Introduction

In April 2013, the Federal Transit Administration and the San Diego Association of Governments (SANDAG) completed the Mid-Coast Corridor Transit Project Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR). The Draft SEIS/SEIR evaluated a Build Alternative and a No-Build Alternative. The Build Alternative provided for the extension of the Trolley Blue Line from the Santa Fe Depot in Downtown San Diego to the University Towne Centre Transit Center in University City. The Draft SEIS/SEIR was available for review and comment from May 17, 2013 through July 17, 2013. Approximately 1,420 comments were received during the comment period from more than 300 individuals, organizations, and agencies. All substantial comments received on the Draft SEIS/SEIR will be responded to in the Final SEIS/SEIR.

Several of the comments received during the comment period warranted consideration due to their potential to affect the alignment, stations, or other elements of the Build Alternative. Comments received during and after the Draft SEIS/SEIR comment period regarding the proposed station at Balboa Avenue were among the comments that warranted consideration. The station location proposed in the Draft SEIS/SEIR is on City of San Diego-owned property south of Balboa Avenue in between the existing Los Angeles—San Diego—San Luis Obispo Rail Corridor Agency (LOSSAN) railroad tracks and Morena Boulevard. Figure 1 shows the location of the Balboa Avenue Station under the Build Alternative evaluated in the Draft SEIS/SEIR. The station provides an important connection for bus routes serving nearby communities of Clairemont Mesa and Pacific Beach.

The comments provided by residents in the neighborhood adjacent to the Balboa Avenue Station primarily related to the location of the station. The comments requested relocation of the station to the area north of Balboa Avenue at the City Maintenance Yard/Rose Canyon Municipal Operations Lot (City Yard site) to avoid or reduce perceived traffic, parking, and other impacts (e.g., noise, visual) to the adjacent neighborhood. Residents also commented that the station location proposed in the Draft SEIS/SEIR was on City of San Diego-owned property south of Balboa Avenue in between the existing Los Angeles—San Diego—San Luis Obispo Rail Corridor Agency (LOSSAN) railroad tracks and Morena Boulevard. Figure 1 shows the location of the Balboa Avenue Station under the Build Alternative evaluated in the Draft SEIS/SEIR. The station provides an important connection for bus routes serving nearby communities of Clairemont Mesa and Pacific Beach.

In response to the comments, SANDAG studied the relocation of the Balboa Avenue Station from south of Balboa Avenue to the City Yard site. Based on the initial results of the study, SANDAG staff concluded that the City Yard site could accommodate the station and provide sufficient space to meet the forecasted station parking demand, but this site would reduce transit ridership and increase out-of-direction travel for buses serving the station. Therefore, it was recommended by SANDAG staff to continue with the Balboa Avenue Station location and design as evaluated in the Draft SEIS/SEIR.

Elimination of the station also was considered; however, the Balboa Avenue Station is a critical component of the project. This station will have a 220-space park-and-ride facility and will be served by four bus routes. As shown in Chapter 4.0, Table 4-27 of the Mid-Coast Corridor Transit Project Transportation Impacts and Mitigation Report, the Balboa Avenue Station will have the second-highest daily ridership among the new stations constructed as part of the project, with more than 3,000 boardings daily (only the University of California, San Diego West Station will have greater ridership). Therefore, this station was not recommended for elimination from the project.
Figure 1. Balboa Avenue Station Location under Build Alternative in Draft SEIS/SEIR

Source: SANDAG, 2014
SANDAG staff presented the results of the study and the proposed Refined Build Alternative to the SANDAG Board of Directors on November 15, 2013. The SANDAG Board of Directors voted to approve the Refined Build Alternative as the project to be evaluated in the Mid-Coast Corridor Transit Project Final SEIS/SEIR, with the Balboa Avenue Station remaining south of Balboa Avenue on the Draft SEIS/SEIR site. The Mid-Coast Corridor Transit Project Final Refined Build Alternative Report documents the SANDAG Board of Directors’ approval of the Refined Build Alternative.

After the November 15, 2013 SANDAG Board of Directors’ action, additional analysis to further address comments on the Draft SEIS/SEIR was completed, including, among other things, a more detailed travel time study and capital costs estimates. The analysis confirmed the prior findings and found the following:

- Locating the station at the City Yard site would not eliminate or reduce any adverse or significant project impacts that were identified for the Draft SEIS/SEIR site
- Locating the station at the City Yard site would increase capital and operating and maintenance (O&M) costs

This technical memorandum documents the evaluation of the two options that would locate the Balboa Avenue Station on the City Yard site north of Balboa Avenue compared to the Draft SEIS/SEIR site south of Balboa Avenue.

Description of Balboa Avenue Station Site and City Yard Station Site Options

The Draft SEIS/SEIR station site south of Balboa Avenue and the station site options on the City Yard site north of Balboa Avenue are described in the following subsections.

Draft SEIS/SEIR Station Site South of Balboa Avenue

As proposed in the Draft SEIS/SEIR, the Balboa Avenue Station would be located in the southwest quadrant of the Balboa Avenue/Morena Boulevard interchange and would be approximately 4 acres. As shown in the site concept in Figure 2, the station site would include a surface parking lot with approximately 220 spaces, five bus bays, and short-term parking for pick up and drop off of passengers. Despite a forecasted demand for 382 parking spaces in 2030, parking supply on this site is constrained due to the size of the parcel and the location of an active earthquake fault, which would prohibit construction of a parking structure. An additional on-street bus turnout would be provided in the southbound direction of Morena Boulevard. To provide for direct bus and vehicular access to the station, as well as a longer merge distance between the northbound Interstate (I-) 5 off-ramp to the eastbound Balboa Avenue/Morena Boulevard connector ramp, the existing on-ramp from eastbound Balboa Avenue to southbound Morena Boulevard would be removed and traffic would be diverted to the loop ramp connecting eastbound Balboa Avenue to northbound Morena Boulevard.

The loop ramp would be widened and its intersection with Morena Boulevard would be signalized, allowing traffic to turn south on Morena Boulevard. The westerly leg of this intersection would serve as the entrance to the station for buses and as an entrance and exit for vehicular traffic. Buses would exit the station via a new bus-only signalized intersection constructed at the southern end of the station site.
Pedestrian access to the station from Morena Boulevard would be provided via new sidewalks on both sides of Morena Boulevard. Access from Balboa Avenue would be via ramps and stairs on both sides of the street. A pedestrian bridge would be provided across Balboa Avenue for access to the station from the north side of Balboa Avenue.

City Yard Site Station Site Options North of Balboa Avenue

The City Yard site is located north of Balboa Avenue in between the LOSSAN railroad tracks and Morena Boulevard. The parcel is approximately 21 acres in size. The Rose Canyon Operations Center is located approximately midway between the northern and southern ends of the site. To minimize impacts to the operations center, site concept plans for the station were developed for both the northern and southern portions of the parcel that allow sufficient area for a consolidated operations center on the unused portion of the parcel. The two station site concepts are referred to as Option 1 (northern portion) and Option 2 (southern portion); the
locations of the options are shown in Figure 3 and described below. While these site options should allow for a consolidated operations center to remain on site, relocation of the facilities to an alternative site may still be required, pending coordination with the City of San Diego. It is assumed in this memorandum that the operations center would remain at the City Yard site.

**Option 1 - Northern Portion of City Yard Site**

Option 1 would locate the Balboa Avenue Station north of Balboa Avenue in the northern portion of the City Yard site. A site concept plan was developed for the station on the northern portion of the parcel, as shown in Figure 4.

The platform for Option 1 would be located on a slight curve, assuming the Trolley track alignment in the Draft SEIS/SEIR. This would require a design exception from SANDAG’s Light Rail Transit (LRT) Design Criteria. As stated under the *Engineering Considerations* section below, stairs and elevators would be required from the parking lot and bus bays to the northbound Trolley platform due to the grade differential.

Both vehicular and transit access to the station would be provided from Morena Boulevard. Vehicular access would be provided at the southern end of the station site at a new signalized intersection, and the transit-only ingress would be located at the northern end of the station site. The transit-only ingress would be a separate entry point for access to the five bus bays adjacent to the Trolley platform. Buses would be required to mix with other station vehicle traffic when exiting the station area onto Morena Boulevard.

The park-and-ride lot would contain approximately 300 parking spaces to accommodate forecasted parking demand in 2030 for this station site option, as well as short-term parking spaces located near the Trolley platform. As explained in the evaluation section of this document under the heading *Parking Demand*, forecasted parking demand would decrease if the station is located on the City Yard site due to a longer travel distance for vehicles traveling from the south and west. Refer to the *Parking Demand* section for additional information. The station would require approximately one-third of the City Yard site.

The elimination of the eastbound Balboa Avenue ramp to southbound Morena Boulevard, as described for the Draft SEIS/SEIR station site, would not be required under Option 1; however, improvements to the loop ramp connecting eastbound Balboa Avenue to northbound Morena Boulevard would be required. A traffic signal may be required at the ramp’s intersection with Morena Boulevard to provide more efficient service for buses turning left from Morena Boulevard to eastbound Balboa Avenue. Additionally, the on- and off-ramps on westbound Balboa Avenue connecting to Morena Boulevard would be widened to allow for safe movements for buses.

Direct pedestrian and bicycle access would be provided from the west side of the LOSSAN tracks near Damon Street. The access would be through a cut-and-cover structure (i.e., undercrossing) under the LOSSAN tracks and a connection near the southern end of the station site. Sidewalks would be constructed south of the site to Balboa Avenue on the west side of Morena Boulevard for pedestrian access to the communities south of the station. The Option 1 station location provides pedestrian and bicycle access to the Rose Canyon Bicycle Path, which connects the communities of Pacific Beach and Mission Beach to the west and the University of California, San Diego and the community of University City to the north. This station location is also in close proximity to the higher-density residential community on Huerfano Avenue and the business/commercial district directly to the north on Morena Boulevard.
Figure 3. City Yard Station Site Options for Balboa Avenue Station

Source: SANDAG, 2013
Option 2: Southern Portion of City Yard Site
Option 2 would locate the Balboa Avenue Station north of Balboa Avenue in the southern portion of the City Yard site. A site concept plan was developed for southern Option 2 and is shown in Figure 5.

Both vehicular and transit access to the site would be provided from Morena Boulevard. The transit and general vehicular access and egress would be shared in and out of the site from Morena Boulevard. The new project intersection on Morena Boulevard would be signalized and located with sufficient distance from the existing signalized Balboa Avenue and Morena Boulevard ramp intersection to the south to maintain proper traffic signal spacing. The five bus bays at the station would be separated from the general vehicular traffic and would be located directly adjacent to the Trolley platform. Upon leaving the bus bay area, transit vehicles would be required to mix with other station vehicle traffic when exiting the station back to Morena Boulevard.

This location would provide approximately 300 parking spaces to accommodate forecasted parking demand for this site, with short-term parking adjacent to the Trolley platform. The station site would be approximately 10 feet above the LRT tracks and platform; stairs and ramps would be provided from the northbound Trolley platform to the parking lot and bus bays. The station would require approximately one-third of the City Yard site.

Roadway improvements under Option 2 are similar to those under Option 1, except that the ramp for southbound Morena Boulevard to westbound Balboa Avenue would also have to be modified. The ramp would be modified to accommodate the new signalized intersection at the entrance to the station site. The reconfigured ramp would follow the alignment of the existing westbound Balboa Avenue to Morena Boulevard ramp. Both ramps would connect with Morena Boulevard.
Boulevard at the existing signalized “T” intersection. A traffic signal may be required at the intersection of the ramp from eastbound Balboa Avenue on Morena Boulevard to provide more efficient service for buses turning left from Morena Boulevard to eastbound Balboa Avenue.

Evaluation of Station Site Options

The evaluation of Options 1 and 2 for the location of the Balboa Avenue Station on the City Yard site north of Balboa Avenue in comparison to the Draft SEIS/SEIR site south of Balboa Avenue is described in this section. The evaluation focused on identifying the major differences or similarities between the City Yard station site options in comparison to the Draft SEIS/SEIR station site and included consideration of transportation, environmental, engineering, right-of-way, and cost issues.

Transportation Considerations

The evaluation of transportation issues included consideration of bus access, auto access, parking demand, bike/walk connectivity, transit ridership, and future LRT connections.

Bus Access

The Balboa Avenue Station is anticipated to function primarily as a bus transfer facility. Results from the SANDAG Series 11 Travel Demand Forecasting Model (Series 11 model) indicate that approximately 70 percent of the access to the Balboa Avenue Station will be by bus. To provide access to the Draft SEIS/SEIR station site, a new signalized intersection and the reconfiguration of the Morena Boulevard/Balboa Avenue ramps would be required. The reconfiguration of the
ramps leading to the station from Balboa Avenue would also be required for safe bus movements. A dedicated “bus-only” signal would be located at the southern end of the station site to ensure safe and reliable turn movements for buses onto Morena Boulevard. When compared to Options 1 and 2, the Draft SEIS/SEIR station site provides the most direct access for buses to the station site and would not significantly increase the travel times for the four bus routes intended to serve this station.

As described above, access to the Option 1 station site would be from Morena Boulevard and would require a new signalized intersection north of Balboa Avenue. A separate “bus-only” access would be located to the north of this new intersection leading all transit vehicles to five bus bays adjacent to the Trolley platform. The Option 1 station site would also require the widening of the on- and off-ramps on the north side of Balboa Avenue and the loop ramp on the south side of Balboa Avenue to allow for safe movements for buses 45 feet or longer that would serve the station. As stated previously, a traffic signal may be required at the intersection of the ramp from eastbound Balboa Avenue on Morena Boulevard to provide more efficient service for buses turning left from Morena Boulevard to access eastbound Balboa Avenue.

While Option 2 would locate the station farther south on the City Yard site than the location proposed for Option 1, similar roadway improvements would be required. These improvements would include widening and reconstruction of the off-ramp from westbound Balboa Avenue to Morena Boulevard, installation of the traffic signal at the intersection of the ramp from eastbound Balboa Avenue on Morena Boulevard, modification of the on-ramp from southbound Morena Boulevard to westbound Balboa Avenue, and construction of a new signalized intersection on Morena Boulevard to accommodate turning movements into and out of the station. The station intersection would be shared by buses and other vehicular traffic.

The Option 1 and Option 2 station sites would require the four bus routes serving the station to divert off of Balboa Avenue, which would increase travel distance by 3,400 to 4,800 feet (0.6 to 0.9 mile) for eastbound buses compared to the Draft SEIS/SEIR station site (Figure 6). The change in distance for westbound buses between Option 2 and the Draft SEIS/SEIR site would remain essentially unchanged, while Option 1 would increase travel distance by 1,300 feet (0.25 mile) (Figure 7). The additional distance for eastbound buses compared to the Draft SEIS/SEIR site is a result of the longer travel distance required on Morena Boulevard as well as within the station site. In particular, the City Yard site is wider at the location where Option 2 would be sited, which would increase the distance and time a bus circulates within the station site compared to Option 1 and the Draft SEIS/SEIR sites. Because of the additional travel distance, bus travel time for the City Yard sites would increase by approximately 1 to 6 minutes per route per roundtrip compared to the Draft SEIS/SEIR station site (Route 27 serves the Balboa Avenue Station twice during each trip and thus would have a greater increase in travel time than the other three routes that serve the station)¹. This increase in travel time could require an additional bus on two to four of the routes serving the City Yard site in order to maintain planned service headways. The number of routes requiring an additional bus would depend on

¹ The travel distances and times were calculated by a transit operational planner experienced in bus scheduling and a traffic engineer using maps of the station areas, future bus routes from the Series 11 model, and the station site plans presented in Figure 2, Figure 4, and Figure 5. The travel distances and times and O&M costs were reviewed by the Metropolitan Transit System, the transit operator.
Figure 6. Travel Routes for an Eastbound Through Bus

Source: SANDAG, 2014
Figure 7. Travel Routes for a Westbound Through Bus

Source: SANDAG, 2014
the layover time included in the bus schedule and would be determined by the transit operator—the Metropolitan Transit System. Additional buses would result in higher O&M costs. Specifically, annual O&M costs would increase by approximately $497,000 if one additional bus is needed on two routes (two new buses total) to $1,105,000 if an additional bus is needed on each of the four routes (four new buses total) (costs are in 2013 dollars). Thus, relocating the Balboa Avenue Station under Option 1 or Option 2 would increase O&M costs.

Due to the additional travel time resulting from the additional stops, turns, and/or out-of-direction travel, mode of access (i.e., mode refers to means of access or travel to or from the station) via bus transfer would decrease by 220, or from a 70 percent mode share under the Draft SEIS/SEIR station site to 63 percent under Option 1, as shown in Table 1. This would affect daily boardings at the station. As stated in Chapter 1.0, Section 1.5 of the Draft SEIS/SEIR, one purpose of the project is to “make transfers more convenient where they do occur” and the increased travel time and out-of-direction travel required for buses accessing the City Yard site would not support that goal.

<table>
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<th>Alternative</th>
<th>Walk Trips</th>
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<th>Kiss-and-Ride</th>
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<td>12%</td>
<td>740</td>
<td>23%</td>
<td>80</td>
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</tbody>
</table>

Source: SANDAG Series 11 Model
Notes: Numbers rounded to nearest 10 and presented in production-attraction format.

1 The drive access shown in this table is based on the actual supply of parking for each station site (i.e., 220 spaces for the Draft SEIS/SEIR site and 300 spaces for City Yard Option 1). The total demand for parking at the Draft SEIS/SEIR site (382 spaces in 2030) exceeds the available supply. Ridership is based on the actual supply.

2 Modeling was conducted for Option 1 to determine changes in mode of access, parking demand, and transit ridership compared to the Draft SEIS/SEIR station site. However, the model is not sensitive enough to differentiate between Options 1 and 2 and therefore a separate model run was not conducted for Option 2. The model results for Option 1 would generally be applicable to Alternative 2.

SEIS/SEIR = Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report

Auto Access
As discussed previously in the Bus Access section, the Morena Boulevard/Balboa Avenue ramps would be reconfigured to provide direct access into the Draft SEIS/SEIR station site. This station site and the reconfigured ramps would reduce travel distance and improve accessibility for transit patrons traveling via automobile from the south and west when compared to Options 1 and 2. Travel distances from the north would be longer for the Draft SEIS/SEIR site compared to Options 1 and 2; travel distance from the east would be comparable with Option 2 but shorter than Option 1.

Two adverse and unmitigable traffic impacts were identified near the Balboa Avenue Station in the Draft SEIS/SEIR as a result of station area traffic: at Mission Bay Drive and Garnet Avenue and on Balboa Avenue from the I-5 southbound on-ramp to the I-5 northbound off-ramp. These traffic impacts would occur because the increase in traffic accessing the Balboa Avenue Station and park-and-ride facility would have a negative impact on the operation of the intersection at
Mission Bay Drive and Garnet Avenue during the p.m. peak hour and daily on the Balboa Avenue roadway segment, based on City of San Diego criteria for level of service and delay. Mitigation was evaluated for both locations but was determined to be infeasible. For additional information on the mitigation considered, refer to Chapter 3.0, Section 3.4.2.3 of the Draft SEIS/SEIR.

Options 1 and 2 would require longer trip distances for vehicles traveling from the south and west of the station compared to the Draft SEIS/SEIR station site, with travel distances being the longest for Option 1. For patrons traveling from the south and west, Option 1 would add 2,500 feet (0.5 mile), while Option 2 would add 1,500 feet (0.3 mile) of travel compared to the Draft SEIS/SEIR site. Travel distances from the north would be 2,500 to 1,500 feet (0.5 to 0.3 mile) shorter for Options 1 and 2, respectively, compared to the Draft SEIS/SEIR site. Travel distances from the east would be longer for Option 1 but comparable between Option 2 and the Draft SEIS/SEIR site.

As stated in the next section, due to site constraints the demand for parking (382 spaces in 2030) exceeds supply (220 spaces) for the Draft SEIS/SEIR site. In comparison, Options 1 and 2 would be located on a larger site and, therefore, more parking can be provided. The ridership and traffic analysis is based on the actual supply of parking at the station rather than the total demand. Therefore, because additional parking could be provided for the options on the City Yard site, drive trips would increase by 120, or from a 21 percent mode share under the Draft SEIS/SEIR site to 25 percent under Option 1 (Table 1).

Relocating the Trolley station and park-and-ride facility to the City Yard site under Options 1 or 2 would not minimize or avoid the traffic impacts identified for the Draft SEIS/SEIR site. This is because transit passengers traveling from areas west of I-5 would continue to use Balboa Avenue to access the station. Further, a greater number of parking spaces (300) could be accommodated under Options 1 or 2 compared to the Draft SEIS/SEIR parking supply (220 spaces), resulting in additional vehicular trips on roadways near the station by transit passengers that wish to park at the station (refer to the drive trip numbers presented in Table 1). To eliminate the impact at Mission Bay Drive and Garnet Avenue, project-related traffic would need to decrease by over 50 percent during the peak hour; given that the number of drive trips to the station would increase under Options 1 and 2, traffic volumes at this intersection would likely be equal to or higher than what was forecasted for the Draft SEIS/SEIR site. Similarly, daily traffic volumes on the segment of Balboa Avenue would be equal to or higher than what was forecasted for the Draft SEIS/SEIR. Therefore, the unmitigated traffic impacts at Mission Bay Drive and Garnet Avenue and on Balboa Avenue identified in the Draft SEIS/SEIR would not be eliminated or reduced under these options.

Parking Demand
Park-and-ride demand for the Balboa Avenue Station was forecast based on the SANDAG Series 11 model. The Series 11 model forecasts drive access, which consists of park-and-ride trips and kiss-and-ride trips (Table 1). These drive trips represent transit passengers accessing either the Trolley or a bus route serving the station. The park-and-ride drive trips are then converted to parking demand by accounting for the format of the model (production–attraction [PA] format) and vehicle turnover. In the Series 11 model (as well as other regional travel forecasting models nationwide), transit trips are modeled in a PA format, meaning that home is always at the production side for a home-based trip. For example, for a trip from home to work, the trip is modeled from home to work, while for a trip from work to home, the trip is also modeled from home to work. There is another format for modeling, referred to as origin–
destination (OD). This format is consistent with actual trip making (i.e., for a trip from home to work, the trip is from home to work, while the return trip from work to home is considered a work to home trip). Because the transit trip output from the Series 11 model is in a PA format, it has to be converted to the OD format, basically dividing the daily trips by 2. Therefore, when converting the park-and-ride drive trips (in PA format) to the actual parking demand, a factor of 2 is first applied to the model results. Next, vehicle turnover is accounted for by applying an additional factor of 1.25 (for a total factor of 2.5).

The park-and-ride facility for the Draft SEIS/SEIR station site was forecast to have a demand for 382 parking spaces in 2030. However, parking supply is constrained due to the size of the station site and the location of an active earthquake fault that prohibits a parking structure; therefore, only 220 spaces can be accommodated with a surface parking facility. This resulted in an unmet need for an additional 162 parking spaces.

However, no adverse spillover parking impacts were identified in the Draft SEIS/SEIR. Distance and topography, particularly the grade differential between the Balboa Avenue Station and the residential streets with on-street parking to the east of Morena Boulevard, could discourage transit patrons from parking on residential streets farther from the station. For example, parking at existing on-street facilities would require crossing busy streets, such as Morena Boulevard, or walking along Balboa Avenue and crossing under the I-5 overcrossing to reach the station platform. Such a walk likely would be a deterrent for those wishing to park near this station if parking spaces were not available in the station park-and-ride lot. Additionally, the majority of available on-street parking is located on residential side streets and is not visible from the main roadways that provide access to the station (i.e., Morena Boulevard and Balboa Avenue). Further, pedestrian access from parking on these side streets to the station is not convenient. Consequently, it is not expected that spillover parking would result in an adverse impact on the existing on-street parking supply in this area and mitigation would not be required.

Additional surveys were conducted as a result of comments received on the Draft SEIS/SEIR for the one-half-mile area around the Balboa Avenue Station to assess available parking supply. The analysis identified 100 available spaces within a one-quarter-mile walk of the station and approximately 800 additional available spaces within a one-half-mile walk of the station during the midday period when parking at the Balboa Avenue Station could likely be full. The spillover parking analysis indicates there is adequate on-street parking to accommodate unmet demand in the unlikely event of spillover parking; however, the parking spaces that are closer to the station would be more desirable (e.g., along Morena Boulevard, a non-residential area). Therefore, in the unlikely situation that transit patrons do park on-street, they are anticipated to find on-street spaces within one-half mile of the station (approximately a 10-minute walk) without substantially displacing parking for existing residents.

Park-and-ride demand for Options 1 and 2 forecast a need for 296 spaces in 2030. The forecast demand is less than the demand forecast for the Draft SEIS/SEIR station site because of the increase in travel distance to the station site from the south and west (refer to the Auto Access section above for additional information), which is not offset by the decrease in travel distance from the north. The model considers total travel time by both highway and transit when determining mode of travel to a transit station for a transit trip. Specifically, the model considers the drive travel time to the two nearest park-and-ride facilities that are within 8 miles of the trip production (origin) compared to transit travel time to the transit station. The trip is then assigned using the mode(s) that provide the shortest travel time from the production to the destination.
Therefore, if the Balboa Avenue Station were relocated to the City Yard parcel, accessing the station via driving may no longer be the shortest travel time for some transit patrons and thus the drive demand for this station location would decrease.

The conceptual design of parking for Options 1 and 2 determined that both station sites could accommodate the forecast parking demand. Thus, relocating the Balboa Avenue Station under Option 1 or Option 2 would reduce parking demand and provide sufficient parking to accommodate the total demand. However, since no adverse or significant impacts related to parking were identified for the Draft SEIS/SEIR site, the additional parking would not reduce any adverse or significant parking related impacts.

**Bike/Walk Connectivity**

For the Draft SEIS/SEIR station site, pedestrian access would require new sidewalks on Balboa Avenue. Further, ramps and stairs would be required for vertical circulation because of the elevation difference between the station and Balboa Avenue. Morena Boulevard and Balboa Avenue are designated as Class 2 bicycle facilities within the station area.

Option 1 and Option 2 provide more convenient bicycle and pedestrian connections to the surrounding community and nearby employment destinations just north on Morena Boulevard. Sidewalks exist on portions of both sides of Morena Boulevard that lead to these areas. Access from Options 1 and 2 to the regional bike facilities and pedestrian connectivity to Pacific Beach and Mission Beach can be achieved by accessing Damon Street and Santa Fe Drive using a cut-and-cover structure under the tracks on the west side of the station. Sidewalks would be constructed south of the site along the west side of Morena Boulevard for pedestrian access to the communities south of the station. While Option 1 would provide better pedestrian and bicycle connections to areas north of the station, the share of trips arriving by walking or biking would only increase slightly (by 110, or from an 8-percent mode share for the Draft SEIS/SEIR station site to 12 percent for Option 1 [Table 1]).

The station platform for Option 2 would be farther from the high-density residential units and the employment destinations than Option 1, making the station less attractive for transit patrons walking or biking to the station from areas to the north. The extension of sidewalks along Morena Boulevard would be necessary for pedestrians to access the site from the existing sidewalks on both sides of Morena Boulevard north of the City Yard station site. However, while relocating the Balboa Avenue Station under Option 1 or Option 2 would provide better pedestrian and bicycle connections, relocating the station would not result in a significant increase in pedestrian and bicycle use to the station.

**Transit Ridership**

Under Options 1 and 2, there would be a negligible decrease in daily transit boardings at the Balboa Avenue Station and on the Trolley Blue Line and systemwide compared to the Draft SEIS/SEIR site, as identified in Table 2. It should be noted that the ridership for the Draft SEIS/SEIR station site is based on 220 parking spaces (lower than the 2030 forecasted demand of 382 parking spaces due to site constraints), whereas ridership under Option 1 is based on 300 parking spaces (based on forecasted demand). Thus, relocating the Balboa Avenue Station under Option 1 or Option 2 would decrease daily boardings at the Balboa Avenue Station as a result of the increase in bus travel time to the station, which would not be completely offset by the more convenient pedestrian access or increase in parking supply/drive access.
### Table 2. Daily Boardings—2030

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<th>Option</th>
<th>Balboa Avenue Station</th>
<th>Trolley Blue Line</th>
<th>Transit System</th>
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<td>3,130</td>
<td>111,750</td>
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<tr>
<td>Change from Draft SEIS/SEIR Site</td>
<td>-50 (-1.6%)</td>
<td>-240 (-0.2%)</td>
<td>-1,490 (-0.2%)</td>
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Source: SANDAG Series 11 Model
Notes: Numbers rounded to nearest 10.
1. Model run included the Veterans Administration Medical Center Station Option
2. Modeling was conducted for Option 1 to determine changes in mode of access, parking demand, and transit ridership compared to the Draft SEIS/SEIR station site. However, the model is not sensitive enough to differentiate between Options 1 and 2 and therefore a separate model run was not conducted for Option 2. The model results for Option 1 would generally be applicable to Option 2.
3. Assumes 220 parking spaces
4. Assumes 300 parking spaces

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**Future LRT Connections**

The 2050 Regional Transportation Plan includes a proposed Trolley line from Kearny Mesa to Pacific Beach via Balboa Avenue. The Draft SEIS/SEIR station site provides the best connectivity to this proposed future Trolley line, while Option 2 would be the next best location because it is located closer to Balboa Avenue. Option 1, located farther north of Balboa Avenue on the City Yard site, provides the least desirable connection potential of all three alternatives due to the additional walking distance for transit patrons transferring between the LRT routes.

**Environmental Considerations**

The evaluation of environmental issues included consideration of land use, hazardous materials, geotechnical/seismic issues, and potential transit-oriented development (TOD) opportunities. With the exception of these considerations, no other environmental considerations were identified that would differ among the three sites to the extent that it would affect the decision to relocate the Balboa Avenue Station to the City Yard site.

Some residents suggested relocating the station as a means to minimize environmental impacts (e.g., noise, visual). As documented in Chapter 4.0 of the Draft SEIS/SEIR, the Balboa Avenue Station would not result in adverse or significant environmental impacts. As such, relocating the station would not minimize or avoid any unmitigated adverse or significant environmental impacts. As noted above under the **Auto Access** section, locating the station at one of the alternative sites would not minimize or avoid the unavoidable traffic impacts.

**Land Use**

The Draft SEIS/SEIR station site is located in an area with nearby land uses consisting of low-density residential housing to the east of Morena Boulevard. However, because this station location would primarily serve as a transfer facility for passengers arriving or departing by bus, it would still function well as a transit station even though pedestrian and bicycle access to the site is currently constrained.

The station sites under Options 1 and 2 are closer to the surrounding community than the Draft SEIS/SEIR station site. The stations would be in close proximity to high-density residential
development on Huerfano Avenue and to the employment areas on Morena Boulevard up to and past Jutland Drive.

**Hazardous Materials**
The Draft SEIS/SEIR identified the City Yard site, the location for both Options 1 and 2, as a hazardous materials site of concern based on several reports of unauthorized releases (including waste oil, gasoline, and diesel fuel) and violations issued (refer to the Mid-Coast Corridor Transit Project Hazardous Materials Technical Report for additional information). There were no hazardous materials sites of concern identified on the Draft SEIS/SEIR station site. Any development at the City Yard site, whether for the station or to consolidate the city maintenance facilities, would require remediation if hazardous materials were found. This is a cost consideration; the cost of remediating any hazardous material contamination would depend on the material found and the special handling required for disposal. Current research indicates that contamination is likely in the southern portion of the site; however, further field work would be required to establish the types and boundaries of contaminants, if present.

**Geotechnical Considerations**
A potential earthquake fault was identified on the Draft SEIS/SEIR station site. Since circulation of the Draft SEIS/SEIR, an active earthquake fault was identified. This existence of this fault precludes construction of a park-and-ride structure on the station site. Current fault records indicate that there are no known faults on the City Yard site where Options 1 and 2 are located.

**Potential TOD Opportunities**
The Draft SEIS/SEIR station site is not large enough to accommodate TOD on the site. Because of the active earthquake fault on this site, future development of the site as something other than a transit station would be limited, as the earthquake fault would preclude construction of structures such as houses or parking structures. However, siting the Trolley station on the parcel south of Balboa Avenue per the Draft SEIS/SEIR could allow for future TOD on the entire City Yard site if the existing city operations relocate. The pedestrian bridge built as part of the project would connect any future TOD on the City Yard site to the Draft SEIS/SEIR station site. The City Yard site is approximately 21 acres; as a consolidated parcel, it provides a significant area for future development opportunities.

The station concepts for either Option 1 or Option 2 use approximately one-third of the City Yard site, leaving less of the property available for a future TOD opportunity (if the existing city operations relocate) compared to the Draft SEIS/SEIR station site. However, the Trolley platform under either alternative would be located in close proximity to any future TOD on the remaining portion of the City Yard site.

**Engineering Considerations**
The Draft SEIS/SEIR station site requires redesign of the Balboa Avenue ramps to improve access to the station site, installation of ramps from Balboa Avenue to the station site, installation of traffic signals at the main entrance and at the bus-only exit, and construction of perimeter retaining walls and the LRT bridge over Balboa Avenue to allow for pedestrian access from the north side of Balboa Avenue to the south side where the station would be located. Because of the active earthquake fault at this site, the improvements at the site are limited to an at-grade parking lot, precluding the use of a parking structure.
The platform under Option 1 would be located on a curve. This design deviation would require an exception from SANDAG’s LRT Design Criteria. In general, such a design is avoided where feasible; however, avoidance would require realignment of the LRT tracks from what was shown in the Draft SEIS/SEIR to allow for a tangent platform and would cause additional right-of-way impacts to the portion of the City Yard site that is not required for the station site.

The Option 1 station site is approximately 5 to 15 feet below Morena Boulevard (the City Yard site is not level in this location) and approximately 30 to 40 feet above the LRT tracks and platform. It is not feasible to raise the LRT tracks by this amount as it would require a retaining wall of the same height between the LRT tracks and the LOSSAN tracks. Therefore, a retaining wall would have to be constructed between the northbound Trolley platform and the station parking lot and bus bays; elevators and stairs would be required between the parking lot and platform. Such features would add to the capital and O&M costs of the project and are included in the capital cost estimates presented in the Cost Considerations section below.

The Option 2 station site is approximately 35 feet above Balboa Avenue and approximately 30 feet below Morena Boulevard, which would make it more challenging to provide pedestrian access to the station. Because of these grade differentials, pedestrian ramps would not be feasible, and stairs and elevators would be required to provide access from Morena Boulevard and Balboa Avenue to the station site, increasing capital and O&M costs. Additionally, the station site would be approximately 10 feet above the LRT tracks and platform. With 10 feet of grade separation, stairs and ramps would be provided from the northbound Trolley platform to the parking lot and bus bays. These features are included in the capital cost estimates presented in the Cost Considerations section below.

Right-of-Way Considerations

The Draft SEIS/SEIR station site is located on excess City of San Diego right-of-way and, therefore, it is reserved for transportation use; there is no cost associated with acquiring this parcel. Because of the difficult access and the active fault that runs through this site, it would be difficult for the city to change the use of this site (as stated previously, structures are prohibited on active faults).

In comparison, the City Yard site, while also owned by the City of San Diego, is an active facilities yard with buildings and other infrastructure on the site. Locating the Balboa Avenue Station on the City Yard site would require acquisition of the portion of the parcel needed for the station facilities from the City of San Diego and consolidation of the City Yard facilities on the remaining portion of the parcel, assuming the city agreed to the use of the City Yard site. (It may be determined through coordination with the city that relocating the maintenance facilities to a new site would be required; however, for the purposes of this memorandum it is assumed that the facilities can be consolidated on the City Yard site.) The City Yard site is a larger parcel than the one for the Draft SEIS/SEIR and, therefore, a cost is assumed for acquiring the portion of the parcel needed for the station.

Cost Considerations

Capital costs were calculated for the three stations and included costs for site work, roadway improvements, retaining walls, and station features such as elevators and ramps. The capital cost estimates for the station options on the City Yard site also included the cost of hazardous materials remediation, right-of-way, and consolidation of the City Yard maintenance facilities.
The Draft SEIS/SEIR site is estimated to have a capital cost of approximately $18.9 million in year of expenditure (YOE) dollars (Table 3). As stated previously, this cost does not include right-of-way.

### Table 3. Comparison of Capital Cost

<table>
<thead>
<tr>
<th>Option</th>
<th>YOE Dollars</th>
<th>Difference from Draft SEIS/SEIR Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft SEIS/SEIR Site</td>
<td>$18,866,000</td>
<td></td>
</tr>
<tr>
<td>Option 1</td>
<td>$31,381,000</td>
<td>$12,515,000</td>
</tr>
<tr>
<td>Option 2</td>
<td>$36,529,000</td>
<td>$17,663,000</td>
</tr>
</tbody>
</table>

Source: SANDAG Series 11 Model
Notes: SEIS/SEIR = Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report; YOE = year of expenditure

Capital costs would increase under both Options 1 and 2 compared to the Draft SEIS/SEIR site. Specifically, Options 1 and 2 would increase capital costs by approximately $12.5 and $17.7 million, respectively, over the Draft SEIS/SEIR site in YOE dollars (Table 3). The increase in cost is due to the consolidation of City Yard maintenance facilities, right-of-way costs to acquire the portion of the parcel needed for the station site, and hazardous materials remediation. Further, the station site plans for Options 1 and 2 require additional site work (including grading and retaining walls) than what would be required for the Draft SEIS/SEIR site. As explained under the Engineering Considerations section, Options 1 and 2 also require ramps and elevators or stairs to provide access from the street to the station site and from the station site to the Trolley platform; these facilities are not required for the Draft SEIS/SEIR site. Such features further increase the cost associated with each site. As such, relocating the Balboa Avenue Station to the City Yard parcel under Options 1 or 2 would increase capital costs.

**Conclusions**

After the November 15, 2013 SANDAG Board of Directors’ action, additional analysis to further address comments on the Draft SEIS/SEIR was completed, including, among other things, a more detailed travel time study and capital costs estimates. Although the City Yard site could accommodate the station and provide sufficient space to meet the forecasted station parking demand, the additional analysis confirmed the prior findings and found the following:

- Locating the station at the City Yard site would not eliminate or reduce any adverse or significant project impacts that were identified for the Draft SEIS/SEIR site
- Locating the station at the City Yard site would not reduce the adverse and significant traffic impacts at Mission Bay Drive and Garnet Avenue and on the roadway segment of Balboa Avenue identified in the Draft SEIS/SEIR
- Locating the station at the City Yard site would increase capital and O&M costs

**SANDAG Board of Directors Approval of the Refined Build Alternative**

As noted in the Introduction section of this memorandum, on November 15, 2013 the SANDAG Board of Directors voted to approve the Refined Build Alternative as the project to be evaluated in the Mid-Coast Corridor Transit Project Final SEIS/SEIR with the Balboa Avenue Station remaining
south of Balboa Avenue on the Draft SEIS/SEIR site. Prior to the SANDAG Board of Directors’ action on November 15, SANDAG staff presented the proposed Refined Build Alternative, with the recommendation to continue with the Balboa Avenue Station site from the Draft SEIS/SEIR. The staff presentation included a description of the Build Alternative and options evaluated in the Draft SEIS/SEIR, a summary of comments received during the 60-day comment period on the Draft SEIS/SEIR, a description of proposed refinements to the Build Alternative evaluated in the Draft SEIS/SEIR, next steps in the environmental review of the project, and a recommendation that the SANDAG Board of Directors approve the Refined Build Alternative as the project to be evaluated in the Mid-Coast Corridor Transit Project Final SEIS/SEIR.

The SANDAG Board of Directors received public comment at the meeting, including comments from representatives of La Jolla Village Square shopping center, Armstrong Garden Centers, and the Cleveland National Forest Foundation. No comments were received on the Balboa Avenue Station site. The SANDAG Board of Directors approved the Refined Build Alternative as the project to be evaluated in the Mid-Coast Corridor Transit Project Final SEIS/SEIR. The Mid-Coast Corridor Transit Project Final Refined Build Alternative Report documents the SANDAG Board of Directors’ approval of the Refined Build Alternative and contains a copy of the SANDAG staff presentation, meeting minutes, and voting results.