

Qualcomm Stadium Redevelopment

Executive Summary

In May 2017, SANDAG's Service Bureau was asked by two separate entities¹ to forecast how proposed mixed-use development of the approximately 166-acre SDCCU Stadium site² (including the stadium, parking lot, and practice field) would affect the amount of travel to, from, and within the proposed site. To achieve this goal, the hiring entities agreed on the following assumptions: By 2035, the redevelopment area would include a total of 4,800 residential units, 450 hotel rooms, 70.4 acres allocated as follows; stadium/arena (13%), recreational (72%), and park use (15%). The development also would include 3.14 million square feet of non-residential space allocated as; scientific research and development (9%), commercial (24%), and office (68%) use. This mix of development equates to 9,089 residents living on the site and 10,480 jobs. For size comparison purposes, in 2017, the 361-acre Liberty Station includes around one-quarter of the number of housing units, one-quarter the number of employees, and three-quarters the number of hotel rooms³.

There are two measures of total travel for the site. The first is Average Daily Traffic (ADT) which measures the total number of (personal and commercial) vehicles projected to travel into and out of the site on an average weekday. The second is the number of Person Trips (PT)⁴ which represents the number of individuals who are traveling to, from, or within the site for personal reasons, either by motor vehicle (as the driver or passenger in a carpool), transit, walking, or biking. Specific findings based on the assumptions outlined above and other agreed upon model details outlined in this report include the following⁵:

- The model estimates that, based on the assumptions stated above, there will be approximately 97,000 ADT to/from the proposed site on an average weekday basis. This figure includes residents and their visitors, site employees, individuals frequenting

¹ Linscott, Law, & Greenspan, Engineers (LLG) representing FS Investors and Urban System Associates, Inc. (USA), representing Public Land, Public Vote.

² Qualcomm stadium site statistics according to <https://www.sandiego.gov/stadium/about/factguide> on November 15, 2017

³ Statistics downloaded on October 26, 2017 from http://retailinsite.net/downloads/pointloma_libertystationeast.pdf and confirmed with SANDAG's land use database, EDD employment figures, and the hotel websites. Housing units at Liberty Station consist of 850 military units and 350 residential units.

⁴ A person trip is any non-commercial trip made by an individual. For example, if 3 people drive together to a store that would equal 3 person trips and 1 vehicle trip.

⁵ The estimates provided here were created using the SANDAG Activity-Based Model (ABM version 13.3.2). Additional information regarding the assumptions (including land use improvements), the model, and disclaimers regarding its use can be found in the full report.

⁴ Transit Hubs are stops where passengers can change modes of transportation, such as the Old Town Station, where passengers can transfer from the Trolley to a bus to continue their trip.

commercial locations, hotel visitors, and those seeking to use the recreational areas, as well as commercial vehicles servicing the residents and businesses at the site.

- The model also estimates there will be approximately 123,000 PTs on an average weekday basis, with approximately three-quarters (77%) of these trips occurring in a motor vehicle.
- It is estimated that the average number of miles a resident at the site will travel by vehicle per day will be 9.9, which is below what the average is forecast to be for the region's residents overall (15.5), and the City of San Diego's residents (13.5).
- The existing Qualcomm Stadium Green Line Transit Station on the site is estimated to have 5,100 individuals getting on or off at this stop daily by 2035 – the highest number of the stops on the line with the exception of transit hubs⁶.
- Due to the diversity and density of the proposed land use at the site, the model estimates that 17 percent of the 123,000 PTs associated with the development would be made by active transportation (i.e., walking and biking). This percentage is higher than the 2035 estimate for the percent of PTs that are expected to be made via active transportation for both the City of San Diego overall (14%) and the San Diego region (13%).

⁶ Transit Hubs are stops where passengers can change modes of transportation, such as the Old Town Station, where passengers can transfer from the Trolley to a bus to continue their trip.

Introduction

Linscott, Law & Greenspan, Engineers (LLG) representing FS Investors and Urban Systems Associates, Inc (USA) representing Public Land, Public Vote hired SANDAG Service Bureau to forecast how proposed mixed-use development of the approximately 166-acre SDCCU Stadium site (including the stadium, parking lot, and practice field) would affect the amount of travel to, from, and within the proposed site. This document outlines the land use assumptions and the transportation network modifications used for the project and the transportation model results.

2035 Land Use Assumptions and Network Modifications

Agreed-upon Land Use Assumptions

The Service Bureau project request entailed replacing existing land use in the study area (Master Geographic Reference Areas (MGRAs) 6163 and 6165) with an agreed upon land use alternative consisting of the following assumptions.

Table 1: 2035 Proposed Site Land Use

LAND USE	TYPE	UNITS
Multi-Family	Dwelling Units	4,800
Hotel (Low Rise)	Rooms	150
Hotel (Low Rise)	Square Feet	160,710
Hotel (High Rise)	Rooms	300
Hotel (High Rise)	Square Feet	300,000
Scientific Research & Development	Square Feet	275,000
Regional Commercial	Square Feet	500,000
Specialty Commercial	Square Feet	240,000
Office (High Rise)	Square Feet	1,190,000
Office (Low Rise)	Square Feet	935,000
Stadium or Arena	Acres	9.0
Other Recreation - High	Acres	12.0
Other Recreation – Low	Acres	38.5
Active Park	Acres	10.9

The land use assumptions were converted into site population and site employment for input into the SANDAG Activity-Based Model (ABM version 13.3.2).

Table 2: 2035 Site Full Buildout Population and Employment

MGRA	Site Population	Site Employment
6163	4,018	6,009
6165	5,071	4,471
Total	9,089	10,480

The 2035 proposed development increases the Mission Valley Community Planning Area (CPA, 2035 forecast) population from 34,282 to 43,371 for an increase of 26.5 percent. Dwelling units for the Mission Valley CPA increased from 19,299 to 24,099 for an increase of 24.9 percent.

Agreed-upon Transportation Network Modifications

In addition to the agreed upon land use changes, FS Investors and Public Land, Public Vote also agreed to the following modifications to the City of San Diego Circulation Element and SANDAG's 2035 Revenue Constrained Regional Plan network:

1. Added Access Roads for the Site
 - a. West access driveway at Friars Rd, included adding a signal
 - b. Extension of Mission Village at San Diego Mission Rd, included adding a signal
 - c. East access driveway at San Diego Mission Rd, included adding a signal
 - d. Extension of Rancho Mission Rd at Ward Rd, included adding a signal
2. Included Friars Rd improvements from Fashion Valley Mall to Frazee Rd
3. Removed Friars Rd and SR 163 SB and NB Interchange Improvements
4. Removed Phyllis Place connection to Via Alta
5. Removed Santo Rd connection between Aero Dr and Friars Rd
6. Removed Tierrasanta Rd connection between Santo Rd and Mission Gorge Rd
7. Included Hazard Center extension as a two-lane collector under SR 163 from Hazard Center Dr to Riverwalk Dr.
8. Removed Fenton Pkwy connection between Northside Dr and Camino Del Rio N
9. Removed Purple trolley line

SANDAG modeling staff made the following adjustments to the ABM inputs and networks to account for the unique characteristics of the development:

1. Work location choice pre-process was run to update the development site.
2. Active Transportation networks were updated within the site to reflect proposed development walk and bike connectivity to transit stops and surrounding community. Transit access walk times were reviewed for both MGRA zones. MGRA zone connectors for walk access were adjusted accordingly.
3. Density parameters were adjusted to reflect the proposed density and diversity of land uses at the development site.

To understand the size of the development we compared the development and input data to other areas within San Diego County.

- The proposed 2035 site population of 9,089 people is approximately 67 percent of the 2016 estimated population of the City of Solana Beach (13,500)
- The proposed 2035 site dwelling units of 4,800 is approximately 19 percent of the 2016 estimated dwelling units of downtown San Diego (25,337)
- The proposed 2035 site commercial gross leasable area (ft²) of 740,000 is roughly 13 percent larger than Otay Ranch Town Center (655,000)

- The proposed 2035 site office space is equivalent to 4.5x the size of the Wells Fargo Office Tower in downtown San Diego (472,000)
- The proposed 2035 site employment of 10,480 is 34 percent of Qualcomm's San Diego employment (30,500)
- The proposed 2035 site includes 16,000 parking spaces which is 3,000 less than the existing SDCCU Stadium site

Due to the alterations to the land use and network, this scenario is not directly comparable to the 2035 Regional Plan adopted by SANDAG board.

2035 Proposed Site Forecast Results

The 2035 proposed land use inputs, network changes, and model adjustments were evaluated using the SANDAG Activity-Based Model. The diversity of land uses, density of activity generators, walkable street network, and proximity to an existing Green Line Trolley stop site results in trip making with relatively high amounts of transit usage, active transport trips, and internal capture. This section discusses the forecast results for the proposed development site.

Average Daily Traffic and Personal Trips

There are two measures of total travel for the site. The first is the Average Daily Traffic (ADT) which is the total number of vehicles (personal and commercial) projected to travel into and out of the site on an average weekday. The model forecasts 97,000 ADT to/from the proposed site on an average weekday basis in 2035. This ADT includes residents and their visitors, site employees, individuals frequenting commercial locations for shopping, dining, or entertainment, hotel visitors, and those seeking to use the recreational areas, as well as commercial vehicles servicing the residents and businesses at the site. Commercial vehicle trips could be by auto, light-duty, or heavy-duty trucks. Commercial trips include deliveries to the site such as mail, packages, products to stores, supplies to offices, and furniture/moving services, business trips to the site such as business meetings, and service visits such as landscapers, plumbers, electricians, and janitors/housekeepers.

There are four roadway entrances to the site with the majority of trips entering from the northern boundary of the site (87%).

The second primary measure from the transportation model is the number of Person Trips (PTs) which represents of the number of individuals who are traveling to or from the site for personal reasons, either by motor vehicle (as the driver or passenger), transit, walking, or biking. The model also estimates there will be 123,000 PTs on an average weekday basis. Approximately three-quarters (77.3%) of these trips are forecasted to occur in a motor vehicle (single and high occupancy vehicles, not including commercial travel).

Vehicle Miles Traveled (VMT) for the site is well below regional and City of San Diego averages for residents and employees as shown in Table 3. VMT per resident measures the total amount of driving made by people that live in the specified area. VMT per employee measures the total amount of driving made by employees who work in the specified area.

Table 3: Daily Weekday VMT Comparison

Area	VMT per Resident	VMT per Employee
Region	15.5	23.1
City of San Diego	13.5	22.3
Site	9.9	18.4

Transit

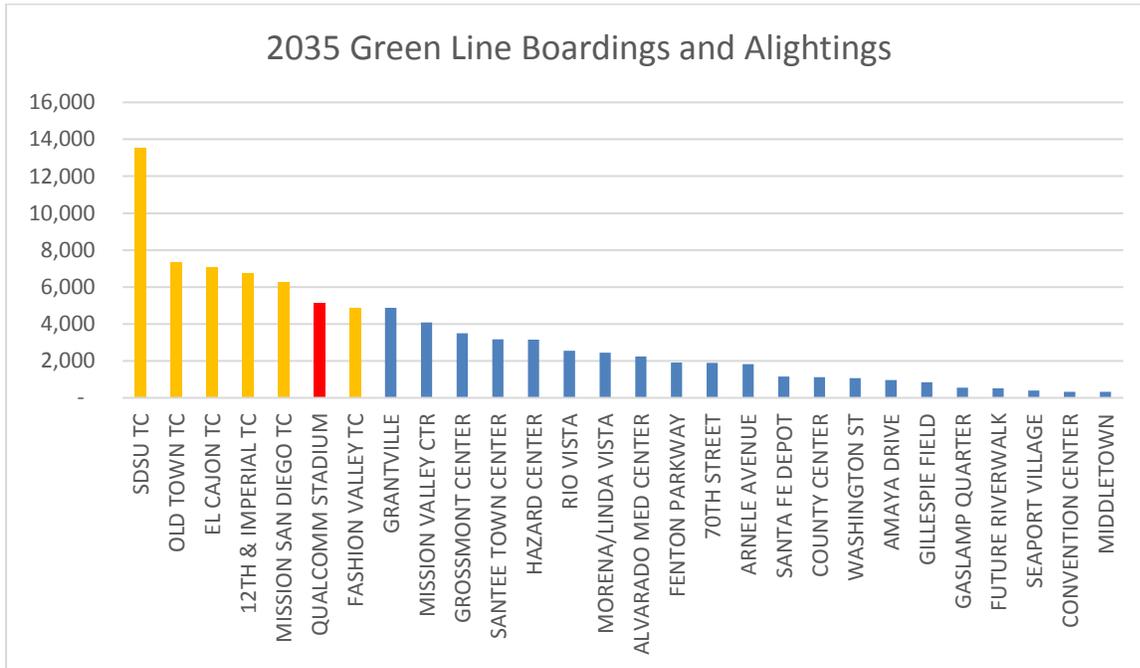
The site has access to an existing Green Line Trolley stop. The site also has access to two other nearby transit stations, Mission San Diego and Fenton Parkway, each of which is roughly a half mile from the Qualcomm Stadium Transit Stop. There is also a local bus stop for future route #648 near San Diego Mission Rd. and Friars Rd.

The 2035 forecast for the proposed site shows roughly 5,100 boardings and alightings to the Green Line Trolley at Qualcomm Stadium. This is 1,000 more than the 2012 boardings at Fashion Valley Transit Center.

As shown in the figure below, the Qualcomm Stadium station (in red) in 2035 becomes the largest non-transit center trolley boarding stop along the Green Line (transit centers are shown in orange). Mission San Diego is listed as a transit center due to transfers between the Green Line trolley and a future BRT route at the stop.

Overall, a daily 5.1 percent transit share of person trips and a peak period work commute share of 11.2 percent is forecasted for the site.

Figure 1: 2035 Green Line Boardings and Alightings



Active Transportation

Overall, a daily 16.9 percent of person trips to/from or within the site will either walk or bike to their destination. 5.6 percent of peak period commute trips to/from or within the site also will be made by walking or biking.

Internal Capture

Internal capture rates are often used to demonstrate the diversity of land uses in a mixed-use development. The forecast for this site is for 1 in 10 (10.2%) of all trips and just over 1 in 5 (21.9%) of resident trips generated at the site will remain on the site.

Mode Share Comparison

Table 4 and Table 5 show the mode shares for the region, City of San Diego, and the proposed development site from the 2035 land use and network scenario tested. Transit and active transportation percentages at the proposed site are considerably higher than the region or City of San Diego.

Table 4: 2035 Daily Person Trip Mode Shares

Mode	San Diego Region	City of San Diego	Qualcomm Stadium Site
Auto	81.6%	80.3%	77.3%
Transit	3.2%	4.1%	5.1%
Bike & Walk	13.3%	13.9%	16.9%

Table 5: 2035 Peak Period Person Trip Commute Mode Shares

Mode	San Diego Region	City of San Diego	Qualcomm Stadium Site
Auto	92.7%	91.7%	83.2%
Transit	5.2%	6.1%	11.2%
Bike & Walk	2.2%	2.2%	5.6%

Forecast Disclaimers

Series 13 Travel Demand Model Disclosure Statement

This notice is intended to help users understand the limitations of the Series 13 Transportation Demand Model. It is the responsibility of the users to independently evaluate the content and usefulness of the information, given the limitations stated below.

The SANDAG Series 13 Travel Demand Model is based on an activity based model (ABM) platform. The ABM has a base year of 2012 and a horizon year of 2050. The ABM was developed using travel behavior information from the 2006 San Diego Household Travel Behavior Survey, data from the American Community Survey, U.S. Census Bureau, and the most current traffic and transit observations available through 2014. The model is calibrated and validated to 2012 travel conditions using observed traffic counts for freeways, arterials, and transit ridership.

Many of the Series 13 Transportation Demand Model inputs such as population, households, jobs, and income are derived from the Series 13 Regional Growth Forecast. Future year transportation scenarios in the Series 13 Transportation Demand Model are derived from policy and investment decisions made by the SANDAG Board of Directors in San Diego Forward: The Regional Plan. SANDAG does not endorse policies or investment scenarios that deviate from the Regional Plan.

While care is taken to ensure the information in the transportation model and growth forecast is accurate and current, the science and knowledge upon which they are based are dynamic, and the data upon which they rely continually evolve. Therefore, there is no guarantee given by SANDAG that the information provided by the transportation model and growth forecast is correct, complete, and/or up-to-date with conditions in the region, or the current state of scientific opinion or analysis, or as to its acceptability by any third party.

Any action taken upon this information is strictly at the practitioners own risk, and SANDAG will not be liable for any losses or damages in connection with using these data.

Project Specific Disclosures

While travel demand in the ABM is accounted for in a highly disaggregated spatial and temporal process, the model is not capable of accounting for many design characteristics of a site such as proximity of residential dwelling units to retail outlets or the convenience of bike parking to building entrances. Distance to transit is calculated from a zone centroid to the trolley stop rather than from each individual building and unit leading to some bias of walk travel times. The ABM does not explicitly account for the home location selection bias for residents whose personal characteristics may align with choices available in the development. Additionally, the ABM parking model is applied only to the downtown area. For any study sites outside downtown, including this one, the model treats these sites as non-parking constrained area with free parking and enough parking spaces.

SANDAG Service Bureau renders no opinion on whether this site conforms to transit oriented design or climate action plan planning standards.

The model run requested is for an average weekday and does not include trips for special events on the site such as soccer matches.

Appendix

Forecast Results Statistical Summary for the Proposed Site

ACTIVITY	
Population	9,089
Employment	10,480
TRIPS	
Person Trips	123,256
Vehicle Trips (ADT)	96,766
DAILY MODE SHARE (ALL TRIPS)	
Transit	5.1%
Walk	16.0%
Bike	0.9%
Auto	77.3%
Other	0.7%
PEAK PERIOD MODE SHARE (COMMUTE TRIPS)	
Transit	11.2%
Walk	3.8%
Bike	1.8%
Auto	83.2%
DAILY SITE (QUALCOMM STADIUM) GREEN LINE BOARDING'S and ALIGHTING'S	
Boarding's	2,606
Alighting's	2,522
INTERNAL CAPTURE	
All Trips	10.2%
Site Residents	21.9%
VEHICLE MILES OF TRAVEL	
VMT per Site Capita	9.9
VMT per Site Employee	18.4
AVERAGE TRIP LENGTH	
Site Residents	4.1
Site Employees	7.1
All Trips	6.0