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NYGAARD

MEMORANDUM

To: Julia Yeh

From: Francesca Napolitan

Date: September 20, 2012

Subject: Draper University Parking Analysis and TDM Plan

INTRODUCTION[1]

A two-phase development for Draper University (School for Entrepreneurs) has been proposed for 44 E. 3rd Ave, San Mateo, CA in the Benjamin Franklin Hotel building, the two-story office building on E. 4th Ave., and the Collective building (across the street on E. Third Ave). The University will offer four sessions per year, varying between six, eight, and 10 week long programs that are synced with Stanford's academic calendar. This program will serve students ages 21-24, from all over the world.

Phase 1 of the project will include the Benjamin Franklin Hotel building, the two-story office building on E. 4th Ave., and the portions of the Collective building. The Ben Franklin Hotel building will provide double occupancy dorm rooms for 180 students on floors 2 through 7, a penthouse space on the 8th floor that will remain vacant and unoccupied for Phase 1, a ground floor restaurant open to the public, as well as a cafeteria and other amenities for exclusive use by students and staff. The two-story office building will contain retail and school administration office use on the 1st floor and on the 2nd floor the existing startup company will remain for Phase 1. The 2nd floor of the Collective Building will be used as office space for the existing basement tenant who will relocate to the 2nd floor. The 1st floor will contain a theater room and speaker forum room which will be open to students and staff only. The existing salon on the 1st floor will remain as will the retail space in the basement. Given the physical limitations of the site, minimal on-site parking will be provided in the shared parking lot behind the Collective building, which has 22 parking spaces. Phase 2 will include the conversion of the basement of the Collective Building to a parking garage with access through the above mentioned parking lot as well as other changes to the building. The school will employ 5 full time employees who will be shared between the Benjamin Franklin Hotel building and the office building on 4th Ave as well as a small number of contract employees. The Collective building will employ one to two staff persons. There will be two resident assistants who will reside at the Benjamin Franklin Hotel building.

This memorandum focuses on Phase 1 of development and provides an analysis of the parking demand that will be generated by the proposed development and the potential for shared parking amongst the different uses. In addition, this memorandum details the transportation demand management (TDM) and parking measures that Draper University should implement in order to

[1] Project description was provided by Draper University on September 19, 2012

help mitigate the potential parking impacts of this development by reducing employee and student parking demand, and that will take advantage of the project's proximity to the San Mateo Caltrain station and other public transportation options.

The memo is divided into two sections; the first section consists of the parking demand analysis for Phase 1 while the second section describes the student and employee TDM and parking measures.

PARKING DEMAND ANALYSIS

A parking demand analysis was undertaken in order to determine the potential parking impacts generated by the proposed Draper University. This section describes the methodology that was used, the projected parking demand generated by the project, the potential for shared parking, and the impact that the employee and student TDM program will have on reducing parking demand.

Methodology

Appropriate parking ratios were established for the project as a first step of the parking analysis. These ratios were informed by parking demand and occupancy information from the Institute of Transportation Engineers Parking Generation Manual, 4th Edition. **Error! Reference source not found.** shows the downtown parking requirements as compared to ITE weekday and Saturday peak parking ratios used in the parking analysis.

Figure 1 Peak Period Parking Ratios

Land Use	Downtown Parking Requirements (spaces per 1,000 sq. ft/student/employee)	Weekday Peak Parking Demand (spaces per 1,000 sq. ft/ student/employee)	Saturday Peak Parking Demand (spaces per 1,000 sq. ft/ student/employee)
University/College (Students)	1 per 3 students[2]	0.22[3]	0.22
University/College (Employees)	1 per employee[4]	0.72[5]	0.07
Restaurant (Ground Floor Benjamin Franklin Building)	3.9	5.55[6]	7.07
Office (2nd Floor Collective Building)	2.6	2.47[7]	0.247

[2] Downtown parking requirements do not include a University/College land use and defer instead to the general parking schedule, Section 27.64.160 of the Municipal Code.

[3] ITE Land Use Code 550 University/College rate was used. The same peak rate was applied to the weekend to be conservative.

[4] See footnote 2.

[5] ITE Land Use Code 701 Office was used for University employees since their travel patterns are more similar to office workers than students. The data provided in the ITE Parking Generation Manual Parking for urban office space is per 1,000 square feet, thus this data was converted to parking demand per employee.

[6] ITE Land Use Code 932 High-Turnover Restaurant (Urban)

[7] ITE Land Use Code 701 Office (Urban)

This analysis assumes a daily student population of 180 and daily staff population of 14.[8] For students, ITE Land Use Code 550 University/College was used. This land use code includes two and four year colleges and universities. While Draper University will only offer short term sessions this land was used as this was the best fit given available ITE data and provides a conservative parking demand estimate. A different rate was used for employees than students given that most employees will be not be present on the weekends. Also, since employees will not be residing on-campus, there will be a greater percentage of employees who drive to work on the weekdays as compared to students.

The parking ratios for each land use were then used to determine the number of parking spaces required at peak hour for each land use by applying the peak ratio to the total square footage for commercial uses, and the number of students and employees for school uses.

Mixed-use developments, such as the proposed project, offer the opportunity to share parking spaces between various project uses with different parking demand periods. Shared parking therefore reduces the total number of parking spaces required compared to what the same uses would require in stand-alone developments. Mixed-use development creates opportunities for shared parking because of the staggered demand peaks for parking associated with different uses. All land uses generate unique levels and patterns of parking demand, varying by time of day and day of the week. Thus, a shared parking analysis was conducted in addition to a traditional parking analysis.

The shared parking analysis accounts for how parking demand can be expected to vary by time of day, from 6 a.m. through midnight. For each land use, parking demand is analyzed for both weekdays and Saturdays. For most land uses, including retail, parking demand on Sundays is considerably lower, and therefore is not analyzed here. Time-of-day parking demand distributions, which represent the percent of peak hour demand throughout the day, use ITE data. These were applied to the parking ratios for each land use to determine the number of spaces required for each land use over each hour of the day.

Parking Analysis

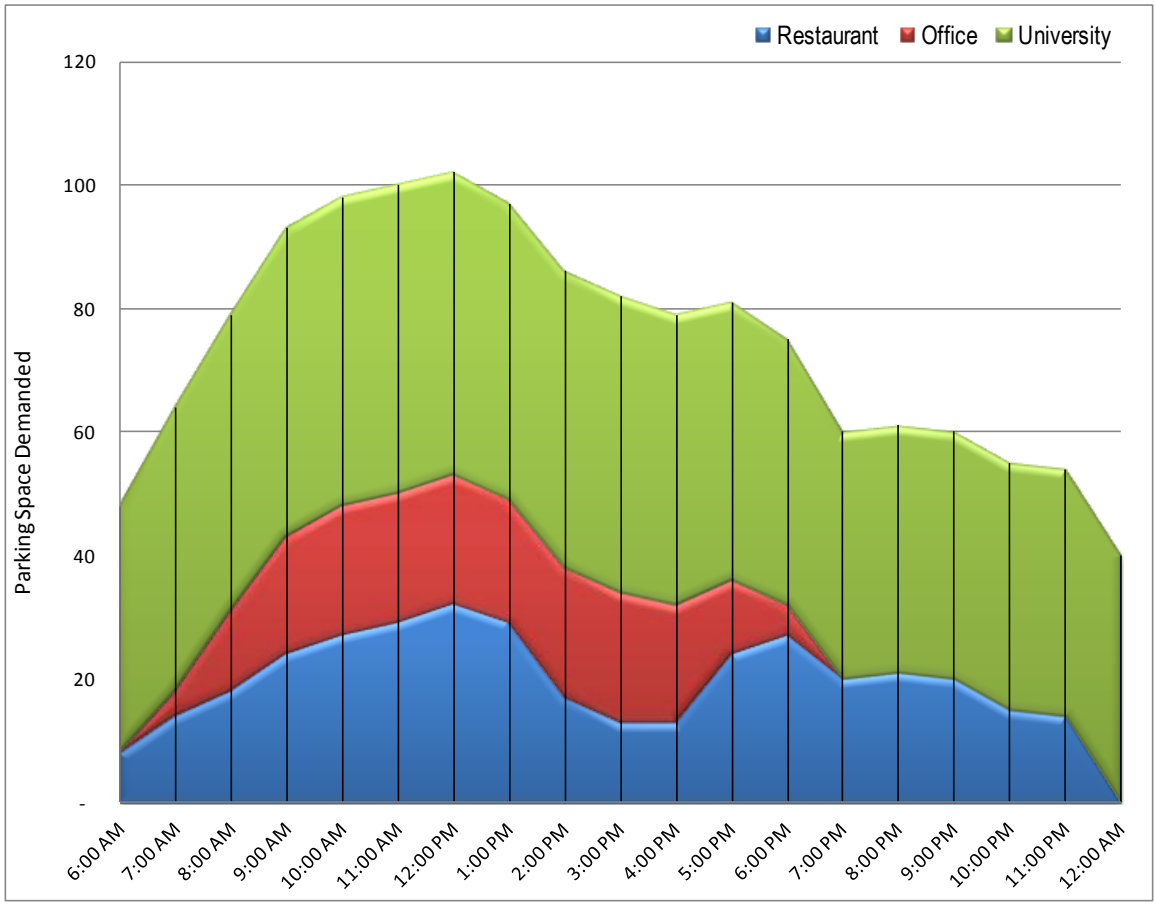
The following section details the findings of the shared parking analysis, traditional parking analysis, and the impacts the proposed TDM program will have on parking demand.

Shared Parking Analysis

The analysis shows that on weekdays, the total peak shared parking demand occurs at noon, with a total demand of 102 parking spaces (Figure 2).

[8] These numbers are based on the project description provided by Draper University on September 19, 2012. For the number of daily employees it is assumed that two resident assistants, five employees of the Benjamin Franklin Building, two employees of the Collective Building, Tim Draper, and four contract-based employees will be on-site on the average day.

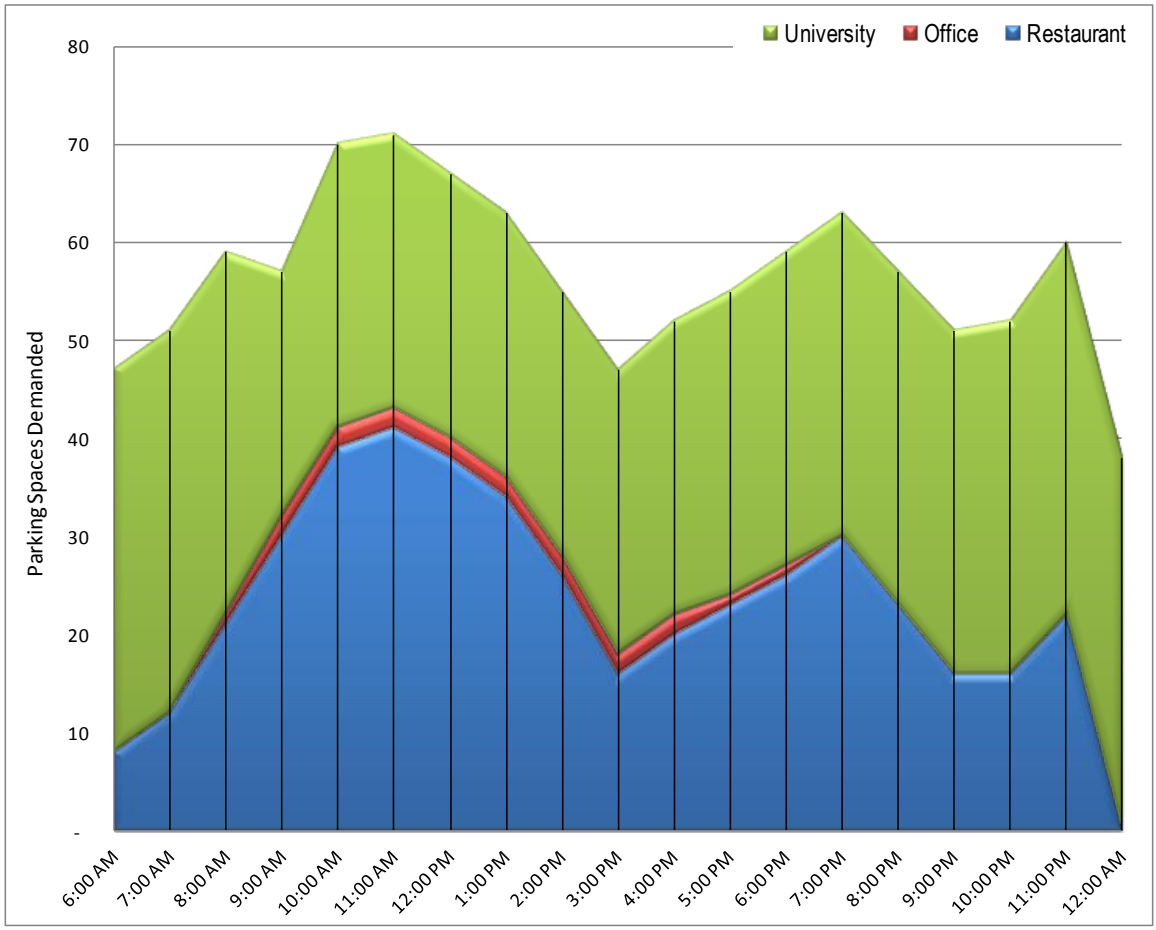
Figure 2 Weekday Shared Parking Demand



The project as a whole is expected to experience its peak parking demand between 10 AM and 1 PM, with demand slowly declining throughout the afternoon and the evening. The office land use reaches its parking peak demand at 10 AM where it stays constant until 3 PM after which it declines slowly until 7 PM when demand drops off completely. In comparison, the restaurant experiences a peak in parking demand both at lunchtime as well as in the evening between 5 PM and 7 PM.

Figure 3 below shows the shared parking demand on Saturdays. On Saturdays, a peak parking demand of 71 spaces occurs at 11 AM. Demand generated by the university portion of the project varies throughout the day as students may be out running errands or away on daytrips with peak demand for the project occurring early in the morning and late in the evening. The restaurant experiences a peak parking demand of 41 spaces at 11 AM with lower but steady demand throughout the rest of the day. Demand generated by the office space is low throughout the day and drops off after 7 PM.

Figure 3 Saturday Shared Parking Demand



Unshared Parking Demand

When parking is not shared between uses, the peak demand is calculated by applying the parking ratios for each land to the total square footage for commercial uses, and the number of students and employees for school uses. The weekday peak unshared parking demand is 105 parking spaces as compared to 102 parking spaces in the shared parking scenario, which is a slight increase. However, on Saturday the peak unshared parking demand is 86 parking spaces, which is significantly higher than the shared peak parking demand of 71 spaces (Figure 4).

Figure 4 Unshared Parking Demand

Land Use	Weekday Peak Parking Demand Number of Spaces	Saturday Peak Parking Demand Number of Spaces
University/College (Students)	40	40
University/College (Employees)	11	2
Restaurant (Ground Floor)	33	41
Office	21	3
Total	**105**	**86**

Mitigated Parking Demand

The project will be implementing a number of transportation demand management measures which will help reduce the parking demand generated by employees and students (for detailed descriptions of these programs please refer to the second section of this memo). Figure 5 shows the projected percentage reduction in parking demand based on the proposed student and employee TDM programs.

The percentage reductions are applied to the parking demand for each land use type during the peak hour as identified in the shared parking analysis. On weekdays peak parking demand occurs at noon and on Saturdays peak parking demand occurs at 11 AM. It should be noted that no reduction in restaurant parking demand is projected as there are no TDM programs targeted at restaurant patrons. In addition, no reduction in office parking is estimated as the tenants of the office space located in the Collective and 4th Ave office building will not be associated with Draper University.

It is important to note that these estimates are based on research as well as what has been achieved in other jurisdictions. It is important to note that parking demand reductions are not cumulative given that some measures are mutually exclusive such as transit and bicycling, TDM strategies often support one another and when implemented jointly can leverage greater impacts when compared to stand-alone implementation, and there is a realistic limit to how many trips can be shifted to non-auto modes.

Lastly, while certain measures such as carsharing or bicycle loaner program will not have a significant impact on reducing parking demand on their own, these measures are still critical as they increase the effectiveness of other measures such as transit passes as they enable employees and students to easily get around during the day or on the weekend without having to bring a car to the campus.

Figure 5 Mitigated Shared Parking Demand with TDM

Currently Proposed TDM Measures	% Reduction	Weekday Peak Parking Demand with TDM	Saturday Peak Parking Demand with TDM
Students			
▪ Bicycle parking ▪ Bicycle loaner program ▪ Transportation information ▪ Transit passes ▪ Welcome packets ▪ Carsharing	13%	35	24
▪ All of the above measures plus, ▪ Pre-tax transit benefits	13%	8	1
Restaurant Parking Demand	0%	32	41
Office Parking Demand	0%	21	2
Total Parking Demand		96	68
Total % Reduction from Shared Demand		6%	4%

TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM

The following section describes the proposed student and employee TDM program that Draper University should implement in Phase 1. In addition to the student and employee TDM measures described in this section, Draper University will also join the Downtown TMA once it has been formalized. Further description of what programs may be provided the Downtown TMA are discussed at the end of this section.

Phase 1 Recommended Student and Employee TDM Programs

Bicycle Parking

As required by the City of San Mateo Municipal Code, both short-term and long-term bicycle parking will be provided. At the Benjamin Franklin Hotel location, a secure bike storage room will be located in the basement, which will accommodate six bikes.

Bike Loaner Program

Given that many of the students attending Draper University will be coming from out of state or from outside the United States, it may not be feasible for students to bring their bike and it may not make financial sense to purchase a bike once arriving, given that the program is only 10 weeks long. Draper University should implement a bike loaner program where students and employees can check out University-owned bikes by the hour or day, free of charge. By providing free access to bikes, Draper University will provide students and employees with a non-auto mode option for exploring San Mateo or running errands during the day or on the weekends. In addition, the University should provide employees and students with bicycle helmets and locks free of charge to further encourage the use of bicycles.

Carsharing/Car Loaner Program

Carsharing provides users with a pool of vehicles that can be rented by the hour or day and typically includes gas and insurance in the hourly or daily cost. Given that many of the students attending Draper University will be coming from another state or country, it may not be logistically feasible to bring a car and given the transportation alternatives available, students should not be encouraged to bring a vehicle. By providing carshare vehicles on-site, students will still have access to vehicles for day trips or errands. In addition, employees who do not drive to work can use these vehicles during the day to run errands.

Draper University has indicated they will make arrangement to provide five vehicles that could be used for carsharing purposes. These vehicles should have reserved parking spaces in the parking lot of the Collective Building. The cost to use the vehicles should be minimal. If it is not feasible for Draper University to operate the carshare program, the University should work with an existing carshare operator, such as Zipcar or City CarShare to have one or more carshare vehicles placed onsite.

Preloaded Clipper Cards and Transit Passes

Draper University is relatively well-served by transit. Samtrans provides local and regional bus service (routes 390, 391, 397, 55, 295, 292, 250 serve the campus) and the San Mateo Caltrain

station is located approximately 0.4 miles from the Benjamin Franklin Hotel or a 10-minute walk. In order to encourage employees to utilize public transportation, Draper University should cover all or a portion of the cost of a monthly Samtrans or Caltrain pass. In addition, Draper University should consider Caltrain's Go Pass program for employees, which is described in more detail below.

For students who only attend the University for 10 weeks and will not need to commute on a daily basis, it may be more prudent for Draper University to provide students with a Clipper Card that is pre-loaded with funds that can be used on a number of transit agencies rather than a monthly Samtrans or Caltrain transit pass. In addition, Draper University may wish to purchase monthly transit passes that can be checked out by students to be used for the day. For employees who will commute on a regular basis using transit it would be more economical to provide them with monthly transit passes rather than a pre-loaded Clipper Card.

Welcome Packets and Transportation Information

Welcome packets containing relevant transportation information should be provided for new students and employees. For students, the packets should be mailed out before their arrival so they are aware of their transportation options and parking costs before arriving to encourage them not to bring a car. For students, the packet could include Samtrans and Caltrain schedules and maps, City of San Mateo and San Mateo County bicycle maps, carsharing information, transit pass options, public parking garage long-term parking permits, and information on the bicycle loaner program. For employees, in addition to the information listed above, the following information should also be provided; 511.org ridematching services, information on the guaranteed ride home program, information on the parking-cash-out program, and instructions on how to sign up for pre-tax commuter benefits.

In addition, an on-site transportation board including bicycle maps, transit routes and schedules, and carsharing information should be included in the cafeteria or other prominent location for students and employees.

Pre-Tax Transit Benefits

Pre-tax programs such as a Commuter Checks program allow employees to pay for transit passes with pre-tax earnings and can help encourage transit use among employees. Commuter Checks are vouchers that can be provided to employees as a substitute for taxable salary. Employees can redeem vouchers for transit passes at sales offices, retail sales outlets, or online to have passes mailed to them or loaded onto a Clipper Card. By substituting taxable salary for a tax-free voucher, employees can save 40% in after-tax value while Draper University can save 10% in payroll-related costs. These benefits are offered at the federal tax level and are available to employers of any size.

Downtown TMA

The City of San Mateo's 2009 Downtown Plan calls for the formation of a Transportation Management Association (TMA) which would offer a variety of transportation programs for employees, residents, and students in the downtown by enabling property owners and businesses to participate in programs that would typically not be available to them due to lack of an economy of scale. Potential services that could be offered by the Downtown TMA include the following:

- Transportation Coordinator to oversee and manage TDM programs

- Guaranteed Ride Home program to provide employees who use alternative forms of transportation with a free taxi ride home in case of an emergency
- Bulk purchase of discounted transit passes such as Caltrain's GO Pass
- Carpool matching services
- Outreach and marketing

The measures available though the Downtown TMA will help reduce vehicle trips and traffic congestion in the downtown area as well as parking demand. The availability of parking in downtown San Mateo is an important issue for the community as there is currently insufficient parking revenue and in lieu fees to build sufficient parking spaces to meet anticipated parking demand. The TMA will help reduce parking demand by offering services that encourage persons travelling to the downtown area to use non-auto modes. Every needed parking space eliminated through trip reduction will save approximately $30,000. Individual property owners planning to intensify existing uses or expand the size of their buildings will benefit from the TMA to the degree that future land use intensification can be offset by reductions in parking demand.

Projects in the downtown will be asked to contribute seed money toward the formation of a Downtown TMA. Given the scale of Draper University, the City of San Mateo will ask this project to contribute $15,000 to go towards the formation of the downtown TMA.

CONCLUSION

The findings of the shared parking analysis show a weekday peak parking demand of 102 spaces occurring at noon and a Saturday peak parking demand of 71 occurring at 11 AM. If parking is not shared amongst uses, the weekday peak parking demand increases slightly to 105 and increases more significantly on Saturdays to 86.

In addition, there are a number of TDM measures that Draper University can implement to encourage students and employees to use non auto modes of transportation including the following:

- Bicycle parking
- Bicycle loaner program
- Transportation information
- Transit passes
- Welcome packets
- Carsharing
- Pre-tax transit benefits

The program described in this memo could reduce the weekday peak shared parking demand by 6% and the Saturday peak parking demand by 4%, reducing the total number of parking spaces needed to 96 and 68, respectively.

Lastly, the City of San Mateo is currently in the process of forming a Downtown TMA. Projects being constructed in the downtown area will be asked to contribute seed money to the formation of this organization which will provide transportation programs that can be utilized by employees, residents and students in the downtown. Given its scale, Draper University is being asked to contribute $15,000 to the Downtown TMA.