SANTA MONICA COLLEGE BUNDY CAMPUS
SITE ACCESS AND CIRCULATION PLAN

November 2004

Prepared for:

SANTA MONICA COLLEGE

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INTRODUCTION

In December 2001, Santa Monica College (college or SMC) purchased 10.31 acres of property located at 3171 S. Bundy Drive from BAE Systems, Inc., a major defense contractor, which had used the site for approximately two decades as a manufacturing and research and development facility. BAE vacated the property in May 2003 and the site has not been in active use since then. The intent of the college is to use the existing buildings developed on the site for educational purposes, most of which are currently ongoing and will be relocated from SMC facilities elsewhere in the vicinity.

In February 2004, an Initial Study/Mitigated Negative Declaration (IS/MND) was completed under the California Environmental Quality Act (CEQA) to renovate and utilize the West Building (a four-story building of approximately 64,000 square feet, also known as Building #4). Two one-story manufacturing buildings on the site have been demolished. While the ultimate use of the remaining building on the site (a two-story building of approximately 31,370 square feet located close to Bundy Drive, also known as Building #5) has not yet been determined, it is anticipated that it would ultimately accommodate some of the college's administrative functions.

Kaku Associates, Inc. was engaged to review the plans for the site and, working with both college staff and representatives of the surrounding community, develop recommendations for access to and circulation within the campus. A formal community meeting was held on May 5 to present the overall project to interested members of the public. Following that meeting, new traffic data was collected and several access and circulation alternatives were developed. An informal meeting was held with neighborhood representatives on August 17 to present and discuss the analysis that had been conducted to date. Comments were received at that meeting and subsequently by written correspondence. The input received has been incorporated into the analysis and recommendations documented in this report.

This analysis focuses on the projected operation of key intersections at or near the project access points. At a later stage in the planning process, a full traffic study will be prepared to fully evaluate potential project impacts on the surrounding street system.

DESCRIPTION OF PLANNED BUNDY CAMPUS

The Bundy Campus site occupies approximately 10.31 acres in the City of Los Angeles on the southwest side of Bundy Drive. It is bordered on the northwest side by buildings owned by Santa Monica Airport, on the southwest side by Stewart Street and on southwest and southeast sides by single-family residences. The topography of the site is such that the eastern edge of the property along Bundy Drive is approximately 10 to 15 feet above the western portion of the site, which is nearly level. In the time since BAE Systems vacated the site, an internal roadway has been constructed to link the lower and upper portions of the site and a landscaped 10-foot soundwall has been constructed along the southeast and southwest edges of the campus. Demolition of the low-rise manufacturing buildings has also been completed. The current site plan is shown in Figure 1.

Direct access to the site is provided at two locations: a driveway on Bundy Drive approximately 500 feet southeast of the intersection of Bundy Drive & Airport Avenue and a driveway on Stewart Street. Indirect access is provided at two points through property owned by Santa Monica Municipal Airport: at the south leg of the intersection of Donald Douglas Loop South & Airport Avenue and adjacent to the 3400 Airport Avenue building. While former owners of the site utilized all four of these access points, to minimize potential conflicts with the residential neighborhood to the south, SMC has publicly committed to retaining the Stewart Street gate for emergency use only.

Pending and planned development on the campus is composed of four distinct but related components. Approved projects on the site include:

- Renovation and use of the 64,000 square foot West Building was approved in February 2004. While no firm class schedule is yet in place for the West Building, preliminary plans suggest that between 12 and 16 of the total 18 classrooms in that building could be utilized simultaneously during the morning, early afternoon and early evening periods on Mondays through Thursdays. Activity is expected to be lower during the rest of the week. These would not necessarily be new classes offered by SMC, but rather would be composed primarily of existing classes relocated to the site (Nursing, Education, Community Education, Marketing/ Graphics and others). A conceptual class schedule prepared by the college is provided in Appendix A.

- Since 1994 SMC has leased space from Santa Monica Municipal Airport for weekday use as remote parking for the main campus (shuttle lot). The shuttle lot operates between the hours of 6:45 a.m. to 10:20 p.m. on weekdays and now provides approximately 428 spaces. On October 14, 2003, the Santa Monica City Council approved the development of a park on the site of the existing shuttle lot and expects to begin construction sometime in 2005. Relocation of the shuttle lot to the Bundy Campus was part of the original intent of SMC when it acquired the property; thus the project would provide at least as much remote parking as the shuttle lot does currently.

Additional development considered on the campus is planned to include:

- The future use of the 31,370 square foot two-story building is currently unknown but it anticipated that it would be developed with educational uses. It may be leased to another educational institution in the short-term but is ultimately expected to house SMC administrative functions.

- In addition to the provision of adequate parking for uses on the Bundy Campus and replacement parking for the shuttle lot, SMC may provide additional remote parking on the site to serve the main campus. Because most of the students attending SMC arrive from the east, provision of additional remote parking would intercept these students and could relieve traffic congestion in the vicinity of the main campus to some extent. The construction of a parking structure with a capacity of 800 to 1,000 spaces is proposed.

PARKING DEMAND ESTIMATES

The current site plan for the project shows that a total of 612 parking spaces would be provided on the campus. With the construction of a parking structure, the on-site parking supply could be increased to approximately 1,025 to 1,225 parking spaces. Table 1 presents a summary of the parking supply and demand estimates prepared for this study.

The maximum number of students, faculty and staff expected to present in the West Building at any one time, as shown in the conceptual class schedule, is 511 (480 students, 16 faculty and 15 staff). Based on the assumption that the two-story building would be occupied by college administrative staff at a density of one person per 300 square feet, 105 persons would be present there, for a total estimate of slightly over 600 persons on the campus at the peak time. The empirical parking demand rate of 0.72 spaces per person was developed in previous studies of projects the main Santa Monica College campus. Applying this rate to the projected level of activity on-site yields a parking demand estimate of approximately 450 parking spaces.

Relocation of the existing Shuttle Lot would replace 428 remote parking spaces on the site to serve the main campus. In addition, there are approximately 80 SMC-related vehicles currently parking in lots along Airport Avenue that are not formally designated for SMC use. This estimate was made by reviewing aerial photographs of the Airport Avenue corridor taken when the college was between sessions (August 25, 2004) and early in the Fall 2004 semester (September 22, 2004). SMC staff has discussed plans for a parking structure with between 800 and 1,000 spaces, which would provide a total of approximately 1,025 to 1,225 parking spaces on the campus. It is planned that, following construction of such a structure, the spaces not needed to serve uses on the Bundy Campus would be used to supplement the remote parking supply for the main campus. Thus, the total number of spaces available for this use would be between 584 and 784, a net increase of between 76 and 276 spaces.

EXISTING TRAFFIC CONDITIONS IN THE VICINITY

To provide an understanding of the existing setting in which the Bundy campus is located, existing operating conditions were evaluated at selected nearby intersections. New weekday peak period (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) manual intersection turning movement counts were collected at the first 12 intersections listed below on Wednesday and Thursday, May 26 and 27, 2004. This data was supplemented with an additional traffic count at the intersection of Donald Douglas Loop South & Airport Avenue on Wednesday October 13, 2004. The traffic count data is provided in Appendix B.

1. 23rd Street & Ocean Park Boulevard **
2. 23rd Street/Walgrove Avenue & Airport Avenue (two-way stop-controlled) *
3. Walgrove Avenue & Rose Avenue
4. Walgrove Avenue & Palms Boulevard
5. Bundy Drive & Pico Boulevard
6. Bundy Drive & Santa Monica Freeway eastbound on-ramp
7. Bundy Drive & Ocean Park Boulevard
8. Bundy Drive & National Boulevard
9. Bundy Drive & Airport Avenue *
10. Centinela Avenue & Rose Avenue
11. Centinela Avenue & Palms Boulevard
12. Centinela Avenue & Venice Boulevard
13. Donald Douglas Loop South & Airport Avenue (all-way stop-controlled) **

Two of these intersections are shared by the cities of Los Angeles and Santa Monica (marked with a single asterisk "*"). Nine are entirely within Los Angeles and two are entirely within Santa Monica (marked with a double asterisk "**"). Eleven of the 13 intersections listed above are controlled by traffic signals.

Intersection Level of Service Standards and Methodologies

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. In urban environments, LOS D is typically considered to be the minimum desirable level of service. The methodologies specified by the Cities of Los Angeles and Santa Monica for the analysis of signalized intersections have been used as appropriate. At the two shared intersections, existing operating conditions have been evaluated in accordance with procedures adopted by each city.

The Los Angeles Department of Transportation requires that the "Critical Movement Analysis" (CMA) method of intersection capacity analysis (Transportation Research Board, 1980) be used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service for the given turning movements and intersection characteristics at signalized intersections. The CALCADB software package developed by LADOT was used to implement the CMA methodology in this study. Table 2 defines the ranges of V/C ratios and their corresponding levels of service using the CMA method. The ten signalized intersections wholly or partially within Los Angeles are currently controlled by the city's Automated Traffic Surveillance and Control (ATSAC) System. In accordance with LADOT procedures, a capacity increase of 7% (0.07 V/C adjustment) was applied to reflect the benefits of ATSAC control at these intersections.

The City of Santa Monica employs the "Operational Analysis" method from the 2000 *Highway Capacity Manual* (HCM) (Transportation Research Board, 2000) to perform the intersection level of service analysis for each of the signalized locations. This method determines the average control delay per vehicle and the volume/capacity ratio at intersections based on the amount of traffic traveling through the intersection, the travel lane geometries, and other factors affecting capacity. The calculated level of delay is related to the level of service at the intersection, as shown in Table 3.

The "Two-Way Stop Controlled" and "Unsignalized" methodologies from the *2000 Highway Capacity Manual* was used to determine the average vehicle control delay (in seconds) for the two stop-controlled study intersections. The corresponding levels of service are defined by the list in Table 4. While the intersection level of service is related to the delay experienced by the most constrained approach (the westbound approach to 23rd Street/Walgrove Avenue & Airport Avenue), the overall level of delay is also reported.

Existing Peak Hour Intersection Levels of Service

The existing traffic volumes were analyzed using the intersection capacity analysis methodologies described above to determine the current operating conditions at the selected intersections. Table 5 summarizes the existing weekday a.m. and p.m. peak hour LOS at the analyzed intersections. As shown, using the City of Los Angeles' methodology, eight of the eleven intersections entirely or partially within that city are currently operating at LOS E or F during one or both peak hours. Using the City of Santa Monica analysis methodology, one of the four intersections entirely or partially within that city is currently operating at LOS F during the p.m. peak hour.

Existing Daily Traffic Volumes

New weekday daily traffic volume data was collected on nine roadway segments for use in this study on Wednesday May 27, 2004. The specific segments were selected to provide an understanding of the overall traffic volume, hourly trends and travel patterns in the vicinity. This machine-count data was supplemented with additional daily traffic volume counts on three segments of Airport Avenue on Wednesday September 22, 2004. This data is presented in Table 6 and Figure 2. The data count sheets and graphs of hourly variation are provided in Appendix B.

The data shows that the 24-hour volume is very high on Walgrove Avenue/23rd Street due to congestion on parallel roadways and the relative lack of alternative routes. The 24-hour volumes south of Rose Avenue are substantially lower than north of Airport Avenue, indicating the diversion of traffic onto Rose Avenue, Airport Avenue and, to a lesser extent, other east-west

streets in the vicinity. The use of residential streets (both local streets and collector streets) in this area has been noted as an ongoing concern among residents. Figure 3 illustrates the neighborhood traffic controls that are currently in place in the area immediately south of the campus. Also shown are locations on Rose Avenue that could be considered for the installation of speed bumps in the future.

FUTURE TRAFFIC VOLUME PROJECTIONS

The preparation of traffic volume projections includes two elements. The first element is the growth in the existing background traffic volumes reflecting the effect of overall regional growth and development both inside and outside the study area. Existing traffic volumes were increased by a factor of 1% per year through 2008 (4% total).

The second element is the traffic generated by specific cumulative projects located within or near the study area. There are four major approved or planned development projects in the vicinity of the Bundy campus as well as numerous smaller projects. The major development projects are:

1. The Santa Monica Integrated Airport Park will convert 8.3 acres of airport property to non-aviation use, creating two soccer fields, an off-leash dog area, a playground, open space, walking/jogging paths, park amenities (rest rooms, concessions, storage) and approximately 116 parking spaces. In addition, streetscape improvements (sidewalk, street trees, lighting) would be made to Airport Avenue between Bundy Drive and 23rd Street/Walgrove Avenue. These improvements would not result in the addition of travel lanes to Airport Avenue.

2. Development of Playa Vista Phase I, currently under construction, consists of 3,246 residential units, 2,077,050 square feet of office space, 35,000 square feet of retail space, 1,129,900 square feet of production and staging support uses and 120,000 square feet of community serving uses

3. The Village at Playa Vista will develop 2,600 residential dwelling units, 175,000 square feet of commercial space, 150,000 square feet of retail space and up to 40,000 square feet of community-serving uses.

4. The Westside Medical Park is planned on the northwest quadrant of Olympic Boulevard & Bundy Drive. It would develop a specialty medical complex with three office buildings totaling 535,000 square feet and a 200-bed surgical hospital on approximately 12 acres.

5. In addition to forecasting traffic associated with the above-described projects, an adjustment was made to the existing traffic count data based on the fact that it was collected near the end of the spring college semester. Activity on college campus is typically highest during the first two weeks of a semester and gradually declines afterward. Data from other colleges has shown that activity declines approximately 8% from the third week to the last week of the semester. SMC staff confirmed that a similar decline occurs at the college.

PLANNED TRANSPORTATION IMPROVEMENTS

The following provides a summary of the major transportation improvements planned for the area near the Bundy campus:

1. A new traffic signal is planned by the Los Angeles Department of Transportation at the intersection of Walgrove Avenue & Morningside Way to reduce the incidence of speeding on this segment of Walgrove Avenue. The signal would be designed as a demand-actuated "rest on red," meaning that during times of light traffic flow (midday and night), a red signal would be displayed for all approaches. When traffic volumes are higher, it would operate as a normal traffic signal integrated with the city's ATSAC system.

2. The I-405 HOV (high-occupancy vehicles) lane project will add HOV lanes in both the northbound and southbound directions along I-405 between I-105 and I-10.

3. Under the City of Los Angeles' Coastal Transportation Corridor Specific Plan (CTCSP), Centinela Avenue is proposed to be widened to six lanes from Jefferson Boulevard to National Boulevard, as feasible. This improvement, however, is not currently funded nor programmed for implementation.

4. Mid-City/Westside Transit Corridor proposes the construction of a light rail transit (LRT) line along the Exposition right-of-way. In June of 2001, the Los Angeles County Metropolitan Transportation Authority (MTA) Board of Directors adopted the first phase of the LRT from downtown Los Angeles to Venice/Robertson in Culver City as the Locally Preferred Alternative for federal funding. The Board also adopted a statement, however, directing and expressing the MTA's vision and intent to construct light rail to Santa Monica as soon as possible without compromising funding for other adopted projects. Preliminary design plans prepared for MTA for the LRT option indicate that the proposed stations closest to the Bundy Campus would be at Bundy Drive/Exposition Boulevard and Sepulveda Boulevard/National Boulevard.

TRIP GENERATION ESTIMATES

Trip generation estimates for the approved and proposed uses on the site were developed from several sources, including data provided by the college, observations at the existing shuttle lot and trip generation rates contained in *Trip Generation, 7th Edition* (Institute of Transportation Engineers [ITE], 2003). Tables 7 and 8 present the trip generation estimates that have been worked out for development of the entire campus, including the approved use of the West Building and relocation of the existing Shuttle Lot and SMC spillover parking, with either an 800-space parking structure or a 1,000 space parking structure.

Estimated trips related to the occupancy of the West Building were derived from information from SMC, including a conceptual class schedule and related staffing levels. This schedule is presented in Appendix A and is segmented into typical periods used for classes at SMC on each day of the week. This schedule reflects the fact that most classes occur on Mondays through Thursdays, while Fridays are much less active. It is anticipated that some Community Education classes (not for credit) would be held on Saturdays and, to a much lesser extent, on Sunday afternoons. For the purpose of developing trip generation estimates, it was assumed that credit classes would be attended by 30 students each and non-credit classes would be attended by 20 students each and that the overall average vehicle ridership (AVR) would be 1.25. This compares with an AVR of 1.33 at the main campus.

Trip generation estimates for the two-story building were based on ITE rates for an office building, as this is the ultimate use envisioned for this component of the campus.

Observations were made at the existing Shuttle Lot to determine the number of peak hour trips (inbound and outbound) that occur per space. On the days data was collected (May 27 and September 22, 2004), it was observed that the Shuttle Lot was at or near its capacity. Data collected over two days was averaged to arrive at the rates per space presented in Tables 7 and 8. These rates were applied to all parking spaces proposed on the site that would be used as remote parking.

With an 800-space parking structure, the site would generate a total of approximately 5,500 daily trips, of which approximately 800 would occur in the a.m. peak hour and 440 would occur in the p.m. peak hour. With a 1,000-space parking structure, the site would generate a total of approximately 6,100 daily trips, of which approximately 930 would occur in the a.m. peak hour and 510 would occur in the p.m. peak hour. Of these, approximately two-thirds of the peak hour trips and three-quarters of the daily trips would be new to the area; the other trips would be shifted from the existing Shuttle Lot and other parking lots along Airport Avenue. Figures 4 and 5 show the relative proportion of projected total future traffic volumes at the intersections nearest to the Bundy Campus. It can be seen that, with an 800-space parking structure, SMC-related traffic would represent approximately 6% of the total projected a.m. peak hour volumes and 3% of the total projected p.m. peak hour volumes. With a 1,000-space structure, SMC-related traffic would represent 7% of the projected morning and 4% of the projected afternoon peak hour volumes.

The daily traffic volume data collected for this study (included in Appendix C) shows that morning peak period traffic volumes on the surrounding streets decline after 9:00 a.m. and, if the college were able to alter the proposed schedule of classes on the Bundy campus to begin after that time, vehicular activity on the site would be better dispersed through the day and the potential for traffic impacts would be reduced. No similar decline in volumes during the p.m. peak period occurs, however, and altering the class schedule may not be desirable or feasible from an educational standpoint.

TRIP DISTRIBUTION ESTIMATES

The geographic distribution of traffic generated by the proposed development of the Bundy Campus is dependent on several factors, including the geographic distribution of the population from which employees and students are drawn and the location of the project in relation to the surrounding street system.

Detailed student ZIP code data was provided by SMC for the entire 2002-2003 academic year. This data is presented in Appendix D. It was assumed that future students would closely mirror the geographic distribution of existing students. Because the number of students is far greater than the number of faculty and staff, this data is considered to adequately represent of all trips

to/from the college. The ZIP code data was imported into a geographic information system (GIS) for spatial analysis and is presented in Figure 6.

It was found that the most heavily represented ZIP codes are located within approximately ten miles of the college, although some students travel greater distances to attend SMC. The 90066 ZIP code, in which the Bundy Campus lies, is the second highest zone from which existing students are drawn, with 5.1% of all students. ZIP code 90034, in West Los Angeles, has the highest representation of students (6.2%).

With consideration of the available street and freeway routes in the vicinity and the ZIP code distribution of trips, the general distribution of trips to and from the Bundy Campus listed below and illustrated in Figure 7 was developed:

- North via I-405 16%
- South via 1-405 13%
- East via I-10 26%
- West via I-10 5%
- Northeast via local streets 9%
- Northwest via local streets 12%
- Southeast via local streets 12%
- Southwest via local streets 7%

SITE ACCESS OPTIONS

Five alternatives were developed to provide vehicular access to the Bundy campus site. As described earlier in the description of the project, the site has two direct access points to the surrounding street system (Bundy Drive and Stewart Street) and two points of indirect access (through Santa Monica Airport property onto Airport Avenue). Historically, owners of the site have utilized all four locations. Santa Monica College, however, has committed to retaining the Stewart Street driveway for emergency use only. The access alternatives discussed below, therefore, only consider the use of the remaining means of accessing the site for general traffic.

Alternative 1

Alternative 1, illustrated in Figure 8, would provide full access (with all turning movements possible) to the site via Donald Douglas Loop South and Airport Avenue. The Bundy Drive driveway would remain stop-controlled and would be restricted to right-turn in/right-turn out only. A southbound right-turn lane into the Bundy Drive driveway is recommended to improve the flow of southbound through traffic. Under this alternative, vehicles exiting the site seeking to travel north would utilize Donald Douglas Loop South and Airport Avenue.

Within the site, perimeter lanes and internal aisles would carry two-way traffic. A parking structure would be located in the central portion of the site with access potentially provided at separate inbound and outbound driveways located on the south side and a two-way driveway on the north side.

A potential location for the shuttle bus stop is near the entrance to the West Building, as shown in Figure 9. Shuttle buses could either access the site via Donald Douglas Loop South or enter through the Bundy Drive driveway and exit via Donald Douglas Loop South.

Alternative 2

Alternative 2 is illustrated in Figure 10. It is similar to Alternative 1 in that it would provide full access to the site via Donald Douglas Loop South and Airport Avenue. The Bundy Drive driveway would also remain stop-controlled but both left turns and right turns into the driveway would be permitted. Exiting vehicles would be restricted to right turns only. A southbound right-turn lane into the Bundy Drive driveway is recommended to improve the flow of southbound through traffic. Under this alternative, vehicles exiting the site seeking to travel north would utilize Donald Douglas Loop South and Airport Avenue. Circulation within the site, including for shuttle buses, is similar to that proposed under Alternatives 1, 3 and 4.

Alternative 3

Alternative 3 is illustrated in Figure 11. This alternative would install a traffic signal at the Bundy Drive driveway, providing full access at that point. Full access would also be provided via Donald Douglas Loop South and Airport Avenue. Widening the Bundy Drive driveway to provide two outbound lanes (a left-turn lane and a shared left-turn/right-turn lane) is recommended under this alternative to facilitate outbound travel flow. A southbound right-turn lane into the Bundy Drive driveway is recommended to improve the flow of southbound through traffic. Circulation within the site, including for shuttle buses, is similar to that proposed under Alternatives 1, 2 and 4.

Alternative 4

This alternative, illustrated in Figure 12, would restrict the Bundy Drive driveway to inbound travel only. A half-signal would be installed at the intersection of this driveway with Bundy Drive to facilitate northbound left turns into the site. This signal would be designed to allow northbound traffic to flow unimpeded; its purpose would be to allow left turns into the site to be made more easily. A similar traffic signal is in place near the campus at the intersection of Bundy Drive & the I-10 eastbound on-ramp.

Under this alternative, full access would also be provided via Donald Douglas Loop South and Airport Avenue. This alternative also proposes a second point of access to Airport Avenue, adjacent to the 3400 Airport Avenue building. Because of its proximity to the intersection of Bundy Drive, it is recommended that the intersection of this access road and Airport Avenue be restricted to right-turn in/right-turn out only. As with all alternatives, a southbound right-turn lane into the Bundy Drive driveway is recommended to improve the flow of southbound through traffic.

Within the majority of the site, perimeter lanes and internal aisles would carry two-way traffic. The Bundy Drive driveway, however, would be configured to provide two inbound lanes that would transition to one lane after reaching the lower portion of the site. This alternative contemplates the construction of a parking structure on the southwest corner of Airport Avenue &

Bundy Drive. This parking structure could be used jointly by the college and by the city, as concerns have been raised about the need for additional parking for existing and future city uses in the area. Access to this parking structure could be through an inbound driveway on the south side and a two-way driveway on the west side.

A possible variation of Alternative 4 would construct two parking structures (with a combined capacity of 800 to 1,000 spaces), one on the southwest corner of Airport Avenue & Bundy Drive and one on the central portion of the site. Given the relatively small area available at the first location, this may be desirable to limit the height of the parking structure and could also offer operational benefits under a joint-use scenario.

A potential location for the shuttle bus stop is near the rear of the two-story building, as shown in Figure 13. Shuttle buses could either access the site via Donald Douglas Loop South or enter through the Bundy Drive driveway and exit via Donald Douglas Loop South.

Alternative 5

Alternative 5 is illustrated in Figure 14. This would provide access to the site only at the Bundy Drive driveway, where a traffic signal would be installed to provide full access. Under this alternative, the only access to the site via Donald Douglas Loop South and Airport Avenue would be for shuttle buses through an automatic gate. Widening the Bundy Drive driveway to provide two outbound lanes (a left-turn lane and a shared left-turn/right-turn lane) is recommended under this alternative to facilitate outbound travel flow. Also, as with all alternatives, a southbound right-turn lane into the Bundy Drive driveway is recommended to improve the flow of southbound through traffic. Circulation within the site, including for shuttle buses, is similar to that proposed under Alternatives 1, 2 and 3.

ASSESSMENT OF SITE ACCESS OPTIONS

The overall trip distribution patterns of traffic related to development of the Bundy Campus for each of the access options are similar, with the exception that Alternative 5 could potentially

result in the addition of more traffic through the neighborhood immediately to the south due to the lack of access to Airport Avenue. For this reason, future intersection level of service analysis was conducted only for the intersections immediately adjacent to and in the immediate vicinity of the site. Under each alternative, it is recommended that the eastbound approach to the intersection of Airport Avenue & Bundy Drive be restriped to provide one left-turn lane and one shared through/right-turn lane. This improvement is reflected in the future LOS calculations, as is the addition of a southbound right-turn lane into the site at the Bundy Drive driveway. The results are presented in Table 9.

Alternative 5 would provide significantly poorer access to the site, as all activity would be concentrated at a single driveway. The projected operation of this intersection, even assuming the widening of the driveway to provide two outbound lanes, is the poorest of all the alternatives evaluated. This would result in increased delay for vehicles entering and exiting the campus and also for through traffic on Bundy Drive. Alternative 5 also has the potential for increased use of residential streets, relative to the other alternatives. While this alternative has the advantage of requiring coordination with only one local jurisdiction for improvements (Los Angeles), its disadvantages relative to the other alternatives make it undesirable.

Alternatives 1 through 4 have the major advantage, relative to Alternative 5, of allowing SMC-related traffic to continue utilizing the existing traffic signal at Bundy Drive & Airport Avenue. Alternative 3 would provide the most convenient access to the Bundy Campus, as it would allow full access at the Bundy Drive driveway and at Donald Douglas Loop South. Because this intersection of the project driveway with Bundy Drive is located relatively close to the existing signal at Bundy Drive & Airport Avenue, however, it would be technically difficult, though not impossible, to coordinate these closely spaced signals. In addition, the installation of a new traffic signal at this location has the disadvantage that it would result in increased delay for through traffic on Bundy Drive, relative to Alternatives 1, 2 and 4. Preliminary discussions with LADOT have shown a willingness to consider the installation of a new traffic signal at this location and further discussions will be held.

Under Alternatives 1 and 2, the installation of a new traffic signal at the intersection of the project driveway with Bundy Drive would be avoided. If Alternatives 1 or 2 were pursued, examination of the possibility of widening Airport Avenue west of Bundy Drive to four lanes (to provide two left-

turn lanes and one right-turn lane on the eastbound approach) may also be considered to further improve conditions at that location.

While Alternative 4 would allow access at two points on Airport Avenue, this was not assumed in Alternatives 1, 2 or 3 because this access may not be available to the college in the future and it is not critical to maintaining acceptable operations at the intersection of Donald Douglas Loop South & Airport Avenue.

Under each of the alternatives, the existing shuttle route would be altered to arrive and depart via Bundy Drive rather than Airport Avenue, as is currently the case. It is assumed that Donald Douglas Loop South would be available under all alternatives for routing shuttle buses into and out of the site. As an option, the Bundy Drive driveway could be used for shuttle buses entering the campus.

Community members have expressed a preference for Alternative 4 (including variations), in part because it is felt that the lack of uphill vehicular travel on the Bundy Drive driveway would generate less noise in the vicinity than a two-way driveway configuration.

The location identified for the shuttle stop under Alternatives 1, 2, 3 and 5 (near the entrance to the West Building) appears to provide a more hospitable waiting area than the proposed stop location under Alternative 4. Also, it would not reduce the number of parking spaces on the site to the same extent that the location identified under Alternative 4 would.

It does not appear necessary to provide additional lane capacity at Airport Avenue & Donald Douglas Loop South because it is projected to operate at an acceptable level of service, nor does it meet traffic signal warrants under any scenario. The existing roadway on the south leg of Donald Douglas Loop, however, is approximately 20 feet wide and lacks a clearly defined edge of roadway. While the addition of roadway capacity at this location does not appear necessary, under Alternatives 1 through 4 it would be necessary to widen and improve Donald Douglas Loop South between that point and the entrance to the college.