999	3.7%	2.6%	12.8%	7.8%	8.2%	45.2%
w/Inc $125,000-149,999	1.7%	1.3%	6.8%	5.9%	6.0%	28.4%
HHs w/Inc $150,000-199,999	1.0%	0.9%	4.2%	4.6%	4.7%	21.5%
HHs w/Inc $200,000-249,999	0.9%	0.6%	3.4%	2.2%	2.2%	40.1%
HHs w/Inc $250,000-499,999	0.4%	0.3%	2.2%	1.9%	1.8%	23.2%
HHs w/Inc $500,000+	0.1%	0.1%	2.2%	0.4%	0.4%	14.9%

Table 3: Income 2010: Chollas Plan Area *Source: ESRI, US Census and MR+R*

INCOME

Data for income distribution by household is presented in table 3. The median household income within the Plan area is significantly lower than the median household income for both San Diego City and the County as a whole. Plan area households show median income of just under $38,000 compared to approximately $60,000 in the City and County. Median household incomes within the Plan area are the lowest of any of the areas of geography analyzed as part of this report. Consistent with this, nearly 23% of total households within the plan area report incomes less than $20,000 per year.

Figure 2 shows the distribution of median household income by census tract for the Plan area and surrounding markets. Note that the lowest median household incomes occur in areas to the east of 54th Ave. generally South of El Cajon Blvd. Areas of affluence within the market area are primarily located within the Tertiary market area to the north with modest pockets on the periphery of the Secondary market area.

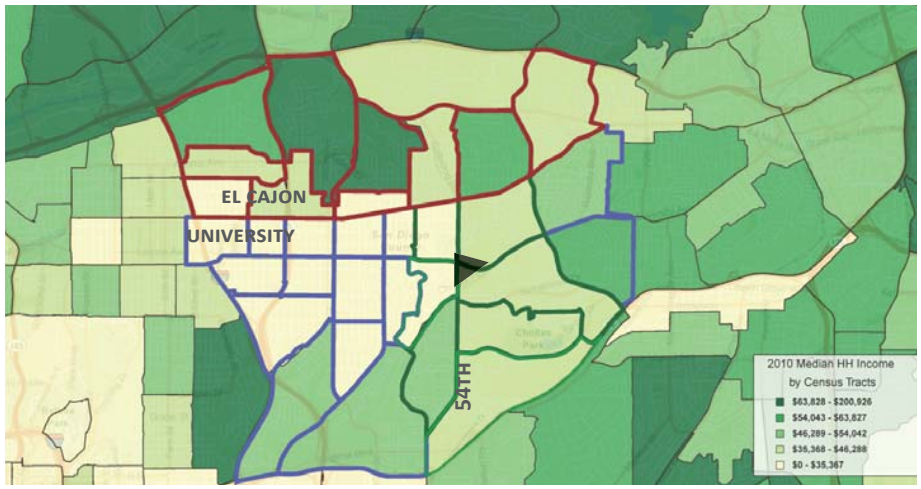


Figure 2: 2010 Median Household Income (Esri) by Census Tracts

Observations:

- In the most recent recession, lower income communities have been hit especially hard. As a result, economic development efforts geared towards local employment and new business formation in the community will be especially helpful.
- There is a significant concentration of very low income population within the Plan area occurring at nearly double the rate of the County as a whole. This implies a need for the provision of affordable rate housing and supportive services, especially considering the prevalence of young children in the community.
- The aggregate income in the primary and secondary market is significant and can be anticipated to support community oriented retail sales and consumer expenditures.
- A mix of retail that is attractive beyond the immediate plan area would need to be effective in inducing spending by higher income households into the area.

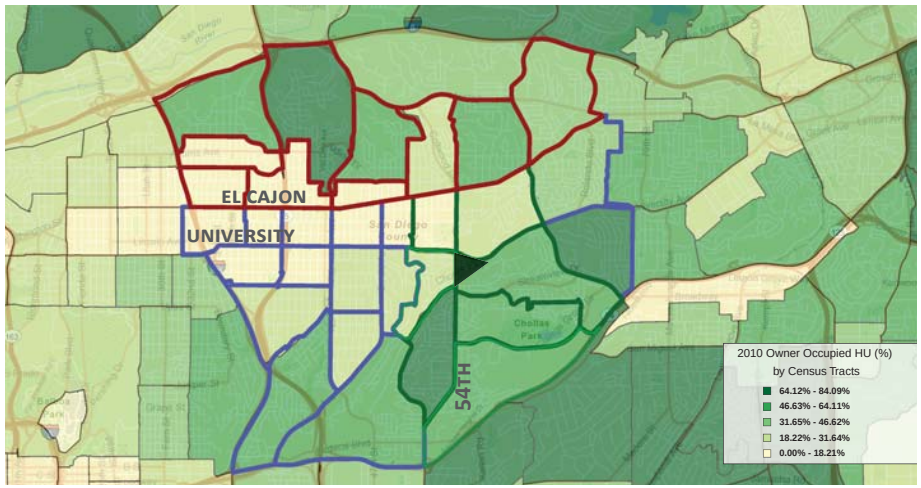


Figure 3: Owner Occupied Housing Units(Esri) by Census Tracts (%)

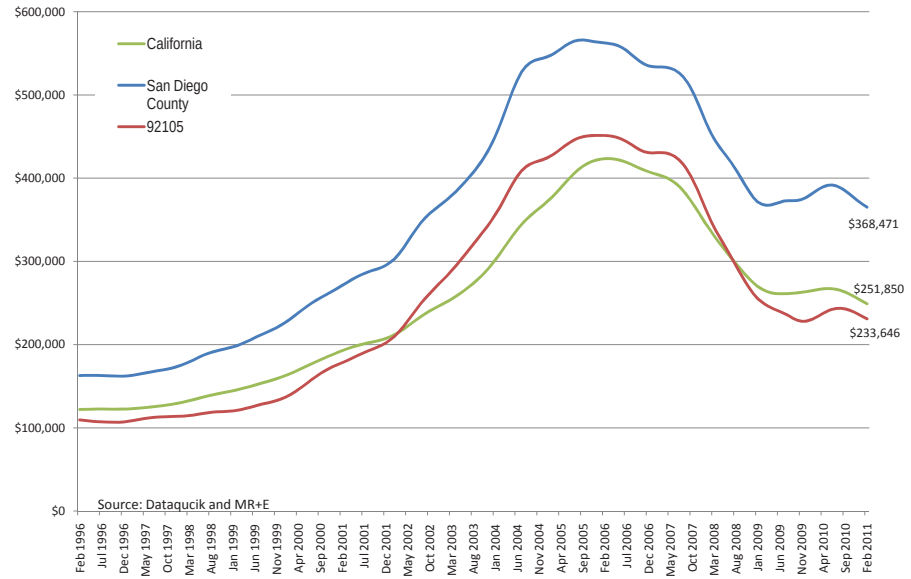


Table 4: Median Sales Price, Single Family Homes

HOUSING

There are 11,483 households in the Plan area representing a little over 1% of the County total. 38% of dwelling units in the Plan area are owner occupied compared to 51% for the County as a whole. Figure 3 illustrates the distribution of owner occupied housing by tract. Generally speaking rates of homeownership are lowest along the main commercial thoroughfares of El Cajon and University Avenues, with higher rates of homeownership occurring along the north and south margins. The median year of construction for dwelling units within the Plan area was 1971 with only 4% of the total housing stock built since 2000. This represents a stable and mature housing market that is largely built out with only limited infill and redevelopment opportunities for new housing construction.

The median value owner occupied dwelling units in 2010 within the Plan area was just over $211,000 this was significantly lower than the County average of about $342,000 or the City average of approximately $353,000. Because of this the Plan area represents a reserve of attainably priced housing within the broader San Diego region. The relative affordability of the region is illustrated on table 4. This charts the median sales price for single-family homes in San Diego County California in zip code 92105 which covers the Plan area and portions of the Secondary market area. This data covers from the beginning of 1996 to the present. Over this time, sales prices in the Mid-City area have co-varied with San Diego County as a whole. Prices began to accelerate faster than the State average beginning in late 2001. This was sustained until the beginnings of the financial crisis in 2008 when median sales prices declined faster in the region than for California as a whole. As of 2011, median sales price for a house in zip code 92105 was just over $233,000 this compares to statewide median of just under $252,000 and County median of approximately $368,000.

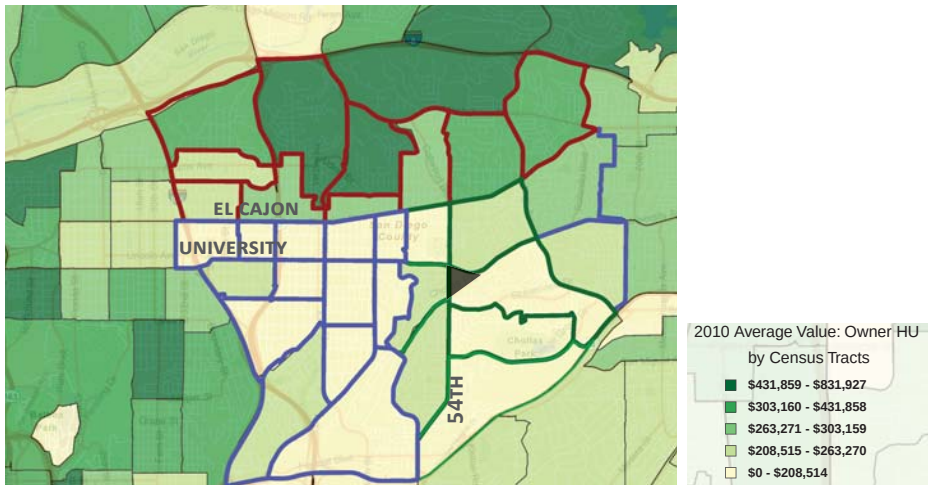


Figure 4: 2010 Average Value of Owner Occupied Housing Units (Esri) by Census Tracts

Figure 4 illustrates the distribution of value for owner occupied dwelling units in the plan area. In general the lowest average value is found along University Avenue and El Cajon Boulevard to the east of the Chollas Triangle and along the south margin of the Plan area. Higher value housing is concentrated in the Tertiary market area to the north.

Observations:

- The plan area represents a stock of attainably priced housing and as such plays an important role in the overall housing economy of San Diego.
- The home values are consistent with the demographic and income profile of the community, which indicates that housing in the plan area is likely occupied by first-time homeowners.
- Housing values are at 2002 levels.
- The reduction in housing prices has likely lead to a reduction in equity amongst area residents. This is likely, as is common throughout the US, to result in depressed consumer expenditures until housing values begin to make up for lost ground.
- Over the long-term, demand for attainably priced housing will continue in the region making the plan area an attractive site for new residential development over time. Multifamily and attached housing products are likely to be demanded by the market once additional rounds of investment in residential development began to take place in the greater San Diego market.

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,478	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Expenditures by Category						
Apparel Stores	$ 14,234,581	$ 29,365,928	$ 28,554,233	$ 942,664,346	$ 2,110,701,794	0.67%
Auto Dealers & Auto Suppliers	35,512,211	71,112,763	69,747,090	2,324,080,651	5,297,333,216	0.67%
Building Materials & Farm Implements	2,441,276	4,617,371	4,455,918	179,527,916	428,906,794	0.57%
Drug Stores	3,952,370	7,553,531	7,744,776	268,265,116	636,361,230	0.62%
Eating & Drinking Places	27,039,178	55,515,623	53,717,954	1,768,153,182	3,979,597,674	0.68%
Food Stores	37,795,335	78,506,018	73,383,625	2,422,635,499	5,468,962,495	0.69%
General Merchandise	24,600,984	48,943,499	49,683,619	1,631,303,282	3,694,575,815	0.67%
Home Furnishings & Appliances	6,949,682	13,751,142	13,772,654	486,492,428	1,113,994,245	0.62%
Packaged Liquor Stores	8,629,327	17,571,737	17,574,878	563,782,342	1,258,175,264	0.69%
Service Station	30,495,792	61,261,755	60,085,466	1,958,157,986	4,472,809,130	0.68%
Total	191,650,736	388,199,367	378,720,213	12,545,062,748	28,461,417,657	0.67%
Expenditures Per Household						
Apparel Stores	1,240	1,155	1,545	1,947	1,939	63.9%
Auto Dealers & Auto Suppliers	3,093	2,798	3,775	4,799	4,866	63.6%
Building Materials & Farm Implements	213	182	241	371	394	54.0%
Drug Stores	344	297	419	554	585	58.9%
Eating & Drinking Places	2,355	2,184	2,907	3,651	3,656	64.4%
Food Stores	3,291	3,089	3,971	5,003	5,024	65.5%
General Merchandise	2,142	1,926	2,689	3,369	3,394	63.1%
Home Furnishings & Appliances	605	541	745	1,005	1,023	59.1%
Packaged Liquor Stores	751	691	951	1,164	1,156	65.0%
Service Station	2,656	2,410	3,252	4,044	4,109	64.6%
Total	16,690	15,274	20,496	25,905	26,146	63.8%

Table 5: Household Expenditures Chollas Plan Area
Source: ESRI, US Census and MR+E

CONSUMER EXPENDITURES

Despite the relatively low median household income, the population within the plan area is responsible for a significant amount of consumer spending. Capturing this potential market, along with the spending located in the Secondary and Tertiary markets, will play an important role in developing a land use program for the Chollas Triangle and determining a comprehensive economic development strategy. At present, Plan area households spend over $191 million per year on consumer goods and services including $24 million for general merchandise, $27 million for food outside the home and $14 million for apparel. Estimates of household expenditures by category are shown on table 5.

Observations:

- Despite the fact that incomes in the plan area and secondary market area are relatively moderate, particularly in comparison to San Diego County as a whole, there is still an appreciable amount of consumer spending that is generated by these households. Assuming average sales per square foot rate of $500, plan area and secondary market area households could support almost 1,000,000 sq. ft. of retail space. That being said, plan area household expend less than the countywide average across all categories of retail sales. It is likely that any future development program that includes a retail component will need to attract consumers from outside of the plan area in order to be successful.
- Plan area households spend relatively more on apparel, food stores and food outside the home that other categories of retail sales.
- Expenditures for home furnishings and appliances command the smallest percentage expenditure by any of the major categories among plan area households.

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,478	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Employment by Industry						
Total in Labor Force	15,284	35,706	26,135	670,339	1,545,066	1.0%
Employed Civilian Pop	12,791	29,572	23,128	586,509	1,353,252	0.9%
Agriculture	15	90	135	1,378	7,673	0.20%
Mining	0	0	11	164	554	0.00%
Construction	690	2,332	905	26,462	83,795	0.82%
Manufacturing	911	2,203	1,319	43,021	103,326	0.88%
Wholesl Trade	217	575	444	13,836	38,598	0.56%
Retail Trade	1,436	3,213	2,869	57,702	146,304	0.98%
Transportation	371	755	738	16,786	37,992	0.98%
Utilities	42	121	288	2,923	9,425	0.45%
Information	377	470	554	17,349	34,854	1.08%
Finance/Insurance	557	770	812	28,584	62,651	0.89%
Real Estate	326	676	668	16,447	39,465	0.83%
Prof/Tech Services	613	1,224	2,488	64,538	124,231	0.49%
Management	17	61	59	553	1,272	1.34%
Adminstration	1,043	2,517	952	27,221	65,203	1.60%
Eduataional Services	1,200	2,361	2,535	66,644	141,888	0.85%
Health Care	1,515	3,383	2,819	77,606	173,903	0.87%
Arts/Entertnment	400	764	1,173	15,898	38,200	1.05%
Accomdations / Food	1,296	4,408	1,889	50,107	101,908	1.27%
Other Services	1,054	2,528	1,314	29,806	71,757	1.47%
Public Admin	711.0	1,121	1,156	29,482.0	70,253.0	1.01%
Unemployment Rate	16%	15.3%	13%	13%	12%	131.45%
Percentage						
Agriculture	0.1%	0.3%	0.6%	0.2%	0.6%	20.7%
Mining	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Construction	5.4%	7.9%	3.9%	4.5%	6.2%	87.1%
Manufacturing	7.1%	7.4%	5.7%	7.3%	7.6%	93.3%
Wholesl Trade	1.7%	1.9%	1.9%	2.4%	2.9%	59.5%
Retail Trade	11.2%	10.9%	12.4%	9.8%	10.8%	103.8%
Transportation	2.9%	2.6%	3.2%	2.9%	2.8%	103.3%
Utilities	0.3%	0.4%	1.2%	0.5%	0.7%	47.1%
Information	2.9%	1.6%	2.4%	3.0%	2.6%	114.4%
Finance/Insurance	4.4%	2.6%	3.5%	4.9%	4.6%	94.1%
Real Estate	2.5%	2.3%	2.9%	2.8%	2.9%	87.4%
Prof/Tech Services	4.8%	4.1%	10.8%	11.0%	9.2%	52.2%
Management	0.1%	0.2%	0.3%	0.1%	0.1%	141.4%
Adminstration	8.2%	8.5%	4.1%	4.6%	4.8%	169.2%
Eduataional Services	9.4%	8.0%	11.0%	11.4%	10.5%	89.5%
Health Care	11.8%	11.4%	12.2%	13.2%	12.9%	92.2%
Arts/Entertnment	3.1%	2.6%	5.1%	2.7%	2.8%	110.8%
Accomdations / Food	10.1%	14.9%	8.2%	8.5%	7.5%	134.5%
Other Services	8.2%	8.5%	5.7%	5.1%	5.3%	155.4%
Public Admin	5.6%	3.8%	5.0%	5.0%	5.2%	107.1%

Table 6: Employment by Industry, Chollas Plan Area *Source: ESRI, US Census and MR+E*

EMPLOYMENT

There are two components to employment within the Plan area. The first is the employment held by residents within the Plan area (who may work elsewhere) and the second which are the number of jobs that are located within the Plan area. Table 6 provides information on the distribution of employment by industry of the residents of the market area. The Plan area has employed civilian population of just under 13,000 which reflects a 16% unemployment rate. This is four points higher than the County as a whole. Employment is particularly strongly concentrated in the service economy when compared to the industry of employment for the county's total population

Table 7 provides an estimate based on an analysis of credit records provided by Dun & Bradstreet of businesses located within 1 mile of 5405 University Ave. The largest sectors of employment in this area include retail trade education and healthcare. In general the area is not particularly employment dense which is consistent with its characteristics as primarily a residential community.

Observations:

Employment amongst residents in the plan area is concentrated strongly in the service sector in particular activities that are not part of a regional export base including personal services, administration, retail trade and transportation. Typically speaking these sectors have a tendency to produce moderate income jobs. Similarly, the data suggests, as is consistent with the residential characteristic of the community, that service sector employment dominates the local employment base.

- The presence of several important school facilities is reflected in the large number of employees in educational services located near the project site.
- The presence of two major commercial corridors yields a relatively strong concentration of retail jobs near the plan area
- Medical related employment is also strongly represented within the plan area and represents a potential cluster of activities that could generate additional employment moving forward.

NAICS	Industry	Establishments	Employees
11	Agriculture, Forestry, Fishing and Hunting	0	0
21	Mining	0	0
22	Utilities	0	0
23	Construction	5	9
31-33	Manufacturing	6	44
42	Wholesale Trade	4	5
44-45	Retail Trade	51	472
48-49	Transportation and Warehousing	0	0
51	Information	2	8
52	Finance and Insurance	6	21
53	Real Estate and Rental and Leasing	8	23
54	Professional, Scientific, and Technical Services	7	28
55	Management of Companies and Enterprises	0	0
56	Administrative and Support and Waste Management	3	8
61	Educational Services	6	450
62	Health Care and Social Assistance	12	354
71	Arts, Entertainment, and Recreation	3	49
72	Accommodation and Food Services	18	177
81	Other Services (except Public Administration)	28	176
92	Public Administration	1	60
	Total	160	1,884

Table 7: Employment within 1 mile of 5404 University Avenue. Source: ESRI, Dunn & Bradstreet and MR+E

PUBLIC FACILITIES

In terms of economic development, the public facilities in the Plan Area and surrounding market areas are sufficient to support urban development. This is consistent with the fact that the project site is located in the midst of a mature built out urban environment. This general adequacy of the physical infrastructure represents a base line condition that in and of itself is not hampering urban development. That being said, it is clear that opportunities to make improvements to the public realm and investments in public amenities would pay dividends in terms of attracting additional rounds of private investment and development at the Chollas Triangle.

In particular there are three main areas were public facilities could be upgraded or improved that would have the ability to set the stage for future rounds of economic development.

Parks / Open space: The ability to connect the plan area to Chollas Creek is a lost opportunity in terms of creating a more highly amenitized environment that would be attractive to residential development. If the creek itself could be integrated into the neighborhood as a community amenity, it would provide a significant competitive advantage to the site. This could be accomplished by both improvements to the connections from the denser portions of the site along University across Chollas Parkway itself.

Observations:

- The plan area is located in the context of a mature built out urban site. Basic infrastructure to support development exists in the surrounding areas.
- The Chollas Triangle site would be an excellent candidate for Transit Oriented Development (TOD) supported by existing and future bus service. The site is sufficiently large, coherent and well located in terms of existing land uses to support this type of development strategy.
- The plan area is currently under served by pedestrian and dedicated bicycle facilities.

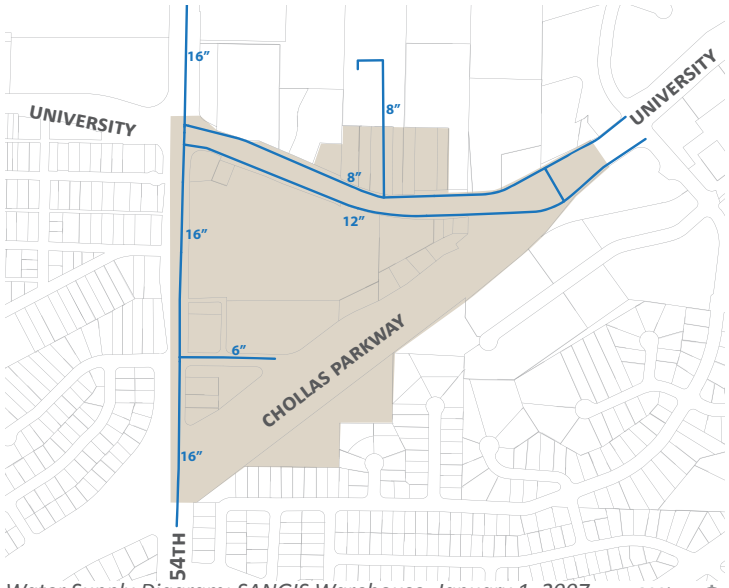
Opportunities:

- Opportunities to improve the economic value of the plan area can be realized via improvements to the public realm in key areas that improve site amenities. Improving park and open space along the creek supports the demographic profile of the community which has a strong presence of multi family dwelling units and many children.
- The ability to tie the creek itself into a larger pedestrian and bicycle system would also facilitate development on the project site.
- The presence of the long term but ad hoc pedestrian path from University to the school complex north of the site is an opportunity to create district wide linkages that would improve the overall attractiveness of the site.
- Land use planning and development strategies for this site should recognize this opportunity should suitable transit density emerge over time.
- Improving the density of public transportation to the site, either by fixed rail linkages or via bus rapid transit (BRT) represents an opportunity for inducing development on the site over time.

SUMMARY

The communities that surround the Chollas Triangle make up a significant base of spending and economic activity. In many respects the Mid-city portion of the City of San Diego can be thought of as a medium-size city that is primarily residential in character with commercial activity located along transportation corridors. The Chollas Triangle site represents an opportunity to provide a town center or focus for this community which despite its relative modest means when compared to the County as a whole still represents a significant consumer base that has economic needs that can be met within the community. These needs include opportunities for capturing a greater percentage of the community's retail expenditures, increasing employment density to capture a larger proportion of the local labor force and attainable priced housing opportunities in particular newer construction. All of which can be physically accommodated on the Chollas Triangle site.

6 utilities and infrastructure



Water Supply Diagram: SANGIS Warehouse, January 1, 2007

WATER DISTRIBUTION AND SUPPLY

Existing water use by the Chollas Triangle properties is relatively modest, consistent with the existing land uses. Alternative land plans and land uses proposed during the Master Plan process have the potential to increase water use.

Water service to the site is provided by the City of San Diego Public Utilities Department (PUD). The site is within the Normal Heights 536 pressure zone, which is supplied primarily by water from the City's Alvarado Water Treatment Plant. Water transmission to the site is via the 54-inch Trojan pipeline, which feeds a 16-inch distribution main in 54th Street, and 8-inch and 12-inch distribution mains in University Avenue.

The close proximity of large transmission and distribution facilities to the site indicates that the existing system can likely accommodate site redevelopment without the need for any significant off-site improvements. However, based on preliminary review and consultation with PUD, it appears clear that redevelopment of the site will necessitate various on-site and perimeter improvements to the water distribution system in order to provide adequate domestic and fire flow service. These improvements will likely include the following:

- The current zoning along Lea Street and Chollas Parkway is Industrial, which requires a 6,000 gallon per minute (gpm) fire flow. The existing 6-inch water main on Lea Street is undersized for all zoning. Industrial zoning would require a 16-inch water main and commercial zoning (4,000 gpm fire flow) would require a 12-inch water main.
- There is no existing water main along Chollas Parkway. A new water main will be required along Chollas Parkway for any new development requiring a water service off of that street. A new water main in Chollas Parkway would also fulfill the requirement of a looped water system.
- The existing 12-inch main in University Avenue is asbestos cement and was constructed in 1956. It is likely nearing the end of its useful life and may need replacement to reliably serve redevelopment in the Chollas Triangle.

Once the Master Plan process develops specific land use and site plan alternatives, the City will conduct more detailed capacity and pressure studies to confirm and size any required improvements to the existing water transmission and distribution infrastructure to serve the site.

SANDAG Series 12 Forecast of Housing and Employment

YEAR	2020	2030	2040	2050
HOUSING STOCK	26	476	487	487
Single Family	3	3	3	3
Multi-Family	23	473	484	484
EMPLOYMENT	196	557	569	569

The City's existing and planned water supplies are sufficient to accommodate development of the site up to the land use intensities projected by SANDAG for 2035 in their Series 12 Regional Growth Forecast. These planned supplies are documented in the City's 2011 Urban Water Management Plan, and include imported water purchases from the San Diego County Water Authority, local runoff water, recycled water, extensive conservation measures, and other components.

For residential developments, PUD uses the following demand factors to calculate water use:

- Single-family: 116 gallons per capita per day
- Multi-family: 80 gallons per capita per day
- Employee: 60 gallons per employee per day

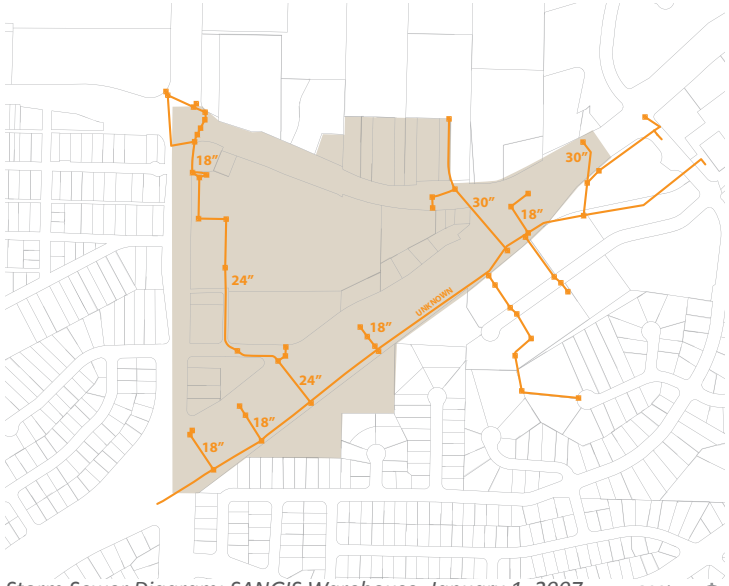
Sanitary Sewer Diagram: SANGIS Warehouse, January 1, 2007

SANITARY SEWER

Existing sanitary sewer flows from the Chollas Triangle properties are relatively modest, consistent with the existing land uses. Alternative land plans and land uses proposed during the Master Plan process have the potential to increase sanitary sewer flows from the site.

Sewage collection service is provided by the City of San Diego Public Utilities Department (PUD). The 24-inch Chollas Trunk Sewer is located along Chollas Parkway and University Avenue, and 8-inch collector sewers are located in University Avenue and within the Chollas Triangle site itself. Site topography generally slopes from northwest to south east toward the 24-inch trunk sewer. Sewage collected in these sewers is ultimately conveyed to the City's Point Loma Wastewater Treatment Plant for treatment and disposal.

The sewage collection system serving the area, particularly the 24-inch trunk sewer, is generally robust and likely capable of accommodating site redevelopment without the need for any significant off-site improvements. Once the Master Plan process develops specific land use and site plan alternatives, the City will then conduct more detailed capacity studies to confirm the capability of the existing sanitary sewer collection infrastructure to serve the site. Should off-site improvements be required, these will be identified at that time.



Storm Sewer Diagram: SANGIS Warehouse, January 1, 2007

Electric Sub-Station Service: Mid-City Community Plan

STORM SEWER

The site is serviced by an existing 24” storm sewer along the western portion of the site. Existing GIS data identifies a storm drain along Chollas Creek, but does not identify if there is a pipe or if the creek itself is the drainage system. Further investigation with the city will be needed to determine storm sewer capacity at the site.

ELECTRIC

A San Diego Electric and Gas substation is located at the southwest corner of the site with 69KV transmission lines extending to the east and southwest (per Mid-City Communities Plan). Overhead transmission lines are present at the site but do not extend across Chollas Parkway as depicted in the Mid-City Communities Plan. San Diego Electric and Gas has been contacted in attempt to obtain utility location drawings for this site.

Observations:

- Existing landscape screens the southeastern side of the substation and should be retained as a visual buffer.
- Views into the sub-station from the north are unfavorable.

Opportunities:

- Encourage enclosing any future sub-station in a structure at such time when it needs to be updated and/or replaced.