Promoting Alternative Transportation at HSU

ENVS 411 Spring 2012

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Problem Statement

Although parking on campus is considered difficult to come by and HSU is working towards achieving sustainability, the existing alternative means of transportation are not currently convenient or accessible for the HSU population.

Problem Background

Sustainability Infrastructure Trends for CSU System & HSU

Assembly Bill 32: Global Warming Solutions Act was passed by the California Legislature and signed by Governor Schwarzenegger in 2006. Assembly Bill 32 (AB 32) requires a reduction in greenhouse gas (GHG) emissions by 2020 (CEPA). According to the California State University's (CSU) "Green Sheet", the state has mandated that all public institutions work to reduce their impact on the environment including reducing emissions. For this reason, CSU has made a commitment to sustainability and publishes a report each year about how campuses are working to achieve sustainability. Under the CSU Program for Environmental Responsibility (PER), each campus is encouraged and monitored for responsible decisions and actions regarding planning, design, construction, and operations in order to minimize ecological impacts and enhance the campuses' social environment.

As a way of evaluating and addressing transportation issues on and around campus, several CSUs have completed Transportation Demand Management Studies (TDMS). These studies analyze transportation on and around campus in order to address pressing transportation needs and create strategies that can be implemented for transportation efficiency for that specific campus. TDMS are also useful in obtaining information about how many vehicle trips are made to and from campus in order to reduce GHG emissions and to enhance or supplement alternative forms of transportation.
Although HSU has not completed a TDMS, in a 2005 Parking and Mobility Study of HSU, it was found that despite limited parking available on campus, creating additional parking may not be feasible due to limited space, high cost, and interests of aesthetics as expressed in the Master Plan (Wilbur Smith Associates, 4-1). Another reason that additional parking is not feasible is that it would potentially encourage additional vehicle trips made to campus which would detract from the goal of reducing GHG emissions. As part of the recommendations made for HSU's Master Plan, a transportation matrix was created to provide recommendations for future Transportation Demand Management Strategies (Recommended Transportation Plan). While some of the options recommended in the document have been implemented, others have not which allows for future expansion of alternative transportation modes and incentives. Questions for a University Transportation Survey are currently being compiled to be used for future transportation management strategies.

In an effort to reduce vehicle trips made to and from campus, the Jack Pass was created to increase ridership of local bus lines. The Jack Pass allows unlimited access to local bus lines for anyone with a valid HSU identification card. As a consequence of introducing the Jack Pass, ridership of local bus lines has increased, and the need to drive to school has declined. The Jack Pass has also partially mitigated the need to create additional parking. Other efforts made at HSU to encourage use of

alternative transportation are installation of readily accessible and available bike racks and walking paths throughout campus. Additionally, parking permits for motorcycles and mopeds, which emit less GHG than traditional vehicles, are offered for a quarter of the cost of a regular parking permit. For those who do drive to campus, a carpooling incentive has been created which allows unlimited parking for the day at any meter for individuals who hold a semester parking permit and are carpooling with three or more people; and a low-tech informal carpool bulletin exists in Housing Services.

Alternative Transportation Solutions at Other Universities

In order to expand upon and better understand possible transportation options for the HSU campus, we explored what is being done in the realm of alternative transportation at other universities. This gives us a range of options and allows us to recognize which are worthwhile to pursue. By researching the transportation webpages of other universities, we found information on alternative transportation services that included options such as: bicycling, walking, motorcycles, scooters/skateboards, rideshare, transit (bus, light rail, train, shuttle etc.), car rental/car share, emergency ride home, commuter-buddy, monetary incentives for using alternative transportation, commute cost/carbon calculator, flexible work options, commuter maps, electric vehicles, bio-diesel resources, and more. In addition, many universities offer information and tips to help commuters easily plan their trips to and from campus. The most common alternative transportation programs offered by universities are rideshare forums, transit, car share programs, and bicycling; we analyzed these specific sectors to see what areas HSU could improve upon or pursue in the future.

Ridesharing services on most campuses analyzed (Stanford University, Georgetown University, Duke University, and the University of California system) included a program that assisted students in making connections with other students for carpooling. The most established of these programs is called Zimride. Zimride is a networking program for carpoolers, similar to the "rideshare" service on Craigslist.com, except it provides the service exclusively for university students who attend a school that has purchased the service. Zimride provides the university with a forum that is connected to social networking sites for students to utilize. Zimride maintains the university's site, as well as marketing so in order to get the word out about the service they provide for students and faculty (Zimride © Overview, Amy Fox). Zimride claims that it attracts 1,000-3,000 users of the campus' population within the first year. Additionally, it claims that its services reduce an average of 300,000 pounds of carbon emissions annually as well as $190,000 per year (Zimride © Overview, Amy Fox). Despite the numerous benefits that services like Zimride provide it can be costly for the university to purchase this type of service (T.C. Comet, personal communication). Some campus' have a forum or message board independent of Zimride that students use to connect with a rideshare opportunity (such as Lewis and Clark University and Duke University).

Many university transportation webpages have links and helpful information about public transit in the area. Often times, there are a variety of options, routes, and connections that may be necessary in order to use public transit to get to and from school. This can be daunting for students if the information is not easily accessible and user friendly. Universities such as Butte University, Duke University, and Stanford University offer a comprehensive guide to transit options in the area, some of which provide additional tips and considerations for riding public transportation.

Universities across the nation, including Humboldt State University, participate in car share programs. A ubiquitous car share company utilized in universities (and in cities in general) is the ZipCar © program. Once you have paid your annual membership fee for ZipCar ©, you are able to borrow any ZipCar © vehicle for a low hourly fee. It has proven to be useful for students who do not have a car, and also in reducing emissions through car sharing. On a related note, some universities also have links to car rental services, van shuttling services, and taxis. A barrier to students using car sharing or carpooling is that people are often worried that an emergency will arise, such as a sick child, and there might not be a car available for use or, no one is available to provide them a ride in such a case. Stanford University and several of the California University campuses provide emergency ride home services in which there is a designated vehicle and driver available to ensure that students are not stuck at school in the case of an emergency.

When researching bicycling services provided by universities, we found many proved to have creative and helpful programs for student bicyclists. Several universities provided useful information about bicycle safety, gear, routes, bike racks, maps, etc. Stanford University has several services which make riding a bicycle to and from school a more viable transportation option such as: subsidized bike helmets, a free bike rental program for students, facilities that include showers and lockers around school to change in after a bike ride, and a bike commuter buddy service. This service is similar to the idea of a carpool forum, but is intended to provide additional safety in numbers for bicyclists. Stanford University had a transportation webpage that showed exemplary organization and was outstandingly user-friendly. What made this alternative transportation webpage particularly effective was 1) it is easy to locate the webpage from the internet search engine (Google) and the university home-page, 2) it is simple for students to locate and explore transportation services offered by the university, 3) there are a wide variety of transportation options available, 4) the webpage is easy to navigate due to simple and well organized tabs, headings, links, maps and contact information; all of which is located on a single page (transportation.edu.stanford).

Current Transportation Options at HSU

The main modes of transportation for students and faculty to get to campus are as follows:

- Single Occupancy Vehicle
- Walking
- Bicycle
- Public transit
- Carpooling

According to the 2005 Transportation Study done by Humboldt State walking works best for people who live within one mile of campus. Bicycling works best for those individuals who live within 5 miles and bus works for those who live within 10 miles. At the time when the transportation study was done 59.5% of the people who participated in the study said they drove alone. This was mainly due to convenience, travel time and reliability. Only 7.2% of individuals who participated in the study said they carpool. Only 5% of participants said they took public transit but since the introduction of the Jack-Pass in 2008 public transit ridership has increased immensely.

With the overwhelming number of single occupancy vehicles and limited parking spaces on campus it is in the best interest of the school to promote alternative modes of transportation. According to the Parking and Mobility Study, the number of parking spaces on campus has been steady at about 2,300 spaces. HSU provides 0.25 parking stalls per student and employee, compared to the average 0.38 spaces per capita for the rest of the CSU system. That is one stall for four people on campus.
The use of city streets accounts for 20% of the total daily supply of parking utilized by the university. Future parking needs according to HSU's Master Plan forecast for growth in enrollment dictates that as of 2005, 2,750 parking spaces were required to meet daily demands. That was 449 parking spaces short. In 2010 the required parking spaces were projected to be 3,055 with a shortage of 754 stalls. In 2015, providing the same number of stalls remain requires 3,661 stalls with a shortage of 1,360 stalls. In 2025, with a projected student body of 12,000, the required stalls would be 4,267 with a shortage of 1,966. Looking at permit sales at HSU for 2000-2007 in Figure 1 below, shows a steady decline in General permit sales. This could be due to increased permit prices or the steady increase of population with no corresponding increase in parking spaces. Unfortunately, sales were not available beyond 2007 to see how the implementation of the Jack-Pass affected sales. The Jack-Pass program through Humboldt State enables currently registered students unlimited rides on the Redwood Transit System (RTS), Eureka Transit System (ETS) and the Arcata & Mad River Transit System (A&MRTS). Staff and faculty can purchase a jack pass for $60.00 a semester and Extended Education students can purchase a pass at $30.00 a semester.

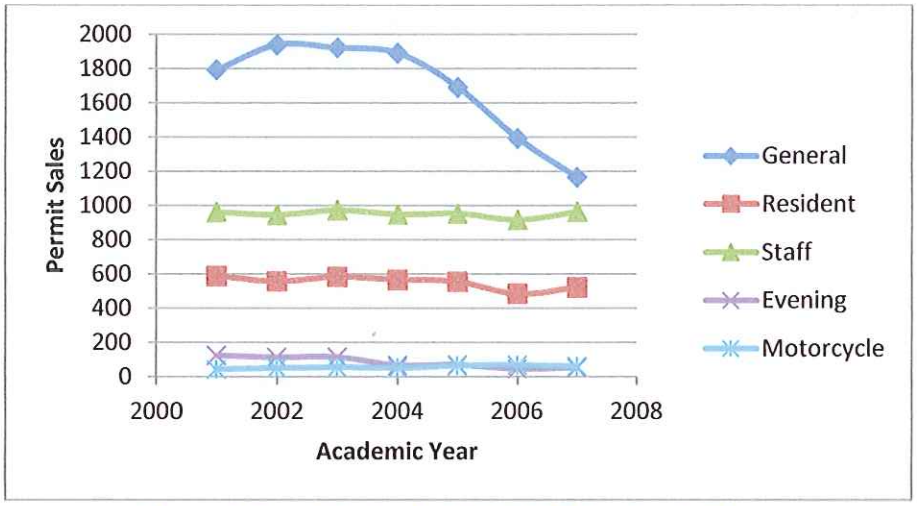


Figure 1: Permit Sales for 2000-2007 Academic Years

It seems carpooling has been an underutilized mode of transportation on campus. For every day that a permitted driver has 3 or more persons in their car they can get a preferential parking permit at any of the metered spots on campus for no additional cost. This service has most likely been ignored due to lack of knowledge and advertisement. According to the transportation study, 80% of staff drives alone and they have the most consistent schedule on campus. Freshman students are also encouraged to not bring cars when they come to Humboldt. With the introduction of the Zip Car to campus, which is a car sharing program, it may be more feasible for individuals to run errands on their lunch or make short trips without having to bring a car to campus.

Goal:

To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes.

Objectives:

- Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.
- Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2013 ridership statistics.
- A 5% decrease in parking permit use by the end of Fall 2012 based on number of permits sold in Spring 2013.

Alternative Analysis:

Criteria used to Analyze Alternatives:

Criteria:	Degree of Effectiveness: (1)
1. Does the alternative align with our project goal? *- "To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	
2. Will the alternative help us achieve one or more of our specific objectives? *- "Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* *- Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.* *- By increasing the use of alternative means of transportation decrease use of parking permits by 5%, based on the Spring 2012 permit sale statistics."*	
3. Is the alternative a feasible option? *- Can the alternative be implemented in a semester?* *- Are there funds available to implement the alternative?* *- Is there physical space available to implement the alternative?* *- Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* *- Can the alternative be maintained over time?* *- Does the alternative utilize the current resources efficiently?*	
4. Does the alternative align with the goals of the Humboldt State University? *- Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet?*	

- Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32? *- Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	
Total:	

(1) Measurements of Effectiveness:

1. Not effective solution.
2. Somewhat effective solution; has minor flaws.
3. Adequate solution; useful and fairly effective.
4. Highly useful and effective solution.
5. Excellent/flawless solution.

Alternatives:

- **Create and distribute an alternative transportation survey regarding the creation and implementation of a carpooling forum for HSU students, faculty, and staff.**

A survey would be created on Survey Monkey (or similar program) that would evaluate the willingness of the students, faculty, and staff to utilize alternative transportation for transportation to and from campus if a coherent and user-friendly forum was created and incorporated in the HSU website. This is a necessary first step to actually implementing a working online forum, HSU faculty and staff is might be unwilling to supply the necessary technical support since they are unsure whether a carpooling forum would be used. The survey would be a basic questionnaire e-mailed out to HSU students, faculty, and staff aimed at gauging whether a carpooling forum would be desirable, accessible, and usable.

Strengths:

This alternative would be simple, not time-consuming, free, and could certainly be completed within the semester. In addition, the information gleaned from the survey could be important for TallChief Comet to use for a variety of reasons including his own transportation survey, the upcoming inventory of transportation options that will be required by the CSU, and understanding viable options for alternative transportation that could be implemented by HSU in the future. Considering that the survey would be free, it is a very effective use of available funds (none) considering the amount of information that it could provide. Since TallChief Comet is supportive of these efforts to understand the behavior of HSU students, staff, and faculty, the alternative has a high chance of being repeated and maintained over time.

Weaknesses:

This alternative, though informative, may not be particularly useful in changing people's behavior when it comes to transportation. A possible way to get people to use alternative forms of transportation is to include in the survey a pledge that says something like: "if you feel committed to these efforts (a) I will carpool more, (b) I will bike more, etc. This would also be a way to monitor changes based on changes in responses. A simple survey in itself, however, will most likely not affect

carpooling statistics.

Criteria:	Degree of Effectiveness: (1)
1. Does the alternative align with our project goal? - *"To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	3
2. Will the alternative help us achieve one or more of our specific objectives? - *"Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* - *Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.* - *Achieve a 5% decrease in parking permit use."*	2
3. Is the alternative a feasible option? - *Can the alternative be implemented in a semester?* - *Are there funds available to implement the alternative?* - *Is there physical space available to implement the alternative?* - *Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* - *Can the alternative be maintained over time?* - *Does the alternative utilize the current resources efficiently?*	5
4. Does the alternative align with the goals of the Humboldt State University? - *Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet?* - *Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* - *Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	5
Total:	15

- **Increase awareness about existing means of alternative transportation options as well as incentives for using alternative transportation.**

Awareness of alternatives would be provided via e-mail announcements to students, faculty and staff, posters around campus buildings, fliers, HSU website announcement, etc. These "advertisements" would be publicizing 1) the current free parking pass given out for carpoolers, 2) the bus schedule information, 3) maps including the locations of bus stops, bike racks, bike/walk routes, and bike help, and 4) information regarding the use Zipcars. The advertisements would be directed towards the idea that students, faculty, and staff can save money and reduce carbon emissions through using alternative means of transportation. In addition, information would be included about specifically how much gas

money and carbon emissions a student could save by choosing to ride the bus, ride a bike, walk, or carpool/rideshare.

Strengths:

This alternative would be used to provide information about the various forms of transportation that exist around campus. It plays to the desire of people to save money (and some people's desire to reduce carbon emissions possibly). This option will be feasible in the sense that it takes little time, money, participation of faculty, logistics, and space. It can definitely be completed within this semester. Assuming that increased awareness will create change in behavior, this alternative will align nicely with our project goals and objectives as well as the goals of HSU (it encourages transportation behavioral changes).

Weaknesses:

Although "advertising" the various forms of transportation offered around campus may increase awareness, this does not necessarily mean that increased awareness will automatically equal increased participation in the use of alternative transportation to and from campus. This alternative cannot guarantee people will begin to use carpooling, bus, bike, etc. hence it may not actually help us achieve our goals. In addition, the advertising component would most likely be a one-time use alternative; it would be unlikely to be repeated by a faculty member after this semester.

Criteria:	**Degree of Effectiveness: (1)**
1. Does the alternative align with our project goal? - *"To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	2
2. Will the alternative help us achieve one or more of our specific objectives? - *"Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* - *Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.* - *Achieve a 5% decrease in parking permit use."*	2
3. Is the alternative a feasible option? - *Can the alternative be implemented in a semester?* - *Are there funds available to implement the alternative?* - *Is there physical space available to implement the alternative?* - *Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* - *Can the alternative be maintained over time?* - *Does the alternative utilize the current resources efficiently?*	4
4. Does the alternative align with the goals of the Humboldt State University?	3

- Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet? *- Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* *- Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	
Total:	11

- **<u>Update and streamline the Parking Services website</u>**

In order to update the Parking Services website all outdated and extraneous information would be removed. The webmaster for Parking Services would be responsible for this action. In order to streamline the website, all related links would be directed to the same location. An updated search function would have the Parking Services website be the first hit in a list of options. This will be accomplished by making a list of potential search phrases and giving those to the Information Technology department for implementation.

<u>Strengths</u>:

This alternative would make information more readily available for interested parties. If one is searching alternative means of transportation on campus then they would be a more likely participant with accurate information because there would be a lack of frustration for that individual. A more streamlined website creates fewer obstacles for the necessary information of a potential participant.

<u>Weaknesses</u>:

This alternative is not very effective if there are no interested parties searching for information. Ideally we would want to search for ways to advertise this so that people are made aware of it without prompting. The problem with having the webmaster update information is that the final say for information content is up to them and on their timeline. The same situation pertains to the streamline process within the Information Technology department. Dependence on others leads to lack of control and delays.

Criteria:	**Degree of Effectiveness: (1)**
5. <u>Does the alternative align with our project goal?</u> *- "To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	3
6. <u>Will the alternative help us achieve one or more of our specific objectives?</u> *- "Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* *- Increase the Arcata & Mad River Transit ridership by 5% by the end of*	3

the Fall 2012 Semester, based on Spring 2012 ridership statistics. *- Achieve a 5% decrease in parking permit use."*	
7. Is the alternative a feasible option? *- Can the alternative be implemented in a semester?* *- Are there funds available to implement the alternative?* *- Is there physical space available to implement the alternative?* *- Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* *- Can the alternative be maintained over time?* *- Does the alternative utilize the current resources efficiently?*	5
8. Does the alternative align with the goals of the Humboldt State University? *- Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet?* *- Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* *- Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	5
Total:	16

- **Create a flyer for HOP packets about alternative transportation options**

A flyer will be created for HOP packets for prospective students. This flyer will contain all the necessary information for alternative means of transportation. That will include: bus schedules, bike rack locations, carpooling information and zipcar information.

Strengths:

This alternative is inexpensive and easy to implement. This flyer would be exposed to all potential students and parents and has the possibility of behavioral change over the course of the student's career at Humboldt State which is a longer period of time than changing current student population behavior. Behavioral changes from individuals that have readily accessible information are more likely. An increase in use of alternative modes of transportation due to a decrease in vehicles brought campus would reduce overall greenhouse gas emissions. If fewer individuals are driving to campus parking space availability is more likely.

Weaknesses:

This alternative only affects the potential students coming to Humboldt State if they choose to read the information. Ideally the information would be covered in orientation to the school lead by staff for insurance of getting the information out to individuals. While this action would mediate the issue it would not prevent bringing a car to campus altogether.

Criteria:	Degree of Effectiveness: (1)
1. Does the alternative align with our project goal? - *"To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	3
2. Will the alternative help us achieve one or more of our specific objectives? - *"Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* - *Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.* - *Achieve a 5% decrease in parking permit use."*	3
3. Is the alternative a feasible option? - *Can the alternative be implemented in a semester?* - *Are there funds available to implement the alternative?* - *Is there physical space available to implement the alternative?* - *Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* - *Can the alternative be maintained over time?* - *Does the alternative utilize the current resources efficiently?*	5
4. Does the alternative align with the goals of the Humboldt State University? - *Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet?* - *Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* - *Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	4
Total:	15

- **Create and implement a tiered parking fee system for campus parking**

A tiered parking fee system would be created in which individuals purchasing a parking permit would pay a fee according to their commute distance to campus. The idea is that the further one lives and commutes to campus the less expensive it would be to purchase a parking permit and vice versa, the closer one lives to campus the more expensive it would be for them to purchase a parking permit. This system would be used to encourage individuals who live closer to campus to use alternative means of transportation and discourage driving to campus where alternative means of transportation are available and accessible.

Strengths:

This alternative would work to discourage individual that drive to campus from close locations from driving to school and cause them to seek alternative means of transportation, thus resulting in

behavioral changes for campus commuters immediately. If there are less people driving to school this would also free up parking on campus. Additionally, this could potentially encourage individuals that drive alone to carpool if their parking fees are increased, but they still desire or need to drive to campus. An increase in the use of alternative means of transportation and a decrease in the number of individuals that drive to campus would contribute to a reduction in overall greenhouse gas emissions.

Weaknesses:

This alternative may be difficult to implement in a single semester due to several factors. First, individuals that purchase parking permits do not always list their local address, which is needed in order to properly determine in which tier the buyer belongs when assessing their parking fee. Second, a decision regarding how parking fees are tiered would have to be made by an individual or body, which may be difficult to decide upon. Parking fee tiers would have to be based upon a certain set of criteria that has yet to be determined which should include but not be limited to: access and availability to alternative modes of transportation, geographic locations and commutes in relation to campus. Third, once tiered parking fees are determined, they would have to be implemented during point of purchase; therefore, a computer data system or map would need to be created as a reference for assessing fees for those selling parking permits to individuals. Lastly, increased fees would have to be balanced in order to prevent a decrease in Parking & Transportation Services' revenue, but still reduce the number of drivers to and from campus.

Criteria:	**Degree of Effectiveness: (1)**
9. Does the alternative align with our project goal? *- "To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	4.5
10. Will the alternative help us achieve one or more of our specific objectives? *- "Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* *- Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.* *- Achieve a 5% decrease in parking permit use."*	4.5
11. Is the alternative a feasible option? *- Can the alternative be implemented in a semester?* *- Are there funds available to implement the alternative?* *- Is there physical space available to implement the alternative?* *- Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* *- Can the alternative be maintained over time?* *- Does the alternative utilize the current resources efficiently?*	1
12. Does the alternative align with the goals of the Humboldt State University?	4.5

- Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet? *- Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* *- Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	
Total:	14.5

- **An overall increase of parking permit fees**

An overall increase in parking permit fees would be implemented for all parking permits. An increase in parking fees would be used to encourage individuals that live closer to campus to use alternative means of transportation and discourage driving to campus where alternative means of transportation are available and accessible.

Strengths:

This alternative could be easily implemented within a semester once an amount of increase for parking was determined. An increase in parking fees would produce immediate behavioral changes for individuals that have readily accessible forms of alternative transportation. An increase in use of alternative modes of transportation and decrease vehicles driving to and from campus would reduce overall greenhouse gas emissions. If individuals still have a desire or need to drive to and from campus they may be more likely to seek other individuals to drive with which would increase carpooling. An increase in fees could potentially increase revenue for Parking & Transportation Services. If fewer individuals are driving to campus there may be more availability of parking spaces on campus.

Weaknesses:

An individual or body of people would have to determine an appropriate amount to increase parking fees. Additionally, an increase in the parking fee would have to be high enough that it would deter some people from driving but also be low enough as to not reduce the revenue generated by parking fees for the Parking & Transportation Services department; a specific price increase that would achieve this balance has yet to be determined and may be difficult to determine.

Criteria:	**Degree of Effectiveness: (1)**
5. Does the alternative align with our project goal? *- "To increase overall use of alternative means of transportation to and from campus through encouraging transportation behavioral changes."*	4.5
6. Will the alternative help us achieve one or more of our specific objectives? *- "Double the current amount of carpooling used at HSU by the end of the Fall 2012 Semester, based on Spring 2012 carpooling statistics.* *- Increase the Arcata & Mad River Transit ridership by 5% by the end of the Fall 2012 Semester, based on Spring 2012 ridership statistics.*	4.5

- Achieve a 5% decrease in parking permit use."	
7. Is the alternative a feasible option? *- Can the alternative be implemented in a semester?* *- Are there funds available to implement the alternative?* *- Is there physical space available to implement the alternative?* *- Is there ample support and leadership among staff and facility to support implementation and continuation of the alternative?* *- Can the alternative be maintained over time?* *- Does the alternative utilize the current resources efficiently?*	4
8. Does the alternative align with the goals of the Humboldt State University? *- Does the alternative align with the goals of the Campus Sustainability Coordinator; TallChief Comet?* *- Does the alternative align with the goals provided for the University by the 2006 Assembly Bill 32?* *- Does the alternative align with the goals provided for the University by the CSU's "Green Sheet"?*	4.5
Total:	17.5

Implementation:

Upon analyzing the proposed alternatives, our group determined that four out of the six alternatives would be worthy of implementation based on the criteria provided above. The "total" column rankings of each alternative can range from zero through twenty. We decided that every alternative with a ranking of 15 and above should be implemented based on the likelihood of successful completion of the alternative and the effectiveness of the alternative to help us achieve our project goals. The alternatives that we choose to implement were 1) to distribute a survey regarding alternative transportation, 2) to update and streamline the Parking Services website, 3) to create a flyer for HOP packets about alternative transportation options, and 4) to increase parking permit fees. The following describes the timeline and strategy for implementing these alternatives.

Timeline and Strategy by Alternative:

1) ***Create and distribute an alternative transportation interest survey to HSU students, faculty, and staff.***

Task:	Date to be completed by:	Person to be completed by:
Create tentative questions for the transportation survey; check with group	4/1	Hannah
Research details and process of	4/06	Hannah

the distribution/answering of the transportation survey; Institutional Research and Planning.		
Get transportation survey questions and process approved by T.C. Comet	4/13	Hannah
Test survey questions on some students for quality assurance	4/13	Hannah
Distribute transportation survey	4/16	Hannah
Compile results of transportation survey	4/23	Hannah

Strategy:

In order to complete and distribute a survey that will be informative for my group as well as for the university I will maintain communication with my group members as well as the partners with whom I will be working with; primarily T.C. Comet. The successful completion and monitoring of this alternative as planned relies heavily on working closely with T.C., as shown in step above such as gaining his approval of the survey questions and process. To check that the implementation of this alternative is aiding in the success of the entire project, I will also have progress checks with my group members during class periods and arranged meetings. Additionally, this alternative will require that I research how surveys such as this are distributed at HSU. In order to do this, I will need to contact Gay Hylton of the Institutional Research and Planning department at HSU; she is in charge of all the surveys distributed at HSU. Finally, the wording of the actual survey will need to be as such so that those who receive the survey will understand the importance of what we are trying to do in order for as many people as possible to respond to the survey. The survey itself needs to also be simple and quick to take so that completion of it is not time consuming or frustrating. To ensure this, I will "test" the survey on a few students to get feedback on the ease of taking the survey.

2) *Update and streamline the Parking Services website.*

Task:	Date to be completed by:	Person(s) to be completed by:
Meet with group to edit current website and determine changes that need to be made.	04/03	Hannah, Lee, Lynette
Submit suggestions to parking services for approval and implementation.	04/05	Lee

Contact the IT department to have all links go to the right destination and search possibilities for alternative means of transportation go directly to the parking services website.	04/05	Lee

Strategy:

In order to have a website with true and correct information the group will meet to look over the current conditions of the website in order to make the necessary changes. This may include but is not limited to: researching other sites, following all links on the pages to see where they go, and making various searches to see what the engine comes up with in order to suggest different criteria for the IT department. Information will be submitted to parking services and IT respectively for approval and implementation. Submission dates are made early to account for any revision process needed.

3) ***Create a flyer for HOP packets about alternative transportation options.***

Task:	Date to be completed by:	Person(s) to be completed by:
Meet with group to decide what information should be included in the flyer.	04/10	Hannah, Lee, Lynette
Submit information to TC for approval.	04/10	Lee
Make revisions if any to flyer.	04/16	Lee
Upload to Sustainability Website	04/19	TC

Strategy:

In order to have a flyer with true and correct information the group will meet to look over the current information available and necessary for potential students and parents to get an idea of how to get around on campus. It may be necessary to contact Plant Operations for a list/map of current bike rack locations which may take time so that will be investigated first. Information will be submitted to TC for approval and implementation. Submission dates are made early to account for any revision process needed.

4) ***An overall increase of parking permit fees.***

Task:	Date to be completed by:	Person to be completed by:
Research parking fee increase	3/28	Lynette
E-mail/contact Lynne Soderberg for contact regarding parking permit fees	3/30	Lynette
Compile research to present/propose to contact provided by Lynne for a parking fee increase	4/04	Lynette
Meet with T.C. to look over proposal for an increase in parking fees	4/05	Lynette
Edit proposal according to TC & group members' suggestions	4/10	Lynette
Meet with contact person to propose increase in parking fee	4/19	Lynette

Strategy:

In order to increase parking permit fees, as a means to achieve our project goal, Lynette will be researching examples of why this alternative is believed to be successful. Once research has been completed, Lynette will contact Lynne Soderberg, the Committee Chair of the Parking and Transportation Committee, for information regarding who is responsible for assigning value to parking permits and who could help with trying to increase the parking fees. Lynette will then contact T.C. Comet and arrange a meeting to have him look over the proposal and provide comments as to how to approach the issue. Once the T.C. and the group members have provided feedback for the proposal, Lynette will contact the person responsible for parking fee increases to present the idea.

Monitoring and Evaluation Plans by Alternative:

1) ***Create and distribute an alternative transportation interest survey to HSU students, faculty, and staff.***

Distributing an interest survey to students, faculty, and staff regarding ways in which the use alternative transportation can be incentivized, made more convenient, and made more ubiquitous will provide useful information about what processes should be applied to increase use of alternative transportation modes. Our survey questions will be incorporated into the survey that TC Comet is distributing. This information can be used by TC Comet to evaluate what the most effective changes will be; by the University to understand which modes of alternative transportation are desired and will most benefit those on campus (so as to spend resources in an efficient manner); by the University to incorporate into their Transportation Demand Study;

and can possibly be used by future "Sustainable Campus" groups to better evaluate appropriate alternatives for the current HSU circumstances and needs. In order to assess the alternative's effectiveness the following will be used to monitor and evaluate:

- Monitoring:

-Who will monitor:

T.C. Comet will receive the results of the survey, make decisions about how best to allocate resources based on them, and will be checking the transportation statistics to see if any of our objectives have been met.

-What instruments/tools will be used:

The Humboldt State Institutional Review Board (IRB) under the direction of Gay Hylton, the research assistant who coordinates all survey data at HSU, will compile the data from the survey and provide data analysis to T.C. Comet. Two graduate students will be analyzing the results of the survey to aid them in their "Bike Share" program they are trying to implement.

-When/timing/how many times:

The transportation Survey is due to go out in early Fall Semester, and the results should be in a few weeks following. This survey will only go out one time. It is our hope that the results of the transportation study will provide encouragement for the university to make positive changes in regards to alternative transportation which will eventually help us achieve our goals and objectives.

Statistics having to do with overall parking pass sales and bus ridership numbers are available on the transportation webpage at the end of each semester. The data between years will be compared in the spring semester of 2013 to see if any notable, positive change in alternative transportation use has been achieved. The statistics should be checked by May 15th, which is after the fall semester 2012 statistics should have been inputted.

-Comparing to goals & objectives

To see if the survey caused any indirect changes, differences that have occurred in regards to our objectives a table can be used to compare the transportation statistics of fall 2000 semester through spring 2012 semester as compared to fall 2012, when some strategies to increase alternative modes of transportation have been implemented. Unfortunately, the transportation department does not feel it is important to include carpooling statistics in their semester statistical reports. I do not know how we can get accurate numbers for carpooling otherwise.

Specific Objective:	Average Statistics of fall 2000 semester - spring 2012 semester:	Fall 2013 Statistics:	Percent Difference:
Double the current			

amount of carpooling used at HSU			
Increase the Arcata & Mad River Transit ridership by 5%			
A 5% decrease in parking permit use			

- Evaluating

-Did the alternative work:

In order for this alternative to be successful, all that needs to be done is receive the results of the survey from TC Comet. Additionally, if the alternative meets the three objectives of doubling the amount of carpooling, increasing AMRT ridership by 5%, and decreasing parking permit use by 5% by spring 2013, we know that the alternative had positive, indirect repercussions on the alternative transportation use.

The act of distributing the survey itself will have virtually no direct impact on helping us achieve our goals. We initially wanted to make a carpooling forum that would allow HSU students, staff, and faculty to find ride share partners to carpool with around the area. However, we ran into issues including lack of funding from the University, lack of support from the staff needed to implement, time constraints, and "red tape" that prevented a change of this magnitude to occur. Therefore, we decided to make a survey that would gauge interest in a carpool forum service as well as other alternative transportation options in hopes that the University would consider using the forum if demand was high enough.

2) Update and streamline the Parking Services website.

By having the most accurate and up-to-date information available it will be possible for individuals searching for alternative modes of transportation to find them. If information is more readily available it is more likely that people will utilize that information.

- Monitoring

-Who will monitor:

Lee Tumminello will check the website by the end of the semester in order to give Brooke Fiore from Parking Services enough time to accomplish the update. If at that time Ms. Fiore has not updated the website, Lee Tumminello will check on it again at the beginning of the Fall 2013 semester.

-What instruments/tools will be used:

No instruments or tools are necessary other than email correspondence.

-When/timing/how many times:

Monitoring for this alternative should only be done once providing Parking Services is given enough time to accomplish their task.

-Comparing to goals & objectives:

There is no way to tell specifically which alternative affected which goal or objective the most. The only thing that can be done is to compare the previous permit sales average with Fall 2013 statistics to see if there is a percent decrease and if it met our goals.

Specific Objective:	Average Statistics of fall 2000 semester - spring 2012 semester:	Fall 2013 Statistics:	Percent Difference:
Double the current amount of carpooling used at HSU			
Increase the Arcata & Mad River Transit ridership by 5%			
A 5% decrease in parking permit use			

- Evaluating

-Did the alternative work:

In order for this alternative to be successful, it will be necessary to retrieve permit sales statistics from Parking Services for the Fall 2013 semester. Additionally, if the alternative meets the three objectives of doubling the amount of carpooling, increasing AMRT ridership by 5%, and decreasing parking permit use by 5% by Spring 2013, we know that the alternative had a positive affect although the magnitude of the affect cannot be determined.

3) Create a flyer for HOP packets about alternative transportation options.

By distributing a flyer to potential and new students at Humboldt State there is the possibility to not only have individuals not bring a car to campus but create a behavioral change over the course of their career at Humboldt State rather than just a short term change.

- Monitoring

-Who will monitor:

Flyers will be given to T.C. Comet for distribution. There is no monitoring necessary for this alternative.

-What instruments/tools will be used:

No instruments or tools are necessary other than email correspondence.

-When/timing/how many times:

The group will give the flyer to T.C. Comet only once, providing there is no edits that need to be made.

-Comparing to goals & objectives:

There is no way to tell specifically which alternative affected which goal or objective the most. The only thing that can be done is to compare the previous permit sales average with Fall 2013 statistics to see if there is a percent decrease and if it met our goals.

Specific Objective:	Average Statistics of fall 2000 semester - spring 2012 semester:	Fall 2013 Statistics:	Percent Difference:
Double the current amount of carpooling used at HSU			
Increase the Arcata & Mad River Transit ridership by 5%			
A 5% decrease in parking permit use			

- Evaluating

-Did the alternative work:

In order for this alternative to be successful, it will be necessary to retrieve permit sales statistics from Parking Services for the Fall 2013 semester. Additionally, if the alternative meets the three objectives of doubling the amount of carpooling, increasing AMRT ridership by 5%, and decreasing parking permit use by 5% by Spring 2013, we know that the alternative had a positive affect although the magnitude of the affect cannot be determined.

4) An overall increase of parking permit fees.

The implementation of increasing parking permit fees at Humboldt State University will facilitate achieving the following goals: create a behavioral change that will discourage driving both to and from school; increase the use of alternative modes of transportation and carpooling; and increase revenue for the Parking and Transportation department for continued operations and toward investing in alternative modes of transportation and infrastructure for increased bus ridership. This alternative should also facilitate in achieving all of our previously stated objectives. In order to assess the alternative's effectiveness the following will be used to monitor and evaluate:

- Monitoring

  -Who will monitor:

  T.C. Comet or Transportation & Commuter Services

  -What instruments/tools will be used:

  Once the parking fee increase is in effect, the person (or department) monitoring the alternative will compare parking statistics prior to the parking fee increase and after the parking fee increase. The statistics that should be compared include the following:
  (a) number of parking permits sold each academic year (2000-end of semester when parking fee increases) categorized by General + Resident, Staff, & Motorcycle;
  (b) parking permit fees for each academic year (2000-end of semester when parking fee increases) categorized by General + Resident, Staff, & Motorcycle;
  (c) headcount for each academic year (2000-end of semester when parking fee increases) categorized by General + Resident, Staff, & Total;
  (d) bus ridership for each year (2000-end of semester when parking fee increases) categorized by Redwood Transit System (RTS), Eureka Transit System (ETS), & Arcata & Mad River Transit System (A&MRTS);
  (e) number of Jack Pass (JP) users for each year (2000-end of semester when parking fee increases) categorized by Redwood Transit System (RTS), Eureka Transit System (ETS), & Arcata & Mad River Transit System (A&MRTS)

  Example tables are available for reference in Appendix 10. The tables can be used to monitor, evaluate and compare data regarding the effectiveness of a parking fee increase on driving behavior to and from campus toward a shift in the use of alternative modes of transportation, mainly mass transit.

  -When/timing/how many times:

  Statistics should be input at the end of each academic year to assess the trends of bus ridership, JP use, and permit sales. The data can be used to compare how an increase in parking permit fees affects sales of parking permits, bus ridership and the use of the JP.

  -Comparing to goals & objectives:

  In order to assess whether goals and objective were met, the above data will be used to compare the purchase of parking permits prior to and after an increase in parking fees. The total number of parking permits sold after an increase in parking fees has been implemented should be 5% less than the semester prior to the implementation of the parking fee increase. Additionally ridership of A&MRTS should increase by 5% based on the ridership of the semester before an increase in parking fees was implemented.

Specific Objective:	Average Statistics of fall 2000 semester - spring 2012 semester:	Fall 2013 Statistics:	Percent Difference:
Double the current amount of carpooling used at HSU			
Increase the Arcata & Mad River Transit ridership by 5%			
A 5% decrease in parking permit use			

- Evaluating

-Did the alternative work:

If the sales of parking permits decreases by 5% and A&MRTS ridership increases by 5% the semester after an increase in parking fees has been implemented the alternative was successful in achieving both the goals and objectives of this project.
It is important to note that although an increase in parking permit fees may change some people's commuting behavior to and from campus, other factors may play a role in commuting behavior, such the cost of fuel. In order to determine if the number of permits sold is decreasing, we suggest comparing the total number of permits sold for the academic year, with the total headcount of HSU, to evaluate the number of permits as a percentage or proportion of the HSU population. Additionally, evaluating the number of JP and JP use, would also be beneficial to gauge whether there is an association between change in parking permit sales due to a fee increase and bus ridership.

Appendix 1:

Brainstorm of Possible Alternatives:

BRAINSTORMING		LEE TUMMINELLO

1. update streamline parking services webpage
2. get covered bike parking
3. increase awareness by flyers or pamphlets with maps
4. carpooling interest poll to implement a forum
5. change bus times from every hour to every half hour at peak times
6. carpool incentives - cheaper permits
7. make zipcar free for HSU employees?
8. Restrict on campus residents from bringing vehicles

Brainstorming

- advertise the existing forum, Zip-car, carpooling, other alt. transport via fliers, e-mails, announcements etc.
- have a link or page on the sustainability website about alt transport
- discuss options about more bus route times → Avanced
- put a flier about alt. transportation options in HOP packet
- advertise parking pass incentives around campus
- make it easier for Parking Services to track carpooling passes given out → somehow?
- bike library or bike share or bike borrowing
- organize the website → add links to zip car, bus schedule, car pooling info
- for flier & website → calculate how much gas & carbon can be "saved" by carpooling or other alt. transp.
- additional incentives for biking, carpooling, bus, etc → C-card points?
- tabling @ a fair

~~bridges people~~

2/29/12

- Increased frequency of bus.
- Create a carpooling forum for HSU students, staff, faculty
- Discounted carpool permits
- Create preferential parking for carpoolers (near parking kiosk where one-time carpooling permits are obtained)
- Increase in parking fee
- Give incentives to individuals who don't drive to school
- Tiered parking fees; the further you live from school the less expensive your permit is

Ban/limit parking permits for freshman (or students that live on campus)

- expand zipcar fleet
- Create maps that show where access to alternative modes of transport exist & amenities such as bike racks, bus stops, bike help? (small flyers & at bike rack & other accessible/visible locations)

least workload

Appendix 2:

HSU Parking and Mobility Study (Wilbur Smith Associates):

April 27, 2005

Chapter 2
PARKING NEEDS ASSESSMENT

FUTURE PARKING NEEDS

Table 2-1 shows an assessment of future HSU parking needs based on a review of current conditions and the Master Plan forecast of potential growth in enrollment. Currently, with an estimated 7,000 full time equivalent (FTE) students, HSU requires 2,750 parking spaces to meet weekday peak period demand. It was determined that approximately 450 on-street spaces in the City of Arcata are utilized to meet the existing HSU demand.

Table 2-1
Parking Demand Forecast

	Current Supply	AY 2003 7,000 FTE	AY 2010 8,000 FTE	AY 2015 10,000 FTE	AY 2025 12,000 FTE
Parking Supply - 100% Occupancy					
On-Campus - General, Staff, Meter	1,669	(279)	(560)	(1,118)	(1,675)
Resident[1]	413	(170)	(194)	(243)	(291)
Total - Surplus/(Shortfall)		(449)	(754)	(1,360)	(1,966)
Other - Restricted Use[2]	219				
Total Supply	2,301				
Required Supply		**2,750**	**3,055**	**3,661**	**4,267**
Parking Supply - 90% Occupancy					
On-Campus - General, Staff, Meter	1,669	(307)	(616)	(1,229)	(1,842)
Resident	413	(187)	(213)	(267)	(320)
Total - Surplus/(Shortfall)		(494)	(830)	(1,496)	(2,163)
Required Supply		**2,795**	**3,131**	**3,797**	**4,464**
Adjusted for On-Street Use	450	2,345	2,681	3,347	4,014

1Excess resident parking currently uses general lots or parks on-street

2 Other uses include ADA, reserved, service and loading spaces. These spaces combined are at 52 percent peak period utilization.

The assessment shown in Table 2-1 assumes that student and staff transportation modes remain relatively unchanged and that there is a proportional increase in staffing and faculty levels tied to FTE. The parking supply requirements are shown under conditions where all HSU parking needs are met on campus and parking facilities are utilized to capacity. The table also shows conditions under which the campus parking facilities are utilized at practical capacity of 90 percent and assumes that the current use of on-street parking (estimated 450 spaces) would remain available into the long-term future.

If the university were to increase current enrollment levels to 8,000 FTE there would be a need for a minimum of 305 on campus parking spaces in order to maintain current conditions (100 percent occupancy). This estimate includes the continued daily use of 450 on-street spaces. Approximately 830 additional spaces would be required to meet the expected demand of 8,000 FTE's entirely on campus at a level of practical capacity. Build out of the Master Plan to the 12,000 FTE level would require a near doubling of the current

HSU parking supply without the use of the on-street parking supply. Again, this assumes that the commute mode choice remains relatively stable and that staff and faculty levels are maintained at the current FTE ratio.

MASTER PLAN PROPOSED PARKING SUPPLY

The HSU Master Plan proposes an option to meet future parking demand on campus through the construction of parking structures and the development of surface parking. The master plan indicates that parking supply would be provided as shown in Table 2-2.

Table 2-2
Master Plan Estimated Parking Needs

Phase	Student Population (FTE*)	Parking Space Requirement
Phase 1	8,000 FTE	2,960 spaces
Phase 2	10,000 FTE	3,800 spaces
Phase 3	12,000 FTE	4,680 spaces

* FTE = Full-time equivalent

Table 2-1 (above) shows that the proposed master plan parking supply would be adequate and would meet or exceed forecasted peak period demand for the three FTE target levels. The Master Plan demand supply analysis summary assumes that the goal would be for all parking demand to be met on campus with a design capacity surplus of approximately ten percent.

The HSU Master Plan approach to campus parking supply is in part to consolidate facilities on the periphery of the campus thereby reclaiming sites that are now used for surface parking. Currently there are 52 separate surface parking lots ranging from two spaces to just over 300 spaces. These lots are distributed throughout the campus. The Master Plan envisions a pedestrian oriented circulation concept connected by walkways and bicycle paths with limited vehicle access to the interior of the campus.

The Master Plan proposes up to four parking structures constructed over the three phases identified above. Phases 1 tied to 8,000 FTE would construct a 1,000 space garage located off Union Street near Fieldhouse Court on the site of the existing tennis and basketball courts. Phase 2 at 10,000 FTE would construct a second structure of just over 1,000 spaces off L. K. Wood Boulevard on the site of the library surface parking lot. Phase 3 at 12,000 FTE would construct a structure (940 spaces) at 14th and Union Streets on the existing surface lot. The fourth structure would be constructed on the existing resident surface lot off Granite Avenue. This structure would contain approximately 1,240 spaces. There are no time lines associated with the construction of the parking structures. Phase 1 (8,000 FTE) is assumed to commence at four to five years following adoption of the Master Plan. The development of any HSU parking structure is tied to the ability to finance construction and operations rather than a target level of enrolled students.

Table 2-3
On Campus Parking Inventory

Type of Space	No. of Spaces
General Permit	998
Staff Permit	523
Resident Permit	413
Meter	148
ADA	74
Service	70
Reserved	35
Yellow	18
White	11
Other	11
Total	2,301

Source: WSA Survey - 2004

CURRENT FINANCIAL OPERATIONS

Table 2-3 shows a summary of campus parking spaces by type. As shown, there are 2,301 on-campus parking spaces. Of these, 523 spaces are designated for faculty and staff, 998 spaces are designated general permit and are for use by students, daily permit holders, and all other valid permit holders. There are 413 designated resident permit spaces and 148 metered spaces which are unrestricted. Of the remainder, there are 74 designated handicap spaces, 70 spaces for service vehicles and 35 reserved spaces. The balance of 40 spaces are used for

commercial (yellow zones) and passenger pick-up/drop-off (white zones) and other miscellaneous uses (bus stop, media center, telecommunications, etc.).

There are approximately 1,934 permit controlled spaces and an additional 148 metered spaces for a total of 2,082 on-campus revenue generating spaces. Based on recent parking surveys, peak weekday demand is for all of these spaces, plus an estimated 450 on-street spaces located on City of Arcata streets. Total peak daily HSU parking demand is estimated at 2,530 spaces. As a function of FTE the current parking demand ratio is .36 spaces per FTE. Estimates of FTE are from the Analytic Studies: *University Statistical Profile (1999-2003)* and the *CSU Fall Term Enrollment Summary (1999-2003).*

Parking Program Operations and Maintenance Costs

Table 2-4 shows HSU parking program annual operations and maintenance costs over a four year period. The program expenses for the last two years shown reflect the costs of some capital improvement projects. These items skew the typical annual maintenance and repair budget and should be reported as one time expenses rather than as part of the annual maintenance costs. Enforcement costs have undergone some changes in the way in which they are reported. The last two years show a significant rise in enforcement costs. Averaging the costs for the last two years minus the capital improvement expenses indicates that the HSU parking program spends approximately $265 per space (2,300 spaces) per year for operations and maintenance expenses. This per space cost is fairly typical of other CSU campuses and private schools that WSA has recently studied.

Table 2-4
Summary of Parking Program Annual Expenses

	2002-03	2001-02	2000-01	1999-00
CSU System Charge	$20,234	$21,944	$18,891	$18,891
Business Management	$129,966	$120,635	$115,928	$107,580
Enforcement	$389,323	$441,412	$303,877	$208,473
Risk Pool	$9,350	$4,271	$2,005	$2,005
Utilities	$23,135	$16,697	$18,000	$18,000
Facilities Maintenance-Improvements	$102,880	$80,000	$20,000	$20,000
Total Expenses	**$674,888**	**$684,959**	**$478,701**	**$374,949**

Source: HSU Commuter and Parking Services - 2004

Table 2-5 shows that the HSU parking program has operated at a net annual loss for the past two years shown (2001-2003). Overall, the HSU parking program has operated with relatively little change over the past decade and particularly the past five years. In terms of parking inventory, parking demand, revenues and costs little has changed over the last five years. This stability in operations is due primarily to the constant FTE rate which has stayed at or around the 7,000 level during the past years. The HSU parking program fund held a balance of $2,078,366 as of February 2004.

Table 2-5
Summary of Annual Parking Operations Income

	2002-03	2001-02	2000-01	1999-00
Revenue	$557,372	$534,590	$496,000	$500,000
Expenses	$674,888	$684,959	$478,701	$374,949
Net Income /(Loss)	**($117,516)**	**($150,369)**	**$17,299**	**$125,051**

Source: HSU Commuter and Parking Services - 2004

Annual Revenue

Parking revenues are generated primarily from the sale of permits to students, staff and resident students. Daily passes are sold at $2.00 and there are about 150 on-campus metered spaces at $0.75 per hour. Total parking revenue for four years (1999-2003) is shown in Table 2-6.

Table 2-6
Summary HSU Annual Parking Revenues

2002-03	2001-02	2000-01	1999-00
$557,372	$534,590	$496,000	$500,000

Source: HSU Commuter and Parking Services - 2004

For 2002-03 a total of 3,480 permits were sold. These were sold to students, staff and resident students and represent about 75 percent of the total annual revenue. Approximately 27,400 daily permits were sold representing 10 percent of the annual revenue and a total of 113,435 meter hours account for the remaining 15 percent of annual 2002-03 revenues. As a function of FTE there is a ratio of .50 permits for FTE (3,480/7,000 FTE) or, one permit sold for every two FTE's. Student/general permits represent 55 percent of permits sold while staff permits account for 28 percent and resident students 17 percent.

Table 2-7 shows recent (2003) annual revenue generated by the HSU parking program. The revenue is derived from the sale of permits (general, staff and resident), the sale of daily permits and parking meter fees. The 2003 revenue of $557,330 is tied to a total of 1,935 permit required spaces and about 150 metered spaces.

Table 2-7
Summary HSU Annual Parking Revenue

Permit Revenues	$417,530
Daily Permits	$54,800
Permit Spaces	1,935
Permit Sold	3,502
Permit per Space	1.81
Revenue per Space	$244
Revenue per Permit	$135
General Permit Fee (per month)	$15.00
Average Permit Fee (per month)	$9.93
Meter Revenues	$85,000
Total Revenue	**$557,330**

Source: HSU Commuter and Parking Services - 2004

FINANCING PARKING

Increasing Revenue through Fee Adjustments

Current parking program annual revenues based on a total of approximately 2,085 spaces would not be sufficient to pay for a new 1,000 space structure. As shown in the table, while the cost of a general parking permit is $15 per month, the average cost of all 3,502 permits (excluding daily permits) is about $9.93 per month. This lower average cost is due to lower rates charged staff and faculty. If the permits sold in 2003 were $15 per month for all users the HSU parking program revenue would have exceeded $770,000 for the year.

Table 2-8 shows potential revenue generation under existing conditions with increases to the per month cost of a parking permit. This model assumes that the number of permit revenue generating spaces remains constant (1,935 permit spaces) and that the demand for permits remains unchanged (1.81 permits per space). Revenue associated with daily permits and metered spaces is also unchanged. It is assumed that all permits (general, staff and resident) are priced at the full monthly rate. Under these conditions, a permit cost of approximately $35 month would generate revenue capable of meeting the annual debt service of a 1,000 space structure ($1,124,100) and covering basic annual O&M costs ($575,000) for a total of 2,300 on-sit parking spaces.

Table 2-8 Monthly Fee Increases and Potential Revenue						
	Existing	Potential Fee Increases				
General Permit Fee	$15.00	$16.00	$20.00	$25.00	$30.00	$35.00
Average Permit Fee	**$9.93**	**$16.00**	**$20.00**	**$25.00**	**$30.00**	**$35.00**
Permit Revenues	$417,530	$672,451	$840,564	$1,050,705	$1,260,846	$1,470,987
Daily Permits	$54,800	$54,800	$54,800	$54,800	$54,800	$54,800
Permit Spaces	1,935	1,935	1,935	1,935	1,935	1,935
Permit Sold	3,502	3,502	3,502	3,502	3,502	3,502
Permit per Space	1.81	1.81	1.81	1.81	1.81	1.81
Revenue per Space	$244	$376	$463	$571	$680	$789
Revenue per Permit	$135	$169	$212	$300	$423	$528
Meter Revenues	$85,000	$85,000	$85,000	$85,000	$85,000	$85,000
Total Revenue	**$557,330**	**$812,251**	**$980,364**	**$1,190,505**	**$1,400,646**	**$1,610,787**

In addition to revenues generated by the sale of permits and from meters the university could implement an event pay to park program. Revenue generated from event parking on-campus was considered under three flat rate scenarios. Data supplied by HSU staff indicated that approximately 46,000 persons attend athletic events and an estimated 56,000 persons attend cultural (concerts, dance, theater and lectures) events on campus per year. Currently, people attending events on-campus park for free. Potential parking revenue from these events was calculated for $2, $3 and $5 flat rates. The estimated annual event parking revenue is shown in Table 2-9.

Event revenue calculation assumptions are shown in Appendix B. Attendance estimates were not available for the annual high school graduation ceremonies and for the approximately five high school football games played at the campus. Potential parking revenue from these events is not included in this estimate. Administrative and operation costs related to an event parking program were estimated at 20 percent of the event parking revenues.

Table 2-9 Summary of Event Parking Revenue	
Rate	Revenue
$2	$50,000
$3	$75,000
$5	$125,000

Parking Structure Finance

Construction Costs - Table 2-10 shows a preliminary financial profile for a 1,000 space, four level parking structures. The profile is based on the concept plans and developed approximate construction costs for the L.K. Wood Boulevard structure (library lot). Appendix A provides detailed information related to structure design and costs. The 1,000 space parking structure financial profile shown in the table is meant to serve as an adequate assessment tool for both the Phase 1 and Phase 2 garage concept plans.

As shown the estimated cost of parking structure construction is approximately $13,345 per space. The 1,000 space structure construction costs would be $13.34 million. The amount of a bond issue to finance the project would be $15.08 million, which includes design fees, other development costs and financing costs. The annual debt service on this amount, assuming a 25-year bond at a 5.5% interest rate would be

$1.12 million. The operating cost of the structure which includes maintenance, utilities, administration, enforcement and a fund for long term preventative maintenance would be 250,000 per year. As a result the annual cost (debt service and O&M costs) of the parking structure would be $1.37 million per year. The typical cost per space would be $1,374 per year.

Finance Options - Building, operating and maintaining parking structures is expensive. The CSU system is straightforward on financing and constructing new parking facilities. Approved projects are funded under the Systemwide Revenue Bond Program (SRB). The SRB can be repaid with the following:

- Parking fee revenues
- Housing facility revenues
- Student union facility revenues
- Continuing education facility revenues
- Health center revenues
- Auxiliary operations

All proposed projects must demonstrate the ability to cover the annual operating costs and debt service payment. As indicated, the debt service costs associated with a thousand space structure is estimated at $1.124 million annually over 25 years. The total, including O&M costs is estimated at $1.374 million annually.

The estimated permit cost of $35 per month to fund a parking structure is conservatively high in that it reflects no change to either meter or daily permit revenues which may be increased. The number of spaces has been held constant, however it would be possible to construct a 1,000 space garage on the library surface lot while maintaining the existing parking supply. Under this case there would be approximately 2,935 revenue generating spaces available (2,083 existing, minus 148 library surface lot, plus 1,000 new = 2,935 spaces) on campus. The benefit of this option is that parking revenues could be maximized and used to accelerate the pay down on the garage.

Table 2-10
Summary of Parking Structure Construction and Financing Costs

PARKING STRUCTURE	
Number of levels	4
Total Area (s.f.)	291,853
Number of spaces per level	250
Number of spaces in structure	1,000
CONSTRUCTION COSTS	
Structure	$10,425,000
Contractor OH/Profit - 8%	$83,4000
Contingency - 10%	$1,042,500
A&E Other Indirect Fees - 10%	$1,042,500
Total Construction Costs	$13,344,000
Construction Cost/s.f.	$45.72
Construction Cost/per space	$13,344
PROJECT FINANCING	
Bond Interest Rate	5.5%
Bond Years	25
Annual O&M Costs/per space	$250
Annual O&M Costs	$250,000
Net Financing Costs - 13%	$1,734,720
Annual Debt Service	$1,124,100
Total Issuance and Development Costs	$15,078,720
Typical Annual Cost	$1,374,100
Cost per Space/Year	$1,374

Source: IPD/WSA - 2005

Appendix B provides a financial proforma table for the HSU parking program. The proforma presents a dynamic look at the HSU parking program with a 1,000 space structure over time. Factored into this analysis is a growth in FTE and hence parking demand and a growth in O&M expenses. The table indicates that the cost of financing a structure and maintaining a total of 2,930 spaces can be financed with parking permit costs of $30 per month once the structure is built. The proforma is conservative in that it does not account for any contribution from the parking fund. The current fund hold just over $2 million.

Any payment from the fund toward financing the structure would result in a lower annual debt service payment. Lowering the debt service would allow for a reduction in monthly permit fees.

While $30 a month for a parking permit is double the current cost it is a rate that is within the range of monthly parking fees at other CSU campuses. Table 2-11 shows a listing of current and proposed monthly parking fees throughout the CSU system.

Table 2-11
Summary of CSU Parking Permit Costs

Campus	Current Fee per Month	Proposed Fee FY 2004/05
Chico	$16.00	$24.00
Channel Islands	$20.00	$29.00
Fullerton	$22.00	$32.00
Long Beach	$14.00	$21.75
Northridge	$28.00	$28.00
Pomona	$24.00	$30.00
San Diego	$24.00	$26.00
San Jose	$35.00	$42.50
SLO	$20.00	$23.00
San Marcos	$35.00	$35.00
Stanislaus	$12.00	$25.00

Depending on the contribution from the parking fund prior to construction the cost of a parking permit could range between $25 and $30 per month and provide annual debt service coverage.

The proforma also shows HSU parking demand over time. It is noted that if a 1,000 space garage is constructed by academic year 2008-09 as shown, parking conditions would become saturated as they are currently within approximately six years. This estimate of future demand is based on an FTE level of 8,745 (2013-2014) and the assumption that the off-campus supply of approximately 450 spaces remains available. It would be at this point that the Phase 2 structure (1,000 spaces) may be constructed either at the athletics site or the library parking lot.

Program Framework

A successful TDM effort will prioritize programs that can be effective, cost efficient and in short provide the most "bang for the buck". Campus TDM programs are coordinated efforts to improve transportation options and reduce trips at the university and other campus facilities. TDM tends to be more cost effective than other solutions to local traffic and parking problems while providing improved transportation choices for students and staff. Campus TDM programs can include:

- Parking Management and Parking Pricing
- Ridesharing
- Transit Improvements and Fare Discounts
- Shuttle Services
- Commute Trip Reduction Programs
- Alternative Work Schedules
- Teleworking
- Guaranteed Rides Home
- Traffic Calming and Car Free Planning
- Pedestrian and Bicycle Improvements
- Bicycle Parking
- Universal Design
- How to Guide for Alternative Transportation
- Marketing and Promotional Campaigns
- Security Measures
- Special Event Transportation Management
- Smart Growth and New Urbanist principles to on-campus development

Parking Management

Significant improvements in the use of parking on the HSU campus can be accomplished with judicious implementation of some parking demand management measures. Such measures are important to consider because they often can be implemented quickly with little cost. HSU employs a traditional campus parking management program which relies on the sale of permits and enforcement of restrictions. The program offers services related to ridesharing, transit service and bicycling. Specific HSU parking program elements are considered later in this chapter.

Currently, there is no restriction to the purchase of a parking permit if you are an enrolled student, a faculty or staff member. This approach, while arguably fair, has resulted in a pronounced imbalance in parking demand versus parking supply on-campus. As noted in Chapter 3, survey respondents commented overwhelmingly that the primary concern in terms of campus access was the lack of adequate parking. Better than 60 percent of the survey comments related to on-campus parking deficiencies with the key complaint being that the purchase of a parking permit did not guarantee an available space on a daily basis.

There are a number of available measures that would alleviate the current permit parking shortfall without expanding the existing on-campus supply. These measures involve the reduction of parking demand through the restriction or limitation of parking permits and have been used successfully at a number of public and private academic institutions including the CSU system. The following measures would reduce current on-campus parking demand:

- Restrict residential permits to number of residential spaces (currently 413 spaces).
  - — Resident permits could be sold at a premium on a first come first serve basis.
  - — Sell resident permits by means of a lottery.
  - — Restrict sale of resident permits to juniors/seniors and graduate students only.

- Restrict use of residential permits in on-campus general permit lots.
  - — Restrict sale of general parking permit to resident students.
- Limit the number of general parking permits sold.
  - — Set a minimum distance of 2-miles from campus in order to be eligible for a permit.
  - — Changes in the parking permit system to provide preferential parking by charging higher rates for some lots or locations

These measures would reduce on-campus parking demand an estimated 10 to 30 percent. The measures would also meet with strong resistance and be characterized by some as unfair. Implementing restrictions without viable alternatives is a recipe for conflict. The restrictions proposed here would stand a better chance of success if transit service were perceived as a dependable and convenient alternative by more commuters, if ridesharing was a workable option for more commuters or if an off-campus parking lot were available within walking distance or linked to the campus via a shuttle service.

Parking Pricing

When considering changes to basic parking program policy it is necessary to address parking pricing. The HSU parking program has operated at or below break-even net income for the past several years. There are a number of contributing factors that affect the programs financial operations. Aside from annual operating and maintenance expenses the factor that most affects parking finances is the revenue generated by permit sales. At HSU general permits at $15 per month are under priced; the cost of staff and faculty permits are even lower than general permits. In academic year 2003, the parking program roughly spent $293 per space in maintenance and operation costs. Income for that year equaled $242 per space, resulting in a annual income loss of $117,000. Had the total number of permits sold for 2003 been priced evenly at $15 per month the HSU parking program would have operated with a net income increase of just over $91,000 for the year.

Parking Permit Cost Standardization - It is recommended that the cost of all HSU semester permits be increased and that all permits (general, resident, faculty and staff) be equally priced. It is understood that there are institutional and contractual barriers to such a change. However, it is important to the future success of the Master Plan program to insure that the HSU parking program generates an annual surplus. As noted, parking spaces are an asset that have a real cost associated with operation and maintenance. Beyond the quantifiable costs are the constraints placed on land that is used for parking. HSU will need to recover annual operating expenses at a minimum and reclaim some of the land currently paved for parking in order to implement the goals of the Master Plan.

Reducing the number of people who drive and park on campus while improving transportation choices is a primary goal of a TDM program. Available studies indicate that a campus TDM program often reduces automobile trips by 10-30 percent (Brown, Hess and Shoup, 1998). One of the key contributing factors to successful campus TDM programs are parking fees which are not subsidized but reflect real costs in terms of facility operations and maintenance. Campus parking fees need to recover program and facility costs. Of the 23 CSU campuses surveyed, the average general permit fee is just over $19 per month. Almost half the campuses charge the same fee for students, faculty and staff. Using the average CSU system parking permit fee for all HSU permits sold in AY 2003 would generate annual revenue of over $883,000 and would result in an annual net income of approximately $205,000.

Flex Parking Option - A Flex Parking Program encourages people with parking permits to reduce the amount they drive to campus. By using alternative modes of transportation, employees help reduce parking demand and decrease campus congestion. Flex parking is a pay-as-you-use parking system - the less you park, the less you pay. Participants use a small In-Car Meter that is activated with Smart Cards. The Cards are programmed to charge hourly parking rates specific to each base lot and to record parking events.

The University of Wisconsin at Madison has seen a reduction in days parked through the year since implementing Flex parking and has expanded the program for the 2004-2005 parking year. Approximately 400 new participants were added to bring the program number to over 1,000. By combining alternatives such as biking, busing, carpooling, and walking with occasional driving, participants help create a cleaner and healthier campus environment and reduce the need for expanding transportation infrastructure.

Flex parking participants are only charged for parking during the hours of 7:00 a.m. to 4:30 p.m., Monday through Friday. The In-Car Meters must be turned on during these times. In Wisconsin the State allows participants to use pretax dollars to pay for Smart Cards using the "Pay Me Back" option.

Implementing parking permit restrictions and increasing permit fees would likely be viewed by some negatively but balancing restrictive measures with viable transportation choices represents the goal and challenge of developing a successful TDM program. This chapter will consider the enhancement of existing strategies and the development and implementation of new transportation options that will improve access and mobility at the HSU campus beyond the single-occupant vehicle. Key options and strategies will address ridesharing, transit improvements, pedestrian and bicycle improvements, commute trip reduction programs, incentive options, marketing and promotion efforts.

Ridesharing

The commuter travel survey conducted for this report indicates that approximately seven percent of the daily trips made to the campus are in carpools (with three or more occupants per vehicle), while almost 60 percent are made by people who drive alone. A closer look shows that just over eight percent of students who live off-campus use ridesharing arrangements, and just over 55 percent drive alone. Faculty and staff have the lowest rideshare percent at 5.6 percent and the highest drive alone level at just over 80 percent. Table 4-3 shows a summary of automobile use for all visitor, for off-campus students and for faculty and staff.

Ridesharing is one of the most common and cost effective alternative modes, particularly in campus settings, rural areas and areas that are not well served by public transit. Ridesharing is also an important mobility option for non-drivers. Ridesharing programs work best for users with predictable schedules such as administrative staff and to a lesser degree faculty. Student's changing schedules generally present a challenge to daily ride matching efforts. Rideshare programs that include incentives such as guaranteed and priority parking, guaranteed-rides-home and financial incentive programs have been shown to reduce campus commute trips by 10-30 percent. Programs implemented without such incentives often are less successful. The most effective programs tend to have paid parking subsidies for alternative modes, and other incentives to encourage reduced automobile commuting.

Table 4-3
Summary Campus Transportation Modes

Commute Mode Choice	All Commuters	Students Off-Campus	Faculty/Staff
Drive alone	59.5%	55.2%	80.2%
Carpool	7.2%	8.1%	5.6%
Total	66.7%	63.3%	85.8%

Source: WSA April-May 2004

Initial Actions - The results of the HSU commute access survey indicate that there may be an untapped audience for ridesharing among staff. As noted, HSU currently operates a program to assist people interested in joining a carpool and carpools (three plus occupants per vehicle) are allocated preferential on-campus parking. Initial recommendations would be to focus on HSU staff to attempt to increase ridesharing activity. This could be done through a program of focused marketing/promotional activities, on-line ride matching capabilities, and the offer of incentives (financial payment).

An important component of a TDM program is the establishment of a Guaranteed Ride Home service that provide an occasional subsidized ride to commuters who use alternative modes, for example, if a bus rider must return home in an emergency, or a car pool user must stay at work later than expected. This addresses a common objection to the use of alternative modes. Guaranteed Ride Home programs may use taxies, company vehicles or rental cars. The guaranteed trips may be free or they may require a modest co-payment. The cost of offering this service tends to be low because it is seldom actually used. These programs are a common component of TDM programs.

Benefits / Goals - Ridesharing can reduce peak-period vehicle trips and increase commuters travel choices. It reduces congestion, road and parking facility costs, and pollution emissions. Ridesharing tends to have the lowest cost per passenger-mile of any motorized mode of transportation, since it makes use of a vehicle seat that would otherwise be empty and does not require additional facilities on-campus. Ridesharing provides consumer financial savings (as estimated in Table 4-4 below) and are particularly helpful to commuters who cannot drive or lack a reliable automobile. The *SMART Trip Reduction Manual* published by Pollution Probe provides information on calculating the benefits of ridesharing to employers and employees.

Table 4-4
Estimated Monthly Commuting Costs

Round Trip Miles	Drive Alone	3-Rider Car Pool	10-Rider Van Pool
30	$193	$64	$31
40	$257	$86	$37
50	$321	$107	$43

Source: Victoria Transport Policy Institute, TDM Encyclopedia, Ridesharing, June 2004.

The first year benchmark for a ridesharing program targeted at HSU staff would be for a 10 percent mode share for carpooling. The current level for staff is estimated at 5 percent. The second year of concerted effort would seek a 20 percent mode share which is realistic based on available data for universities of the size and geographic setting of HSU. The rideshare program would continue to be available and promoted to all members of the university community, but staff participation should be used as the measure of effectiveness for the program.

Transit Improvements / Fare Discounts

Funding is often limited for campus TDM programs and it is essential to identify strategies that are workable and have the support of the administration and the university community. An increasing number of colleges and universities offer free or significantly discounted transit passes to students and sometimes staff (called a "UPASS"). Table 4-5 summarizes the costs and impacts of several UPASS programs. Students voted overwhelmingly (most referenda received 75 percent or more approval) to support many of these programs, even though it increases their fees. Some UPASS programs include a set number of daily parking permits (per month, per semester) that allows for flexibility in commute travel.

Existing Parking Geometrics / Dimensions

Observations of the larger on-campus permit parking lots indicate that the existing parking areas are being fully utilized. The potential for changes in parking dimensions and parking lot layouts appear limited. The general permit lots, South Mai Kai (230 spaces), 14th / Union Streets (148 spaces), Griffith Hall (109 spaces) and North Mai Kai (73 spaces) all operate at or near full capacity during the peak period. At all of these lots stall and aisle widths were found to be tight. Attempting to develop additional stalls on these existing sites could result in a worsening of circulation and an increase in on campus vehicle activity. Under current conditions the opportunity to expand the number of stalls at existing facilities is limited.

The current HSU parking management program operates under conditions of high demand coupled with a constrained on-site supply. On average, two permits are issued for each space requiring a permit. Over issuing permits by as much as 40 to 50 percent is not unusual at many university campuses and institutions. It is understood that parking demand varies hour to hour and day to day and issuing more permits than spaces ensures an efficient use of parking capacity. HSU however is close to over issuing permits by 100 percent of the permit parking supply. This condition results in periods of poor on campus vehicle circulation, the interference with other modes of mobility on campus, and a high level of frustration on the part of those looking for a parking space and those who must negotiate vehicle congestion on foot or a bicycle. The issues and potential solutions related to constrained parking conditions and the affects on overall campus mobility are at the core of this report and will be addressed in detail in subsequent chapters.

CURRENT TRANSIT SERVICE

Transit service to HSU is available from both the Arcata & Mad River Transit System (A&MRTS) and the Redwood Transit System (RTS). Eureka Transit passengers may access the campus through connection to RTS. Bus stops are located at both the HSU Library and 14th and B Streets in the southern part of campus. Fares for HSU students, faculty and staff on A&MRTS and RTS are subsidized by the University through collected parking fines.

A&MRTS operates two routes which operate within ¼ mile of most Arcata residents: the Gold Route which serves northern Arcata and HSU and the Red Route which provides connection between southern Arcata and HSU. Both routes stop on campus at the HSU Library. In addition, the Red Route also has a stop at 14th and B Streets. Service is free for HSU students, faculty and staff with presentation of a valid ID card; A&MRTS provides approximately 130,000 HSU rides a year for students, faculty and staff accounting for 75 percent of total ridership.

Service hours for A&MRTS vary based on the HSU calendar. During the fall and spring semesters, service runs hourly during weekdays from 7:00 AM to 10:00 PM. On Saturdays service is provided every two hours between 9:00 AM and 5:00 PM. Summer and winter hours follow the same weekday and Saturday schedule with the exception of shorter weekday hours with service ending at 7:00 PM. No service is provided on Sundays and holidays.

The service area for Redwood Transit System (RTS) extends from Trinidad to Scotia. In addition to connections with Eureka Transit System, RTS also services park-and-ride lots along U.S. 101 at Kenmar Road in Fortuna, Elk River/Herrick exit in Eureka and at the Trinidad exit. All buses are currently outfitted with bike racks. Bus frequency varies throughout the day and is dependent upon time of day as well as point of origin/destination. In general, service extends from 6:00 AM-10:00 PM on weekdays and 8:00 AM-7:00 PM on Saturdays. There is no service on Sundays. Discounted 10-ride ticket books are

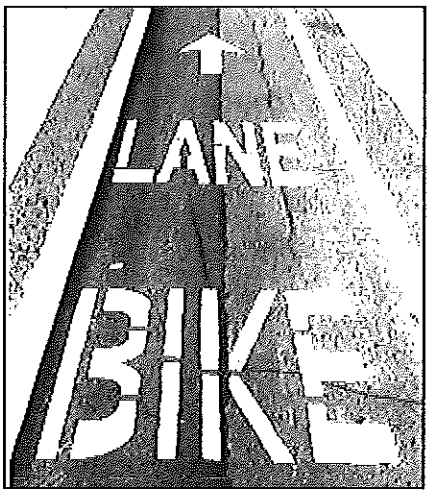
Parking meter and permits requirements are in effect from 7:00 AM-10:00 PM, Monday through Thursday and from 7:00 AM to 5:00 PM on Friday. Finals week and summer session are included in these restrictions. Residential permits are required in residential parking areas except after 5:00 PM on Friday and all day Saturday and Sunday. Daily permits are valid only for the day purchased and may be used in staff lots after 5:00 PM.

Carpool Priority

Parking & Community Services offers tips for carpooling and park-and-ride facilities. In addition, a free ride matching service for one trip or on-going trips is available. Carpool priority parking is available to vehicles with three or more occupants unless the car's capacity is less. The carpool vehicle is required to stop by the parking office to verify the number of occupants. The driver is issued a permit which will allow them to park for the day in a reserved metered space without paying the meter fee. The carpool vehicle must have a valid HSU permit of some type in addition to the carpool permit. Reserved carpool spaces (eight marked spaces) are located at the north end of Rossow Street and are generally considered to be in the core campus area.

Motorcycles/Mopeds

Parking permits for motorcycles and moped cost one-fourth that of auto permits. They can park on any unmarked legal street space on campus and in 15 designated motorcycle zones throughout campus with a valid permit.



Bicycles

Bike racks are located throughout campus for use by students, staff, faculty and visitors. Currently, public bicycle parking facilities include about 1,100 spaces. In addition, resident student bike storage rooms are available at most of the residence halls. Bicycle storage spaces for resident students number 360 spaces. For assistance with repairing and maintaining of bicycles, the Bicycle Learning Center on campus provides tools for bike repair and volunteers to teach repair and maintenance. The University Police provide free bicycle licensing as well as tips for bicycle theft prevention.

Currently there are no bicycle lanes on campus. However, the City of Arcata has installed bike lanes on some roadways leading to campus. A more comprehensive bikeway network has been identified for future implementation. The existing bike lanes available in proximity to HSU are:

- L.K. Wood Boulevard from Redwood Avenue to 14th Street;
- 14th Street from F Street to L.K. Wood Boulevard;
- G Street from Sunset Avenue to Front Street;
- H Street from Sunset Avenue to Samoa Boulevard;
- 7th Street from L Street to Union Street;
- Bayside Road from Union Street to Buttermilk Lane; and
- Sunset Avenue from H Street to L.K. Wood Boulevard (over crossing of U.S. 101).

Estimate of University Off-Campus Parking

The on-street survey did not capture the full extent of the daily off-campus parking associated with HSU. Further observations and spot surveys conducted outside of the 12 block study area indicate that on-street parking related to the university occurs in the areas west of Highway 101 (roughly between 16th and 5th Streets, and F and H Streets. On-street parking related to the university was also identified to the north of the campus, California Street was observed to have a number of parked vehicles with valid university general parking permits. Overall, it is estimated that between 400 and 450 vehicles related to the university park on city streets during a weekday when the university is in session. This estimate is based on survey findings, observations related to mid morning curbside utilization and the number of City streets controlled by the residential preferred parking program.

The estimate of on-street university generated parking should be viewed as a dynamic process. While a significant portion of on-street parking can be characterized as long-term (five plus hours) a number of on-street vehicles park for shorter durations (under four hours). Therefore, it would be unusual to find the daily total estimate of 450 vehicles parked at one time for an extended period. The use of City streets for university parking is significant in that it accounts for almost 20 percent (at 450 vehicles) of the total daily supply of parking utilized by the university.

CURRENT PARKING AND COMMUTER PROGRAM

Campus parking management and enforcement is under the auspices of Parking & Commuter Services, University Police Department. Parking on campus requires a valid permit. Parking is available on a 'first come, first serve' basis. Possession of a permit does not guarantee the availability of a space. Most areas are marked with posted signs as to the type of permit required (general, staff and student resident). If spaces are not marked, any permit is acceptable. Permits can be purchased by the semester or on a daily basis. Reduced rate permits are available for evening-only, summer session and motorcycle parking. Permit rates are shown in Table 1-8.

Table 1-8
Permit Fees by Semester

Permit Type	Semester Fee
Residential / General Permit - Semester	$67.50
Summer Session	$45.00
Summer Weekly	$4.50
Motorcycle Semester	$17.00
Evening Semester	$25.00
Daily Rate	$2.00

In addition to permit parking, parking meters are available on campus at the rate of $0.75/hour. Meter requirements are in effect 7:00 AM to 10:00 PM, Monday through Thursday, and 7:00 AM to 5:00 PM on Friday. These spaces are open to all vehicles. Parking fees can be paid in coin at the meter or with the use of a debit card purchased on campus. Permits are not valid payment for these spaces.

Parking regulations are in effect 24 hours a day, 365 days are year. The following restricted zones are enforced at all times:

- Black & White - Service vehicles
- Blue - Disabled
- Yellow - Loading
- White - Passenger loading or mail drop

available at the campus ticket office for HSU students, faculty, and staff with valid ID. RTS provides approximately 26,000 HSU student, faculty and staff rides per year.

Appendix 3:

Proposed Survey Questions:

1. Are you?
- faculty - staff - student

Hannah Farrell
Tentative Survey Questions

1. Would you be more likely to use alternative modes of transportation (bus, carpool, bicycle, etc.) if parking fees were to increase by: (if you are not part of a (relative to your) bargaining unit that negotiated parking had a parking fee unit) fee if you are a member of a bargaining unit
   (a) $50
   (b) $100
   (c) $150
   (d) $200
   (e) Doesn't matter to me
2. Would you be more likely to ride the bus if it arrived more frequently at bus stops: instead of driving the bus
   (a) Every 30 minutes
   (b) Every 20 minutes
   (c) Every 15 minutes
   (d) Doesn't matter to me
   (e) I already ride the bus most days
3. Do you currently ~~ever~~ carpool to and from school, events, or to run errands?
   (a) Occasionally, ~~if it is convenient~~
   (b) Never
   (c) Frequently
   never - 1 week - 1 month - frequently (many X/week) there is an incentive to carpool that everyday
4. Did you know that ~~if you carpool to school~~ (meaning a car with 3 or more people), ~~you can be~~ granted a free parking pass ~~for the day~~? at the meeters (w/ a
   (a) Yes
   (b) No
5. Would you ever use a University-based online forum (similar to Craigslist rideshare) to find people to carpool with in your area if such a forum existed?
   (a) Maybe, I would have to check out the forum
   (b) Yes definitely
   (c) No never
6. If an easy-to-use carpool forum existed, would you be more likely to carpool more frequently to and from school, events, or to run errands?
   (a) Maybe
   (b) Yes
   (c) No
   never - 1/month - 1/week - frequently (many X/week) - everyday
7. Would you be more likely to carpool to and from campus if there were designated carpool parking spots located on campus?
   (a) Maybe
   (b) Yes
   (c) No

Did you know there is an incentive to carpooling? If you drive to school with 3 or more people & have a parking permit you can park for free at any parking meter

Appendix 4:

Parking and Transportation Meeting Information and Agendas:

HUMBOLDT STATE UNIVERSITY

Parking & Commuter Services • University Police Department

PARKING SERVICES

PARKING AND TRANSPORTATION
(and Public Safety)
COMMITTEE MEETING AGENDA

2:00 PM, February, 16 2012, NHE 115

1. Introduction of persons present, membership updates
2. Discussion/Approval of Minutes
3. New Priority/Urgent/Safety Items
   a. Bike Race March, 25 0600 - ~1400 (rain or shine)
   b. Emergency Alert Notification Test March 22 @ 1050 (1 cycle)
   c. Open
4. REPORTS/UPDATES Related to Parking & Transportation:
   a. HSU Parking and Commuter Services (Celina + Lynne)
      i. Service vehicle parking time limits for non-exempt plates
   b. HSU Facilities Management News (Traci)
   c. City of Arcata Transportation Data (Larry)
   d. City of Arcata Public Works
   e. Open
5. CORRESPONDENCE/CONTACTS/ACTION ITEMS
   a. Request by Arcata & RTS for funding a Sunday Trinidad to Scotia Bus
   b. Arcata zoning the AFD new fire station lot (Sunset @ the skate park) for temporary parking lot use.
6. PRIORITY OLD BUSINESS
   a. Public Safety Walk completed
7. OTHER OLD/ONGOING BUSINESS
   a. Campus policy on courtesy parking
   b. Painting/Marking Crosswalks: Laurel St
   c. Parking Manager vacancy
8. NEW BUSINESS:
   a. Open
9. ANNOUNCEMENTS:

Jack pass cost
Arcata
$130,000
RTS
$190,000
Eureka?

what is cost of jack pass? — sunday bus RTS need funding

parking should not pay for parking someone has to pay respective dept.

Next Meeting: _____, 2011, _____, NHE

Meeting minutes will be distributed to all meeting participants via email. Meeting minutes will be approved as the official meeting record unless changes are requested in writing.

1 Harpst Street • Arcata, California 95521-8299 • 707.826.3773 • Fax 707.826.3843 • Email parking@humboldt.edu

Executive Memorandum

February, 2003
P 03-01

SUBJECT: PARKING AND TRANSPORTATION COMMITTEE

The Parking and Transportation Committee is established to serve as a forum for parking and transportation issues. This committee will receive input, evaluate parking and transportation strategies, make recommendations for action to the President, and implement strategies as directed by the President.

Members:

- Chief of Police, Committee Chair *(Lynne Soderberg)* acting parking manager
- Two students, recommended by the Associated Students (1-year term) *(Nicholas Bollier – 11/2011 – 11//2012*
- Faculty member, recommended by the University Senate (2-year term) (_____)
- Faculty member, recommended by the University Executive Committee (2-year term) (_____ *exp 10/2011)*
- Staff member (non-management), recommended by the Staff Council (2-year term) *(Brooke Fiore; Eddie Aguilar exp 10/2011)*
- Director of Student Disability Resource Center *(Kevin O'Brien)*
- Director of Contracts, Procurement, & Risk Management *(Dave Bugbee)*
- Director of Facilities Planning *(Traci Ferdolage)*
- Fiscal Affairs *(Trella Chun-Ming)*
- Supervisor, Parking & Commuter Services *(Celina Ferrierra)*
- Representative, City of Arcata, appointed by the City Council/City Manager *(Larry Pardi)*

Distribution: Faculty and Staff
Committee Type: Administrative

HUMBOLDT STATE UNIVERSITY

Parking & Commuter Services • University Police Department

PARKING SERVICES

PARKING AND TRANSPORTATION
(and Public Safety)
COMMITTEE MEETING AGENDA

2:00 PM, February, 16 2012, NHE 115

1. Introduction of persons present, membership updates

2. Discussion/Approval of Minutes

3. New Priority/Urgent/Safety Items
   a. Bike Race March, 25 0600 - ~1400 (rain or shine)
   b. Emergency Alert Notification Test March 22 @ 1050 (1 cycle)
   c. Open

4. REPORTS/UPDATES Related to Parking & Transportation:
   a. HSU Parking and Commuter Services (Celina + Lynne)
      i. Service vehicle parking time limits for non-exempt plates
   b. HSU Facilities Management News (Traci)
   c. City of Arcata Transportation Data (Larry)
   d. City of Arcata Public Works
   e. Open

5. CORRESPONDENCE/CONTACTS/ACTION ITEMS
   a. Request by Arcata & RTS for funding a Sunday Trinidad to Scotia Bus
   b. Arcata zoning the AFD new fire station lot (Sunset @ the skate park) for temporary parking lot use.

6. PRIORITY OLD BUSINESS
   a. Public Safety Walk completed

7. OTHER OLD/ONGOING BUSINESS
   a. Campus policy on courtesy parking
   b. Painting/Marking Crosswalks: Laurel St
   c. Parking Manager vacancy

8. NEW BUSINESS:
   a. Open

9. ANNOUNCEMENTS:

monthly meetings

Next Meeting: _____, 2011, _____, NHE

Meeting minutes will be distributed to all meeting participants via email. Meeting minutes will be approved as the official meeting record unless changes are requested in writing.

1 Harpst Street • Arcata, California 95521-8299 • 707.826.3773 • Fax 707.826.3843 • Email parking@humboldt.edu

Brooke Fiore 826-4667 Parking Website

Executive Memorandum

February, 2003
P 03-01

SUBJECT: PARKING AND TRANSPORTATION COMMITTEE

The Parking and Transportation Committee is established to serve as a forum for parking and transportation issues. This committee will receive input, evaluate parking and transportation strategies, make recommendations for action to the President, and implement strategies as directed by the President.

Members:

- Chief of Police, Committee Chair *(Lynne Soderberg)*
- Two students, recommended by the Associated Students (1-year term) *(Nicholas Bollier – 11/2011 – 11//2012*
- Faculty member, recommended by the University Senate (2-year term) (_____)
- Faculty member, recommended by the University Executive Committee (2-year term) (_____ *exp 10/2011)*
- Staff member (non-management), recommended by the Staff Council (2-year term) *(Brooke Fiore; Eddie Aguilar exp 10/2011)*
- Director of Student Disability Resource Center *(Kevin O'Brien)*
- Director of Contracts, Procurement, & Risk Management *(Dave Bugbee)*
- Director of Facilities Planning *(Traci Ferdolage)*
- Fiscal Affairs *(Trella Chun-Ming)*
- Supervisor, Parking & Commuter Services *(Celina Ferrierra)*
- Representative, City of Arcata, appointed by the City Council/City Manager *(Larry Pardi)*

Distribution: Faculty and Staff
Committee Type: Administrative

HUMBOLDT STATE UNIVERSITY

Parking & Commuter Services • University Police Department

PARKING AND TRANSPORTATION
(and Public Safety)
COMMITTEE MEETING AGENDA

2:00 PM, April 19, 2012, NHE 116

1. Introduction of persons present, membership updates

2. Discussion/Approval of Minutes – No Minutes From Last Meeting

3. New Priority/Urgent/Safety Items

    a. Summer Construction Projects
    b. Open

4. REPORTS/UPDATES Related to Parking & Transportation:
    a. HSU Parking and Commuter Services (Celina + Lynne)
        i. Parking signage Project
    b. HSU Facilities Management News (Traci)
        i. Library Bike Program – ???
    c. City of Arcata Transportation Data (Larry)
    d. City of Arcata Public Works
    e. Open

5. CORRESPONDENCE/CONTACTS/ACTION ITEMS
    a. Request for information/procedure regarding parking permits rate increases: Lynette Villagomez

6. PRIORITY OLD BUSINESS
    a.

7. OTHER OLD/ONGOING BUSINESS
    a. Campus policy on courtesy parking lost revenue, / Dept. Purchases buys pack of parking passes using their own funds Lynne ↖ wants to make it a mandate
    b. Parking Manager vacancy

8. NEW BUSINESS:
    a. Alt Trans Project (TC Comet)
    b. Open

9. ANNOUNCEMENTS:

Next Meeting: **May 17, 2012 NHE 116**

Meeting minutes will be distributed to all meeting participants via email. Meeting minutes will be approved as the official meeting record unless changes are requested in writing.

1 Harpst Street • Arcata, California 95521-8299 • 707.826.3773 • Fax 707.826.3843 • Email parking@humboldt.edu

Executive Memorandum

February, 2003
P 03-01

SUBJECT: PARKING AND TRANSPORTATION COMMITTEE

The Parking and Transportation Committee is established to serve as a forum for parking and transportation issues. This committee will receive input, evaluate parking and transportation strategies, make recommendations for action to the President, and implement strategies as directed by the President.

Members:

- Chief of Police, Committee Chair *(Lynne Soderberg)*
- Two students, recommended by the Associated Students (1-year term) *(Nicholas Bollier – 11/2011 – 11//2012, Jasmin Williams 3/2012 – 3/2013)*
- Faculty member, recommended by the University Senate (2-year term) *(Daniela Mineva Fall 2012 – Spring 201)*
- Faculty member, recommended by the University Executive Committee (2-year term) (_____ *exp)*
- Staff member (non-management), recommended by the Staff Council (2-year term) *(Brooke Fiore; Eddie Aguilar exp 10/2011)*
- Director of Student Disability Resource Center *(Kevin O'Brien)* not present
- Director of Contracts, Procurement, & Risk Management *(Dave Bugbee)*
- Director of Facilities Planning *(Traci Ferdolage)*
- Fiscal Affairs *(Trella Chun-Ming)*
- Supervisor, Parking & Commuter Services *(Celina Ferrierra)*
- Representative, City of Arcata, appointed by the City Council/City Manager *(Larry Pardi)*

Distribution: Faculty and Staff
Committee Type: Administrative

Lynette's Copy

19 April 2012

Parking & Transportation Committee Meeting

Discussion on Parking Permit Fee Increase

- Reintroduce Project
  - ENVS 411: Sustainable Campus Course
  - Topic: Transportation
    - Addressing identified issues dealing with campus transportation and sustainability
      - Single occupancy vehicles
      - No formal campus carpooling forum

We've identified through experience, observation, but when research needed

- Project goal
  - Creating behavioral change geared toward an increase in the use of alternative methods of transportation to and from campus
- What alternatives we came up with
  - Create and distribute an alternative transportation survey focused on creating and implementing an HSU student, staff and faculty exclusive carpooling forum
  - Increase awareness about existing means of alternative transportation options and incentives for using alternative transportation
  - Assist in updates to the Parking Services' website regarding alternative transportation options and availability at HSU
  - Creating an informational flyer/reference for alternate transportation options that can be used by various departments or groups (HOP, Office of Sustainability, Parking & Commuter Services)
  - Proposing and implementing a tiered parking fee system for campus parking
  - Proposing and implementing an overall increase in parking permit fees
- What alternatives we chose
  - Create and distribute an alternative transportation interest survey regarding carpooling and a carpooling forum, parking permit fees, and bus frequency
  - Coordinating website updates with Parking and Commuter Services
  - Creating an informational flyer/reference for alternate transportation options
  - Increasing parking permit fees

Specify why we chose these vs. other alternatives

- Parking fee increase
  - In increasing the fee to purchase a valid semester parking permit we hope to: increase revenue for Parking services to be invested back into parking and mass transit; encourage more use of alternative transportation and or carpooling; increase the use of the Jack Pass
- Why we chose this particular alternative
  - To create a behavioral change, mainly for drivers that can easily access mass transit or use alternative modes of transportation

would you be more likely to use alternative transportation (bus/carpool) at what amount would you be likely to

If the semester parking permit fee were to increase by: $50, $75, $100, $125

- Encourage carpooling

- Where HSU stands in parking fees with other CSUs (document from CSU Fullerton)
  - HSU's Student Parking Fees are the 7th highest out of the 23 CSUs
    - Highest fee: $586/academic year (CSU San Marcos)
    - Least expensive fee: $ 108/academic year (CSU Monterey Bay)
      - See attached document "Survey of CSU Parking Facilities and Student Parking Fees" (CSU Fullerton)
- Humboldt County Association of Governments' *Transit Development Plan Update for Humboldt County Transit Systems* (Dec 2011)
  - Expressed transit needs
    - RTS: Increased frequency
    - A&MRTS: Increased frequency
- Further information needed for parking permit fee increase justification
  - Data on previous semester fees for parking permits to compare with total number of parking permits sold and headcounts
  - Data on RTS, ETS and A&MRTS annual ridership and Jack Pass use to compare with past parking fees
  - Conduct a survey that includes questions about carpooling, parking permit fees and barriers to utilizing the available bus systems
    - A transportation survey will be conducted by T.C. Comet and may include some of the survey questions we've come up with
- Evaluation & monitoring; effect of fee increase: behavioral changes
  - Effect of parking permit fee increase, behavioral changes
- How do we proceed
  - Committee's input
  - Foreseeable barriers
  - Further investigation if there is interest in increasing fees what is the next step in the process?

*ask. lynne about using emails

References:

<http://parking.fullerton.edu/Parking/FeeIncrease.aspx>

<http://www.hcaog.net/sites/default/files/12-30-11_draft_humboldt_county_tdp_report.pdf>

committee creates proposal → exec. committee → pres.

Survey of CSU Parking Facilities and Student Parking Fees

Campus	Permanent & Temporary Surface Spaces	Structure	Total Parking Spaces**	Student Academic Year Permit Cost***
San Marcos	4,828	-	4,828	$586
San Francisco	1,311	1,604	2,915	$450
Fullerton	4,770	4,106	8,876	$440
San Jose	1,534	5,072	6,606	$384
Northridge	7,804	5,430	13,234	$360
San Luis Obispo*	5,993	1,843	7,836	$345
Humboldt	1,856	-	1,856	$315
Sacramento	6,397	5,776	12,173	$306
Channel Islands	1,666	-	1,666	$290
East Bay*	4,450	-	4,450	$285
Los Angeles*	417	7,102	7,519	$270
Pomona*	13,309	-	13,309	$270
San Diego	4,099	10,672	14,771	$270
San Bernardino*	6,927	1,488	8,415	$252
Long Beach	8,390	5,291	13,681	$246
Stanislaus	2,903	-	2,903	$194
Sonoma	5,281	-	5,281	$188
Dominguez Hills	5,329	-	5,329	$180
Chico	1,199	646	1,845	$168
Fresno	8,384	-	8,384	$136
Bakersfield*	3,307	-	3,307	$108
Maritime Academy	614	-	614	$108
Monterey Bay	3,590	-	3,590	$108

** Campus operates on the quarter system.*
***Total in operation as of June 30, 2009. Does not include motorcycle or leased parking spaces.*
****Academic year consists of nine month period.*

Final approval UPD -> Base funded previously a Chargeback
~ parking will get 200-350K per yr to maintain lots

Survey How far are you driving to & from campus to ~~use~~ get to campus

- issues of matching w/carpooling
- not an expressed need via housing
-

~ good timing
~ Questionnaire/survey good idea
  ↳ will be used by parking committee
  ↳ id. audience when asking Q's

Tue/Thur 4:24 & 4:26 met @ GT comp. lab during class time

Transp. Committee meeting 2/16/12

4b) designation signs in lots for identification
- East/west gym energy project
  2 → 1 boiler energy saver

4c) Arcata Transit
- increase over 5k riders from last year.
- 2nd bus trailing 1st
- Jackpass has been successful
- may need to increase fee/cost for Jackpass
- re-evaluate cost due to ↑ in ridership

5a) + push from members of HCOG for sunday Bus line / SVC
  └ looking to HSU for funding
- ½ prkng ½ housing for funding
  need to coordinate b/t depts.
  ~ just a discussion at this point
  ~ who's paying for it & will it be beneficial to students?

130K AMPTS
198K RTS
(less) ETA
} Jackpass funding

Campus collection project (begins March-April 2013)
└ Haz. waste, etc. for 90 bldgs on campus

5b) Δ in zoning/rezoning for parking use
In future - has been suggested for HSU parking but HSU has not committed or entertained use of it (by Arcata)
- survey suggest prkng is available, but just may not be convenient for drivers

5b) HSU is more concerned about maintaing current parking lots, as well as providing security etc. Rather than procuring additional pking at the moment
- funds would be put to better use for the above reasons

7a) Idea - free to end user but someone will be paying for it → probably by dept. funding budget allocation by depts. (eg. guest speakers etc.) or billing a department (↑ 5K given per year by pking office)

8a) • "Alternate transportation" →
IT question regarding hits & placement

• 3 approved templates for webpgs. Custom designs @ own cost.

Brook for pking website

• carpooling → taken away b/c they were in an area that doesn't exist eg. structures went up.
- incentives abuse
• "kiss" machine for info regarding carpooling stats.
• poor scheduling hard for people to coordinate
• used to be a matching system that HSU used been >5yrs.
• Low tech. @ housing board for carpooling
• Scott Hagg (Hegge)

publicity in carpooling TDMP

Transportation Committee Meeting 2/16/12

- outside funding for forum that can be advert. on HSU pg & throughout school.
  - interested given that there isn't extra time/$ needed to do so.

Brooke Fiore
826-4667

Parking website

Appendix 5:

Relevant Correspondence (E-mail or other):

Gmail by Google

Hannah Farrell <hlf9@humboldt.edu>

alternative transportation survey

glh14@humboldt.edu <glh14@humboldt.edu> Tue, Apr 3, 2012 at 2:36 PM
To: Hannah Farrell <hlf9@humboldt.edu>

Hi Hannah,

I'm sorry you had problems with the survey request form. I can provide you with a sample of faculty, staff and students to send your survey to but there are some things you need to consider.

1. Yes, you do have to go through IRB to get Human Subjects permission.

2. The Sustainability Office (TallChief Comet, director) is conducting a survey about possible use of a bicycle sharing program. This survey will be going to faculty, staff and students and would be deployed before your survey could go out. We also have an HR survey that will be going to all staff and faculty before this one is deployed.

3. By the time the other surveys are completed, it will be the end of April, beginning of May and generally response rate is very low at that time of the year.

4. We do not deploy surveys for student thesis; you will need to use your own software. I believe Google docs has a template that works fairly well and is free.

Please feel free to contact me with any questions you have. I'm more than happy to discuss this with you.

Gay Hylton

Research Technician

Institutional Research and Planning

Humboldt State University

Arcata, CA 95521

707-826-5340

gay.hylton@humboldt.edu

Gmail by Google

Hannah Farrell <hlf9@humboldt.edu>

Carpool parking passes

Karyn S. Hoppe <Karyn.Hoppe@humboldt.edu> Wed, Feb 22, 2012 at 11:56 AM
Reply-To: Karyn.Hoppe@humboldt.edu
To: Hannah Farrell <hlf9@humboldt.edu>

Hello Hannah,
I do not have the stats on the carpool permit. Parking is audited for how many permits we sell. The carpool permit does not have a value as it is not purchased. It has to be displayed with a general permit. I don't have the ability to get exact number for you.
I can tell you that I have worked for Parking for the last 9 years and the carpool permit is under used. We only get approx .2 to 3 requests for a carpool passes per week, during the semester.
I hope this information helps,
Karyn
[Quoted text hidden]

--

Karyn Hoppe
Humboldt State University
Parking & Commuter Services
& Police Department
1 Harpst St. Arcata Ca.95521
707 826-5555 Phone
707 826-4637 Fax

Gmail by Google

Lee Tumminello <lat16@humboldt.edu>

Sustainable Campus transportation project

7 messages

Lee Tumminello <lat16@humboldt.edu> Tue, Feb 14, 2012 at 12:12 PM
To: Tall Chief Comet <tallchief.comet@humboldt.edu>

Hi TC,

We are tentatively talking to Karen Hoppe in parking services to propose to get a revised/new webpage for transportation. This is what we need to do according to our instructor to have a project. If it is not feasible to do via parking services would you still be willing to give us space on the sustainable campus site or if we can do this through parking services can we get a link to that page through your site?

Thanks,
Lee Tumminello, Lynette Villagomez, Hannah Farrell

Tall Chief Comet <TallChief.Comet@humboldt.edu> Tue, Feb 14, 2012 at 1:07 PM
Reply-To: TallChief.Comet@humboldt.edu
To: Lee Tumminello <lat16@humboldt.edu>

If you are still referring to the concept of having something like an alternative or supplemental transportation information guide/sheet, I should still be able to post it on the sustainability site, if transportation will not post it. It could also have a link from the sust. site to transportation, if they do post it. TC
[Quoted text hidden]
--
TallChief A. Comet
Sustainability Office Director
Humboldt State University
1 Harpst Street
Arcata, CA 95521
707-826-5920
tcc4@humboldt.edu

Lee Tumminello <lat16@humboldt.edu> Sun, Feb 26, 2012 at 11:53 PM
To: TallChief.Comet@humboldt.edu

Hi TC,

It is good that you are willing to post that info for us because we are not getting anywhere with parking services. It looks like Dick wants us to change the direction of our project because of the feasibility of getting anything accomplished within the semester. He wants us to find someone who will agree to check on the progress of our project after we are done this semester to see if we accomplished any change with our actions. We are currently looking at taking a survey of whether people would use a carpooling forum if one were made available. We are also looking at doing as much advertisement as possible in order to increase awareness. Parking services has a machine that tracks how many carpooling passes are given out and we were looking at that number every semester to help us look at trends. We were also looking at the number of permits sold every semester.

Would you consider looking at our progress after we are gone? If we cannot find someone to do this Dick will not let us continue with the project. Also, could you tell me who I would talk to about getting an announcement posted on the schools website?

Thanks,
Lee Tumminello, Lynette Villagomez and Hannah Farrell
[Quoted text hidden]

Tall Chief Comet <TallChief.Comet@humboldt.edu> Mon, Feb 27, 2012 at 8:15 AM
Reply-To: TallChief.Comet@humboldt.edu
To: Lee Tumminello <lat16@humboldt.edu>

Lee,
I guess I would need to know more about what you are envisioning for a "progress check" after this semester. For example, are you going to need a second survey done to compare before and after awareness; setting up some analytics for the web page with the FAQs to keep track of site visits; produce a companion report for what other measures are instituted or ?

I would like to see your project continue, but have to be careful regarding what I am committing to, so send me some more info.

TC
[Quoted text hidden]

Lee Tumminello <lat16@humboldt.edu> Tue, Feb 28, 2012 at 1:02 PM
To: TallChief.Comet@humboldt.edu

TC,
Would it be possible to meet in person next week, Tuesday March 8th around noon?, to discuss what a progress check would entail and what would be a part of your upcoming transportation survey. Also, what you want included on the information sheet that you will agreed to link on the sustainability site. In achieving our goals, we wanted to help you in achieving your goals as much as possible. If that date and time does not work for you, we are available on tuesdays from 12-1pm and 2-3:30pm.
Thanks,
Lee, Lynette and Hannah
[Quoted text hidden]

Tall Chief Comet <TallChief.Comet@humboldt.edu> Tue, Feb 28, 2012 at 1:09 PM
Reply-To: TallChief.Comet@humboldt.edu
To: Lee Tumminello <lat16@humboldt.edu>

Tuesday is the 6th and I won't have time that day to meet. The 8th (Thursday) at 2:30 would work for me. See you at my office?

TC
[Quoted text hidden]

Lee Tumminello <lat16@humboldt.edu> Thu, Mar 8, 2012 at 12:45 PM
To: TallChief.Comet@humboldt.edu

Are we on for 2:30 today?

[Quoted text hidden]

Gmail by Google

Lee Tumminello <lat16@humboldt.edu>

Edits/revision proposal for the parking services website

1 message

Lee Tumminello <lat16@humboldt.edu> Thu, May 3, 2012 at 11:24 AM
To: Brooke Crowder-Fiore <brooke.fiore@humboldt.edu>

Hi Brooke,
Per our conversation I am sending you proposed edits/revisions for the parking services website. My ENVS 411 Capstone class appreciates your participation in our success.

- There should probably be a bullet point for the Zipcar on campus under Alternative Transportation. You may want to include a link to the Zipcar info.
- You should probably remove the Greenwheels link from the site since the group is no longer active on campus.
- You may want to change the verbage at the bottom of the Alternative Transportation overview from Bicycling to Bike Riding so that it matches the bullet points on the right hand side of the site where it links you to the various types of alternative transportation.
- You may want to include a bullet for "Alternet Rides" including a link to the information. It is a carpool forum that is talked about on TC Comets Sustainability website.
- Adding a map for bike rack and bus stop locations would be helpful. I am currently trying to track down this information so if this is of any interest to you I can get back to you on this.
- Under the Bus information you may want to headline or bold the "Bus schedules"

Gmail by Google

Lynette Villagomez <lv31@humboldt.edu>

Sustainable Campus Course: Parking & Trans. Committee Meeting (April)/Procedural Questions

3 messages

Lynette Villagomez <lynettev@humboldt.edu> Wed, Apr 4, 2012 at 4:57 PM
Reply-To: lynettev@humboldt.edu
To: Lynne Soderberg <lynne.soderberg@humboldt.edu>

Hello Lynne,

My name is Lynette Villagomez I am a student in the Sustainable Campus course at HSU, I attended the Parking and Transportation Committee Meeting with a group member this February and we mentioned that we were potentially working on a project related to campus transportation. We greatly appreciated the committee's input on our ideas and would like to attend the next meeting. I tried to look up when the committee meets on the HSU website, but didn't have luck. Has the next meeting date already been determined, and if so would you please let me know when it is? Also, I had some questions regarding how the process works when parking permit fees are changed? How often do parking fee changes occur and who is in charge of deciding if and when fees will change and by how much? I understand that you and the rest of the Parking and Transportation staff are busy so any help you can provide is greatly appreciated. Thank you, I look forward to hearing from you.

Lynette Villagomez

Lynne L. Soderberg <Lynne.Soderberg@humboldt.edu> Wed, Apr 4, 2012 at 6:30 PM
Reply-To: Lynne.Soderberg@humboldt.edu
To: lynettev@humboldt.edu

Lynette,

The Parking and Transportation meetings are the 3rd Thursday of the month at 2pm in Nelson Hall 116.

Parking Permit fees have not changed in quite few years. In order to change them there needs to be a recommendation, usually based on increased costs of doing business. The recommendation is discussed at Parking and Trans then the proposal goes to the Vice Presidents and Executive Committee. The final approval comes from the President. There are also considerations regarding represented staff and faculty contract agreements and fee increase regulations. At this time there are no discussions regarding parking permit fee increases; however, HSU charges considerably less for parking than its sister campuses, so it is possible there could be talk in the future.

I hope this is helpful.

Lynne Soderberg
Chief of Police/ Director of Parking and Emergency Management
Humboldt State University Police Department
1 Harpst St
Arcata, Ca 95521
(707) 826-4679

My favorite quotes:

Gmail by Google

Lynette Villagomez <lv31@humboldt.edu>

Parking & Transportation Committee Meeting (April 19)

2 messages

Lynette Villagomez <lynettev@humboldt.edu> Mon, Apr 16, 2012 at 10:49 AM
Reply-To: lynettev@humboldt.edu
To: Lynne Soderberg <lynne.soderberg@humboldt.edu>

Hello Lynne,

I had previously corresponded with you via e-mail regarding the next Parking & Transportation Committee meeting and about the process of proposing an increase in parking permit fees. I was wondering if the agenda for this weeks meeting has been set. I will be attending the meeting this week and was hoping to discuss the possibility of increasing parking permit fees; the process of an increase; information needed to make the proposal; and recommendations, perspectives, and/or input from the committee. Could this be put on the meeting's agenda, or is it too late, could we still discuss the topic? Thank you for your cooperation, I look forward to hearing from you and will be seeing you at the meeting this Thursday.

Lynette Villagomez

Lynne L. Soderberg <Lynne.Soderberg@humboldt.edu> Mon, Apr 16, 2012 at 1:41 PM
Reply-To: Lynne.Soderberg@humboldt.edu
To: lynettev@humboldt.edu

Lynette,

The Agenda has not yet been set, so I can add your question to it. We can certainly discuss the topic.

Lynne Soderberg
Chief of Police/ Director of Parking and Emergency Management
Humboldt State University Police Department
1 Harpst St
Arcata, Ca 95521
(707) 826-4679

My favorite quotes:

"Why?" *(Most asked question by a 5 year old)*
"Why not?" *(Most asked question by a 15 yr old)*

Appendix 6:

Research:

http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf
http://www.calstate.edu/eo/EO-987.html
http://www.csus.edu/aba/green/_vti_cnf/CSU_Sustainability_Report%20v1.pdf
http://www.calstate.edu/pa/documents/CSU_Sustainability_Report_2011.pdf
http://calstate.edu/impact/sustainability.html
http://calstate.edu/pa/greensheet/
http://calstate.edu/cpdc/sustainability/policy.shtml
http://calstate.edu/cpdc/sustainability/
http://www.humboldt.edu/facilityplan/Downloads/master_plan/meeting_archive/transportation_plan_recommendation.pdf
http://www.humboldt.edu/parking/Downloads/parking_mobility_study.pdf
http://www.humboldt.edu/facilityplan/Downloads/master_plan/meeting_archive/recommendations.pdf
http://www.humboldt.edu/green/features/operations.php
http://alternetrides.com/Home_Rides.asp
Toor, Will. "Road less Traveled...": http://web.uvic.ca/sustainability/assets/pdfs/Transportation.pdf
http://www.humboldt.edu/green/commitment/
http://www.pdx.edu/sites/www.pdx.edu.cus/files/SR037.pdf
http://www.vtpi.org/tca/
http://www.humboldt.edu/parking/reports_statistics.html
http://www.hcaog.net/
http://www.hcaog.net/documents/transit-surveys-public-hearings-unmet-transit-needs-201213
http://www.hcaog.net/sites/default/files/12-30-11_draft_humboldt_county_tdp_report.pdf
http://parking.fullerton.edu/Parking/CSUParkingInventoryAndFees.pdf

http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf
http://www.calstate.edu/eo/EO-987.html
http://www.csus.edu/aba/green/_vti_cnf/CSU_Sustainability_Report%20v1.pdf
http://www.calstate.edu/pa/documents/CSU_Sustainability_Report_2011.pdf
http://calstate.edu/impact/sustainability.html
http://calstate.edu/pa/greensheet/
http://calstate.edu/cpdc/sustainability/policy.shtml
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http://www.humboldt.edu/parking/Downloads/parking_mobility_study.pdf
http://www.humboldt.edu/facilityplan/Downloads/master_plan/meeting_archive/recommendations.pdf
http://www.humboldt.edu/green/features/operations.php
http://alternetrides.com/Home_Rides.asp

http://hr.edu.duke/
http://protection.uottawa.en/sustainable transportation/
http://universityofcalifornia.edu/sustainability/trans/
http://butte.edu/
http://transportation.edu.stanford/
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf
http://www.calstate.edu/eo/EO-987.html
http://www.csus.edu/aba/green/_vti_cnf/CSU_Sustainability_Report%20v1.pdf
http://www.calstate.edu/pa/documents/CSU_Sustainability_Report_2011.pdf
http://calstate.edu/impact/sustainability.html
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http://www.humboldt.edu/green/features/operations.php
http://alternetrides.com/Home_Rides.asp

zimride

Zimride's Offering: The Sensible Solution

What is Zimride?

Zimride's private ridesharing communities leverage trust, build critical mass, and measure the results. We do this by combining an innovative social network with extensive marketing support and a facebook™ integration allowing users to make more informed and safer decisions.

What Will be the University's Return On Investment?

Zimride's program offers an easy to use, social program that attracts 1,000-3,000 users of the campus entire population in the first year! On average Zimride annually reduces carbon emissions by 300,000 pounds and collectively can save each campus population $190,000 or more!

Zimride promotes alternative transportation options and tightly integrates them into the rideshare program to allow users various options of social and flexible transportation. In taking more single occupancy vehicles off the road, Zimride effectively reduces carbon emissions, decreases commuting costs per user, and saves Universities upkeep and development costs associated with parking congestion and parking garages.

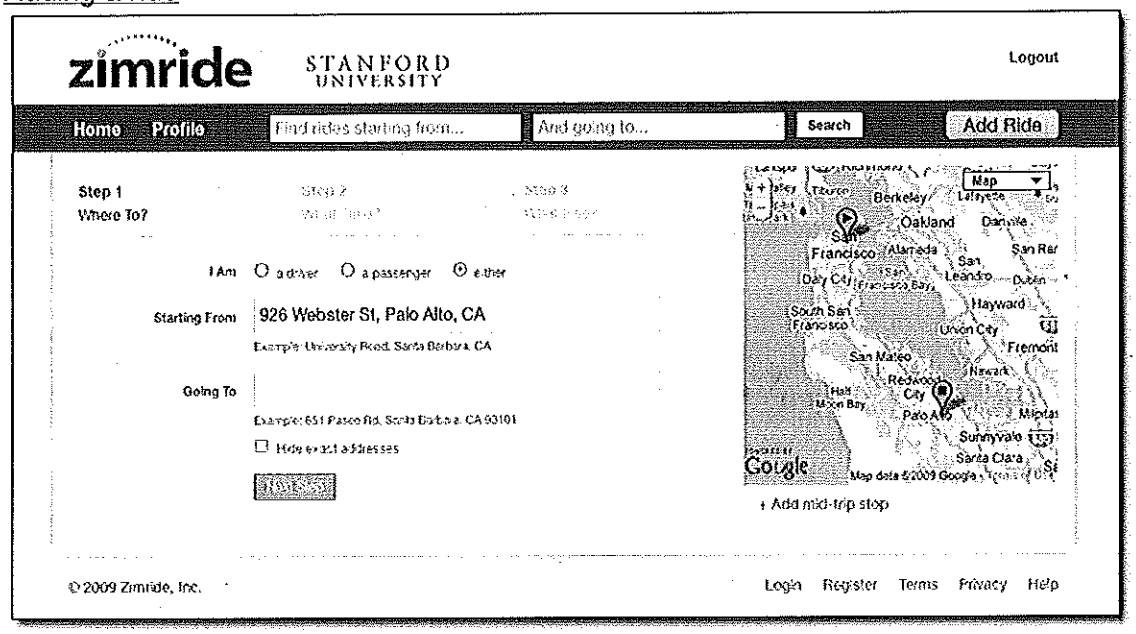
Our marketing efforts ensure that campus students, staff and faculty are informed, educated and prompted to join Zimride's program. We include all customized materials, targeted outreach programs and often hire student liaisons to ensure the University does not have to spend additional time or funds on marketing the program or educating potential users on campus. In the long run, Zimride is proven to offer a higher participation rate at a lower cost per user than any other transportation program.

How Is Zimride's Program Different?

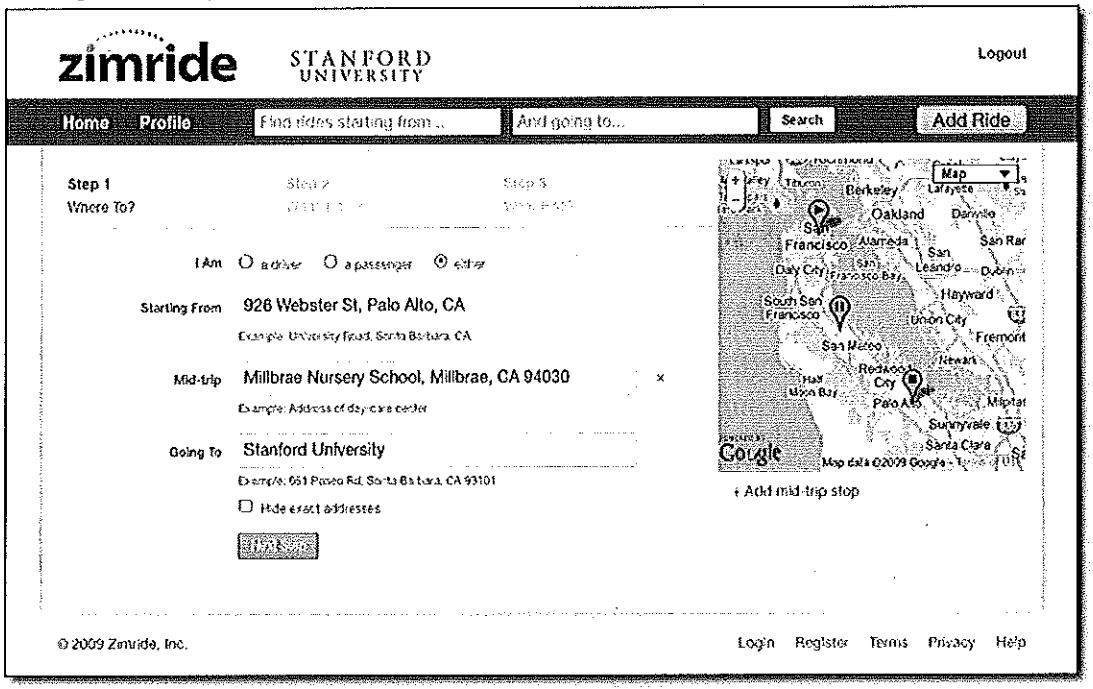
1. **Social Networking:** seamless integration with facebook™ and twitter™ in addition to Zimride's user profiles, privacy controls, music and driving preferences, rider ratings, feedback, and much more.
2. **Trusted Network:** fully hosted, private solution for each campus community including user authentication and single-sign-on compatibility.
3. **High Adoption Rates:** we typically recruit between 1,000 and 3,000 users in the first year and have had great success on small, large, rural and urban campuses.
4. **Key Stats:** track individual participation as well as cash and green house gas savings for riders and the community.
5. **Marketing Support:** Zimride Rideshare Specialists build your community with you and provide customized marketing materials.
6. **Trusted Partnerships:** link your community with other Zimride communities to create a larger pool of potential ride partners.
7. **Cross Promotion:** we serve as a main transportation portal to cross-promote all transportation programs offered by your institution.

zimride

Adding a ride



Adding a mid-trip



zimride

Live User Data

zimride STANFORD UNIVERSITY

Logout | Admin

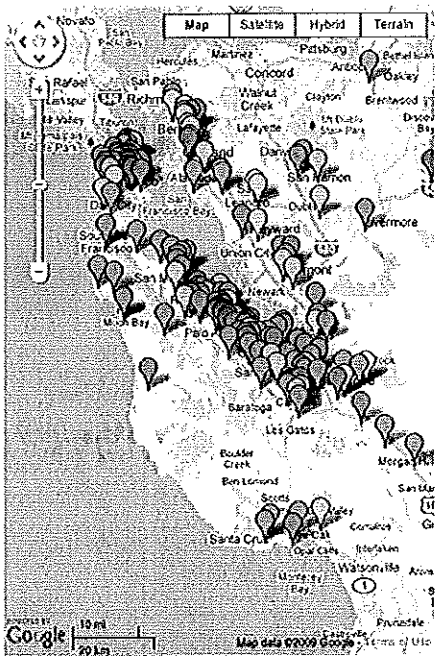
Home | Profile | Find rides starting from... | And going to... | Search | Add Ride

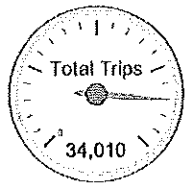
Stats Reporting
- Live Data
- Matches
- Distance
- Trips
- Green
- Definitions

Admin Controls
- Users
- Access
- Content

Live Data

This page contains live data from the Stanford Zimride system. The map shows a sampling of active rides and the pie chart displays the breakdown by ride type. The colors of the pie chart and map correspond where: green represents an offered ride, red represents a ride needed, and blue represents a ride defined as either. The first of the dials on the right shows the total number of active users. The second dial shows the total number of trips completed.





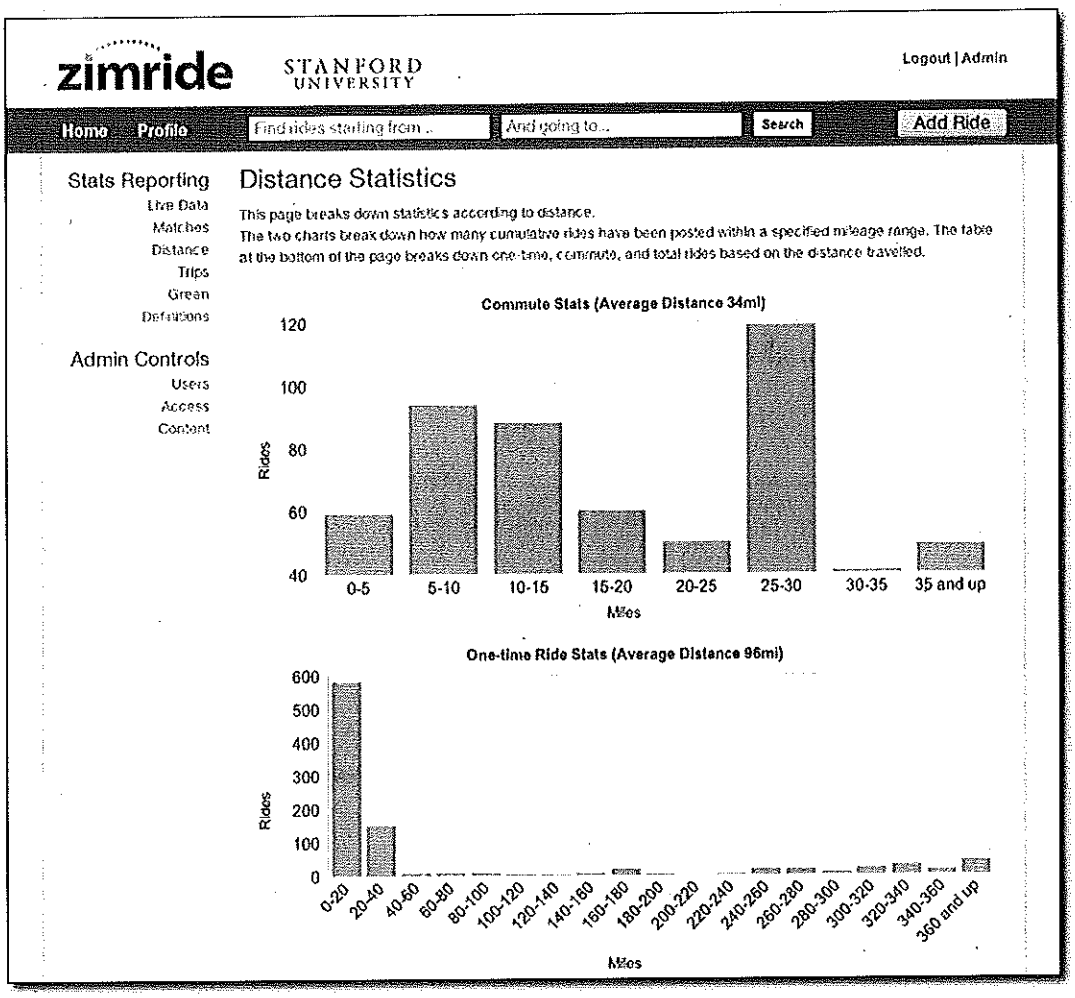
Breakdown of Active Rides

Offer | Need | Either

Terms | Privacy | Help

zimride

Distance Report



Survey of CSU Parking Facilities and Student Parking Fees

Campus	Permanent & Temporary Surface Spaces	Structure	Total Parking Spaces**	Student Academic Year Permit Cost***
San Marcos	4,828	-	4,828	$586
San Francisco	1,311	1,604	2,915	$450
Fullerton	4,770	4,106	8,876	$440
San Jose	1,534	5,072	6,606	$384
Northridge	7,804	5,430	13,234	$360
San Luis Obispo*	5,993	1,843	7,836	$345
Humboldt	1,856	-	1,856	$315
Sacramento	6,397	5,776	12,173	$306
Channel Islands	1,666	-	1,666	$290
East Bay*	4,450	-	4,450	$285
Los Angeles*	417	7,102	7,519	$270
Pomona*	13,309	-	13,309	$270
San Diego	4,099	10,672	14,771	$270
San Bernardino*	6,927	1,488	8,415	$252
Long Beach	8,390	5,291	13,681	$246
Stanislaus	2,903	-	2,903	$194
Sonoma	5,281	-	5,281	$188
Dominguez Hills	5,329	-	5,329	$180
Chico	1,199	646	1,845	$168
Fresno	8,384	-	8,384	$136
Bakersfield*	3,307	-	3,307	$108
Maritime Academy	614	-	614	$108
Monterey Bay	3,590	-	3,590	$108

** Campus operates on the quarter system.*
***Total in operation as of June 30, 2009. Does not include motorcycle or leased parking spaces.*
****Academic year consists of nine month period.*

CHAPTER 2

THE ECONOMIC CONTEXT OF PARKING POLICY

People could certainly recognize that offering unlimited access to hearty free meals at restaurants would cause chronic overcrowding there . . . But they fail to connect the congestion they abhor with free access to crowded expressways during peak hours.

—Anthony Downs (*5*)

INTRODUCTION

Many transportation economists and planners suggest that if Americans paid a higher price for automobile travel, they would not drive as much. This notion is based on the assumption that Americans do not pay the full cost of automobile travel. In an effort to provide a rationale for increasing the price of parking, this chapter summarizes the theory and concepts behind this assumption as it relates to parking. The chapter begins with a brief discussion of some of the research suggesting that increasing the price of parking may indeed increase transit ridership, especially for the journey to work. It then presents the rationale for using parking pricing as an appropriate strategy for reducing automobile travel and for increasing public transit ridership. Finally, this chapter discusses a possible unintended negative effect of parking pricing: differences in geographic incidence that could stimulate decentralization over the long term.

PARKING PRICES AND TRANSIT RIDERSHIP

Although many factors affect mode choice, many analysts have suggested that the price of parking has been a primary factor. Most commuters choose to drive alone because most employee parking is free. Transportation economist John Kain considers the effect of free parking for employees to be so significant that the elimination of employer-paid parking incentives should *precede* consideration of road pricing. He even suggests that eliminating parking subsidies might, in many instances, mitigate the need for road pricing at all (*6*).

Anthony Downs favors market-priced parking over congestion pricing because it is easier to administer and because it does not pose as much a threat to privacy (*1*).

Although these analysts and others assume that parking price is an important factor in transportation mode-choice decisions, research on this relationship has not been definitive. For various reasons, it is difficult to assess how policy intervention in parking markets will be transmitted and affect commuters' choices. For example, research has not successfully evaluated the effect of spillover parking (parking diverted, as a result of pricing policies, from one location to another). Research also is not clear about the percentage of drivers who switch from driving alone to carpooling, rather than transit, because of increased parking prices. This suggests that researchers also need to consider how varying levels of transit service interact with parking prices. Another major problem is that researchers have collected parking price data only from those who currently drive. There is insufficient data on the parking prices faced by those traveling by another mode; thus, researchers have not been able to estimate how parking pricing may affect those travelers.

Despite these difficulties, research continues to suggest a link between the price of parking and transit ridership. The San Francisco County Transportation Authority, for example, conducted a 1995 travel behavior survey and found that, when parking costs exceed transit fares by 20 to 30 percent, commuters tend to take transit rather than drive alone. The survey revealed that 47 percent of the employees who drove alone reported that they either park free or are provided employer-paid parking. Only 11.5 percent of the employees who took transit indicated that they would have free or employer-paid parking (*7*).

THE COSTS OF PARKING

This section summarizes recent literature with respect to the cost of parking; this information is also presented in Table 2.

John Pucher concludes that "roughly 90 percent of customer and employee parking in the U.S. is provided free of

[5] Downs, A., *Stuck in Traffic: Coping with Peak-Hour Congestion*. The Brookings Institution and the Lincoln Institute of Land Policy (1992).

[6] Kain, J., "Impacts of Congestion Pricing on Transit and Carpool Demand and Supply." In National Research Council, Transportation Research Board, Committee for Study on Urban Transportation Congestion Pricing, *Curbing Gridlock: Peak-Period Fees to Relieve Traffic Congestion*, Vol. 2. National Academy Press (1994) pp. 502–553.

[7] "San Francisco Survey Establishes Relationship Between Transit Usage, Parking Cost, and Transit Fares." *The Urban Transportation Monitor* 10 (June 7, 1996) pp. 1, 5.

TABLE 2 Parking costs—comparison of research

Study	Delucchi	Pucher	Beshers	Hanson	Mackenzie, et al.
Cost					
Nonresidential off-street parking	Treats as included in the price of goods and services or offered as an employee benefit	Treats as subsidized	Treats as included in the price of goods and services or offered as an employee benefit	Treats as infrastructure cost: supported by both public funds and user fees	Market cost, 85% not borne by drivers
Home garages and other residential parking	Treats as included in the price of housing	***	***	***	***
On-street nonmetered parking (residential and nonresidential)	Treats as public infrastructure or service cost	*All* unpriced spaces are inefficient and should be priced	Not appropriate to price curbside spaces in low-density residential neighborhoods	***	***
Municipal off-street parking not priced at marginal costs	Treats as public infrastructure or service cost	Should be priced at commercial rates	***	***	***

*** Not treated separately

charge to auto drivers" (*8*). Pucher's estimate is based on that made by MacKenzie, Dower, and Chen in their recent work, *The Going Rate: What It Really Costs to Drive* (*9*). Likewise, Shoup and Pickrell note that 93 percent of U.S. auto commuters park free (*10*). These authors conclude that a very large percentage of parking is free to users and that employers or retailers generally subsidize the portion of the cost that the auto driver does not pay.

An alternate view is that employee and customer parking is not "free," that is, that employers and retailers do not subsidize it, but that they instead bundle parking as part of a benefit and wage package to employees or in the price of goods and services to customers. This position, which both Mark Delucchi and Eric Beshers hold, maintains that users in fact do pay for most parking, *indirectly* if not directly (*11*). Mark Hanson also seems inclined toward this opinion, indicating that a combination of public funds and user fees pay for most nonresidential off-street parking (*12*).

There are also varying opinions regarding forms of parking other than employer or retailer parking. Delucchi is the only one of these authors to discuss residential parking, and, as with nonresidential parking, he concludes that this, too, is not free, but instead is bundled in the price of the housing or rent. Thus, he maintains that users pay for residential parking indirectly as part of their housing costs.

None of these authors discusses on-street nonmetered spaces at great length. Delucchi treats these spaces as bundled in the public infrastructure and thus paid for through taxes and fees. He also presents the fullest—although still brief—discussion of municipal off-street parking that providers price below the going market rate, noting that this parking, too, is a public infrastructure and service cost. The implication is that, although providers do not price on-street nonmetered parking and municipal parking at market rates, users nevertheless pay for them through taxes and other fees. One might argue that that amounts to a government subsidy, but the implication in Delucchi's work is that even taxes and user fees are a form of payment.

The most important conclusion of authors like Delucchi and Beshers, one emphasized by Charles Rivers Associates, is that employee and customer parking is not in fact free, but that employers and retailers bundle it in the prices of goods and services (*13*). Although employees and customers do not pay directly for the parking, they do benefit directly from its provision, because they take advantage of parking in the spaces provided.

The conclusion of authors such as Delucchi and Beshers—that users pay for nearly all parking either directly or indirectly—suggests that there may be little economic rationale for implementing additional parking pricing strategies. Authors such as MacKenzie et al., Pucher, and Shoup and

[8] Pucher, J., "Social and Environmental Costs of Automobile Driving." *Passenger Transport* (November 8, 1993) p. 5.

[9] MacKenzie, J.J., Dower, R.C., and Chen, D.D.T., *The Going Rate: What It Really Costs to Drive*. World Resources Institute (1992).

[10] Shoup, D., and Pickrell, D., *Free Parking as a Transportation Problem*, Department of Transportation (1980).

[11] Delucchi, M., "Total Cost of Motor-Vehicle Use." *Access,* 8 (Spring 1996) pp. 7–13; Beshers, E.W., *External Costs of Automobile Travel and Appropriate Policy Responses*. Highway Users Foundation (1994) 21 pp.

[12] Hanson, M.E., *Results of Literature Survey and Summary of Findings: The Nature and Magnitude of Social Costs of Urban Roadways Use*. Prepared for the Federal Highway Administration (1992).

[13] Charles River Associates, Inc., *Building Transit Ridership—An Exploration of Transit's Market Share, and the Public Policies That Influence It*, H-4A Final Report, Prepared for the Transit Cooperative Research Program, Transportation Research Board, National Research Council (February 1997), pp. C-9–10.

Pickrell, however, focus only on the *direct* payment of costs by users and conclude that, because users do not pay for most parking directly, there is a strong rationale for implementing parking pricing strategies.

THE RATIONALE FOR PARKING POLICY

Before discussing whether or not policy-makers should consider both direct and indirect payment of parking costs as providing a rationale for policy implementation, this report turns to a discussion of two other factors that may provide a rationale for parking pricing: (1) inadequacies in the tax code and (2) negative externalities and other problems resulting from the provision of parking.

Inadequacies in the Tax Code

Analysts frequently cite the tax treatment of employer-provided parking as a distortion in the private market for parking. The federal government typically taxes compensation that employees receive, except for qualified fringe benefits. Although employees who itemize can often deduct certain expenses associated with their employment, the Internal Revenue Service does not allow any deductions for ordinary commuting to a principal place of employment. When businesses provide employees with a benefit that the federal tax code does not treat as a deductible expense, the code typically considers the value of that benefit as income to the employee. For example, if a business were to provide housing for employees, in most circumstances, the code would treat the rental value of the housing as income to the employee. Most commuting assistance would fall into this category, but the tax code largely exempts taxation of the value of employer-provided parking.

Whenever tax laws make a benefit tax exempt, employees tend to increase the use of that fringe benefit. Most businesses typically provide parking as a free service to employees and customers. Many analysts argue that tax-exempt provision of parking services, but not of transit or other services, induces excess use of automobiles for commuting.

In 1995, employers could provide parking as a tax-exempt fringe benefit up to a maximum cash equivalent of $160 per month (indexed up from $155 per month in 1994) for each employee. The federal government indexes this amount (in $5 increments) annually based on the cost of living (*14*). Although few employers expend this amount for employee parking, the amount they do spend can result in a sizable fringe benefit. Provision of free parking effectively lowers the cost of parking to the employee relative to equivalent payments in cash. The employee would have to receive more than the cash value of the parking to remain as well off since the government would tax the cash, and employees would then have to purchase parking out of after-tax income. Some analysts favor giving the employee a choice between the fringe benefit or the cash; but, as Chapter 6 notes, under federal tax code rules, allowing this option makes the benefit taxable for *all* employees, including those whom employers did not previously provide with free parking.

In 1994, employers could provide tax-exempt transit or vanpool benefits up to $60 per month or $720 per year (*15*), but not as many employers provided this benefit as provided free parking, which was at that time tax exempt up to $155 per month. Some analysts argue that the disparity in the tax-exempt amounts continues to encourage the use of automobiles, even when employers offer both benefits. Others note that transit users pay only a fraction of the cost of providing transit service and that comparison of transportation benefits should include all subsidies to each form of transportation. Although there is some uncertainty about how much the provision of parking as a tax-exempt fringe benefit really does create a distortion, it probably has an effect on some choices, such as the drive-alone or carpool choice, that lead to more use of automobiles than would occur if each commuter paid for parking directly.

Although the issue of taxation relative to employee benefits is an important one, it is important to recognize that drivers make most trips for purposes other than work and that changes in tax treatment for employee parking would not directly affect these trips. For example, expenditures that a business makes to increase customer satisfaction are generally tax deductible. Hence, using the tax code to affect directly the provision of free or subsidized parking for customers would require a major change in tax laws regarding the deductibility of business expenses in order to remove the tax exemption.

Negative Externalities and Other Problems Resulting from the Provision of Parking

In addition to tax code issues, there are several other problems associated with the provision of parking. These include the existence of negative externalities, defined below; the encouragement of surface parking lot construction because of tax incentives; and excessive parking supply resulting from city policies aimed at dealing with spillover parking problems.

Negative Externalities Associated with Parking

A negative externality is a social cost that individuals or groups create but for which they do not pay either directly or

[14] Filler, L., "Federal Tax Benefits for Commuting." *TDM Review*, Vol. 3, No. 2 (June 1995) pp. 11 and 15.

[15] National Research Council, Transportation Research Board, Committee for Study on Urban Transportation Congestion Pricing, *Curbing Gridlock: Peak-Period Fees to Relieve Traffic Congestion*, Vols. 1 and 2, National Academy Press (1994).

indirectly. Air pollution, for example, is a negative externality resulting from the use of automobiles; it is a social cost automobile users create but for which they do not pay. The provision of parking services may also be associated with certain negative externalities. That is, vendors of parking services may not, in fact, pay the full social cost of providing parking services. Law-enforcement and environmental negative externalities may result from the provision of parking. For example, parking structures are a location for crimes in some communities, generating increased need for public protection services. Surface parking lots also generate oily runoff that may pose environmental or water treatment costs elsewhere in the community. To the extent that vendors of parking services do not bear such external costs through property taxes or other levies, the private cost of providing parking may understate full costs.

Tax Incentives for Surface Parking Lots

Another common argument related to the provision of parking services is that the property tax code favors surface parking lots because it taxes the owners primarily on the value of the land, which is based on the income stream. There is thus an incentive for land owners to convert vacant land to an income-producing use, such as surface parking, that does not have much effect on the tax bill. This incentive may therefore result in an oversupply of parking. Oversupply may, in turn, result in lower parking prices, which, in turn, encourage more automobile use.

City Policies to Control Spillover Parking

Spillover parking is parking that spills over from one area to another—in this case, out on to city streets from parking structures and lots. Many cities have typically managed spillover parking by instituting on-street meters and imposing minimum parking requirements, which set the minimum number of spaces to serve residential, commercial, and industrial uses on land parcels. Zoning ordinances usually express minimum parking requirements as the minimum number of spaces required per dwelling unit, per 1,000 square feet of floor space, or per other unit, such as theater seat. City policy regarding the provision of on-street parking and minimum parking requirements can, however, lead to excessive parking supply. As is the case with tax incentives for surface lots, if excess supply occurs, then the price for parking—whether the users pay for it directly or indirectly—declines, thus encouraging more automobile use. In recognition of excess supply, some jurisdictions impose maximum parking requirements, which limit the number of spaces per unit of building space. Nevertheless, widespread policies to control spillover parking have had a perverse effect on parking pricing by increasing supply and hence lowering the price.

THE GEOGRAPHIC INCIDENCE OF PARKING POLICY

OBITUARY

Downtown Business District of City X, last surviving member of a family of City Downtown Business districts, died yesterday in the City of X, a one-time prominent member of the community.

He suffered an increasing paralysis due to the congestion of his main arteries of travel. Doctors worked over him with increasing vigor during the last days of his life, but the disease had become so acute that little relief was possible. Injections of policy regulations, parking meter pills, and traffic plan treatments seemed to instill new life in this venerable old gentleman of the city. However, long-term treatment and major surgery was necessary if the patient was to survive. Before the surgeons could agree upon the type of anesthetic, outlying shopping centers developed, complications of attractive free parking space at the outlying shopping centers caused undue pressure on the competition, and the patient died (16).

The preceding section indicates that there are compelling policy and economic justifications for parking pricing. As the quotation above suggests, however, a potentially significant negative externality that might result over the long term because of variations in density and the incidence of pricing policy throughout a geographic region. This potentially severe long-term negative externality is hastened decentralization, as "outlying centers" become increasingly attractive because of restrictive parking policies in the downtown area.

Decentralization has characterized urban development for more than half a century. Many analysts consider decentralization, in its historical and present form, to be undesirable. They believe that urban sprawl has negative effects on the environment—including increased vehicle miles traveled (VMT)—and divisive effects on the urban social fabric, particularly in terms of widening the gulf between racial and income groups. Also, decentralization can adversely affect transit, by reducing the urban densities necessary to sustain transit service.

Although parking pricing and restrictions may reduce downtown congestion and enhance the accessibility and attractiveness of the CBD in the short term, long-term effects may reinforce decentralization (*17*). If, for example, parking is priced or supply is restricted by regulation in the CBD, downtown employers and retailers may move to the suburbs, where parking supply is plentiful and free. Decentralization is encouraged, because people are more likely to choose to work and shop where parking costs are lowest—the suburbs.

[16] "Bus Transportation in Downtown Portland," December 1952 pamphlet, cited as appearing in a legal bulletin of the New York State Conference of Mayors.

[17] See Segelhorst, E.W., and Kirkus, L.D., "Parking Bias in Transit Choice." *Journal of Transport Economics and Policy*, Vol. 7 (1973) pp. 58–70; and Hamerslag, R., Fricker, J.D., and Van Beck, P., "Parking Restrictions in Employment Centers: Implications for Public Transport and Land Use." Paper presented at the 74th Annual Meeting of the Transportation Research Board, Washington, D.C. (1995).

In economic terms, the reason that parking prices may rise more in the central city than in the suburbs is because of variations in incidence. Incidence refers to who bears the burden of a tax or a price. The incidence of many strategies may not be borne by the intended party—thus resulting in unintended effects.

The incidence of a pricing policy—such as regulated rates or a tax on parking spaces—is determined by the price elasticity of demand and supply of the commodity in question (parking). Price elasticity refers to the percent change in quantity demanded or supplied as a result of a 1-percent change in the price of the good. Price elasticity tends to be greater when there are good substitutes; in the case of spillover parking, for instance, on-street spaces can be substituted for off-street spaces. In terms of elasticity of demand, in high-density areas, such as the CBD, where *on-street* parking is not readily available and is likely to be priced, the demand for *off-street* parking is not very flexible with respect to price. On the other hand, in low-density areas, such as the suburbs, where the supply of on-street parking is ample, demand for off-street parking is elastic—or flexible—with respect to price. Thus, in these areas, suppliers of parking will bear most or all of the incidence of a tax on off-street parking.

Downtown parking providers often price their parking supply because supply and demand characteristics lead to a price that is high relative to the cost of collecting the parking fee and enforcing restrictions. In many suburbs, incidence effects result in a price that would be too small to warrant parking providers' expenditures of resources on collection and enforcement. Further, different types of parking policies could have differential effects between the central city and the suburbs. For example, a tax on downtown parking only would be one of the easiest to enforce and collect, but it could have negative long-term effects by making suburban locations seem more attractive.

There are two types of behavior that affect the consequences of a parking policy. In the short term, the behavior of the user determines mode split and spillover effects; but in the long term, the location decisions of businesses are likely to have an important effect, as well. The modeling techniques that the researchers of this report used have been developed for addressing the effect of changes in price on the behavior of the user in the short term only; hence, discussions of long-term effects are more speculative, but potentially very important.

The research team employed a model of user behavior to generate estimates of mode split effects for various changes in costs to the user of parking. These results, which Chapter 4 presents, are the immediate, or short-term, effects. To generate these results, the researchers made assumptions about the ultimate effect of the parking policy on users, and this effect had to be modeled as a price effect. The research team looked at a flat regionwide fee, as well as a differential fee that was graduated downward with distance from the CBD; the differential amounts were meant to account for incidence differences.

As noted, a differential effect may make a suburban location seem more attractive for employers, retailers, and employees, even though better transit service exists in the CBD to provide a substitute for drivers who are priced away from SOV travel. The differential effect may thus stimulate decentralization, although this would occur over the long term.

This discussion recognizes that spatial competition exists between cities and their suburbs. Firms located in the central city have relatively high land and labor costs. However, because these firms benefit from agglomeration economies, are centrally located, and are served by a relatively well-developed transportation network, their production costs are competitive with less centralized locations.

Parking costs are considered to be part of a firm's production costs. Thus, when parking costs increase, total production costs increase. Production costs and travel costs work together to determine the "market area" controlled by a firm. In Figure 1, the egg shapes represent the market areas for a

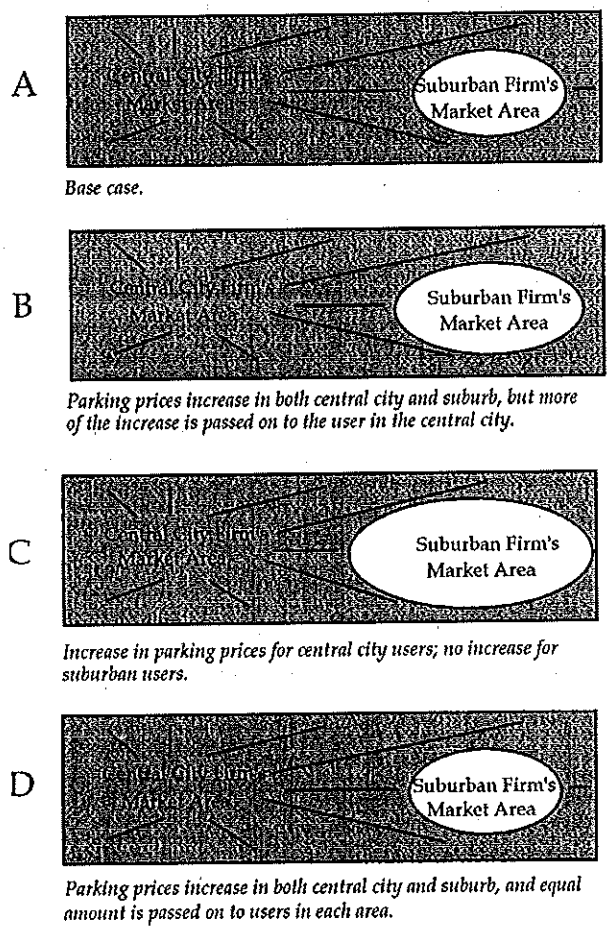


Figure 1. City center and suburban firm market areas, with differing levels of parking prices.

suburban firm, as determined by the production and travel costs under four different scenarios (*18*). The central city firm's market area is represented by the entire gray portion; in each case, the central city firm's market is larger than the suburban firm's. But, as described below, the extent of the suburban firm's market area changes relative to parking prices.

Scenario A in Figure 1 is the base case. Here, the central city firm—with its higher production costs and lower travel costs—has a larger market area than does the suburban firm. In Scenario B, parking prices are increased for both the central city firm and the suburban firm; however, the increase in price as passed on to the suburban user is less than the increase in price for the central city user. For instance, parking prices for the central city parker might increase by a certain daily amount, but the suburban parker may pay only a fraction of this daily increase. The differences in price paid are determined not only by the particular strategy implemented, but by local conditions with respect to the availability of on-street parking and other factors that may affect incidence. This differential increase in prices paid by the user results over the long term in a slightly larger market area for the suburban firm.

In Scenario C, parking prices are increased for the central city firm only. This would be the effect of a parking pricing policy that resulted in increased prices being passed on to the commuters in the central city, but not in the suburbs. As is clear from Figure 1, in this situation, the suburban firm gains a substantial share of the market, with the central city firm losing market area by a corresponding amount.

The final case, Scenario D, is one in which the parking price passed on to the user is increased by exactly the same amount for both central city and suburban locations. As is apparent, the effect on market areas is nil, and the illustration is exactly the same as in the base case, Scenario A.

Both Scenario B and C, in which parking prices increase by a greater rate in the central city than in the suburbs, are clearly advantageous to the suburban firms and disadvantageous to the central city firms. The resulting increase in the suburban firms' market area as a result of increasing central city parking prices helps explain why some firms would choose to move to a suburban location. Thus, increased decentralization is a very real potential consequence of increasing parking prices, but the effect would occur over the long term, because it would take time for firms to relocate.

Finally, decentralization can adversely affect transit because high levels of transit service depend on sufficient levels of population and employment density. If decentralization is exacerbated by parking policies, the result may be decreased urban densities; these, in turn, result in decreased transit service and corresponding declines in transit use—the positive short-term effects of parking pricing on transit use may, therefore, be negated over the long term.

[18] See Hoover, E.M., and Giarratani, F. *An Introduction to Regional Economics*. Alfred A. Knopf (1984) pp. 78-90.

Many strategies, however, would not have a decentralizing effect. As suggested by Figure 1, if policy-makers increased parking prices by a flat amount across the region (e.g., by regulation rather than a tax), high-density areas would not be at a disadvantage vis-à-vis the suburbs. In fact, the superior transit service found in the CBD and other high-density locations might attract firms, employees, and residents, and thus have a *centralizing* effect over the long term.

CHAPTER SUMMARY AND CONCLUSIONS

This report maintains that parking pricing is justified as a policy response to overuse of the automobile, because, through pricing, users pay *directly* for parking and thus are more likely to connect the costs of parking with their travel behavior. In addition, a policy of parking pricing indirectly mitigates distortions—such as congestion and other negative externalities—in the travel market in general.

As an earlier section discussed, analysts disagree about whether users pay for most of the costs of parking. These analysts' disagreement is rooted in whether they assume that users are paying for costs *directly* or *indirectly*. Those who focus on direct payment of costs conclude that users do not pay for most of the cost of parking, while those who consider both direct and indirect payments conclude that users do pay for most costs.

Even if it is true that users pay for nearly all parking indirectly as a result of the bundling of parking prices in wage and benefit packages and in the price of goods, services, and housing, some people still argue that problems remain, as discussed above: automobile use is excessive; the tax code is inadequate; and negative externalities, such as congestion and automobile emissions, continue.

Those who argue that users pay for most of the costs of parking either directly or indirectly may conclude that there is little economic rationale for additional intervention into parking markets. To economists, indirect payments do not amount to a market distortion and thus do not warrant market intervention or regulation of parking. From the economists' point of view, the only economic justification for policy changes is that policy-makers need to make some changes to correct tax problems, negative externalities, and inefficient city parking policies. From this perspective, parking taxes or regulatory strategies may not, however, be appropriate policy changes; changing city policies with respect to parking supply, for instance, may be more effective.

Although it may be difficult to provide a *strictly economic* rationale for parking market intervention, it is easier to provide a *general policy* rationale. First, even if it is true that users pay for most of the cost of parking, they pay for much of this cost *indirectly*, and indirect payments are not as effective marginal pricing mechanisms as direct payments. That is, shoppers are probably not aware that the price of goods and services includes parking; they probably do not take that into consideration in their travel mode decision-making. Likewise, employ-

ees are probably not aware that their free parking is part of their wage and benefit package, and they, therefore, do not take that into consideration when deciding whether to drive to work. The effect of the indirect payment of parking costs is that users do not consider the price in their mode decision. The result is that more people drive than would be the case if policy-makers implemented market-based parking policies that could achieve more explicit, direct pricing of parking.

A second policy rationale for parking market intervention is that even if the market for parking operates efficiently in isolation, with indirect or direct payments offsetting nearly all costs, problems in the rest of the transportation market may justify the use of parking policy. Most analysts agree that negative externalities distort the market for other urban transportation services, particularly congestion, pollution, and accidents for which the responsible party does not pay. Remedies for these negative externalities include congestion pricing, emissions fees, and insurance and tort reform. However, if policy-makers cannot implement remedies for these market failures because of technological or other problems, it is possible that parking pricing policy could offset, at least partially, the imbalance these other distortions create. In particular, the use of parking policy to stimulate transit use may help restore balance to the overall transportation market.

In summary, the perspective that the indirect payment of parking costs does not provide for effective marginal pricing and that there are distortions elsewhere in the transportation system provides the primary justification for implementing parking pricing policy—parking pricing policy is (1) an effective means of connecting costs and behavior and (2) a second-best remedy for distortions that other market failures create.

Although parking pricing may be justified from a policy and even an economic perspective, it is not necessarily without negative externalities. Analysts have rarely commented on differences in the geographic incidence of pricing strategies. This chapter argues that, because of supply and demand characteristics, parking is more likely to be priced in high-density areas (e.g., the CBD) than in low-density areas (e.g., the suburbs). The chapter further argues that because of this differential, suburban locations may appear more attractive to employers, retailers, and employees. Thus, higher parking prices may cause firms and employees to relocate to the suburbs, despite the higher quality of transit service existing in the CBD. Although this decentralization would occur over the long term, it could have serious consequences for transit, which depends on high densities to support high service levels.

Public Hearings: HCAOG meeting for unmet transit needs
- Eureka April 17th 6pm City Hall
- Arcata May 2nd 6pm City Hall

Findings also suggests:

- Morning travel is concentrated in the non-AM peak, however, afternoon travel tends to be more concentrated in the PM peak (56 percent of travel was between 3:00 PM and 6:00 PM).
- A high transit dependent market – 42 percent of respondents do not have access to a household motor vehicle, although 29 percent of the respondents identified access to a ride from a friend or relative if transit was not available for their travel.
- A high concentration of residences and trip destinations close to transit routes – 71 percent walked to catch the bus and 87 percent indicated they would walk from the bus to their destination.
- A high degree of overall satisfaction with the service suggesting that ETS has been designed to effectively serve its customers.
- The vast majority, 88 percent of respondents, consult the bus schedule first for planning a trip rather than other resources such as the internet, friend, or phone. This indicates the relative importance of the printed bus schedule.

Service improvements frequently identified by respondents included:

- Later weekday service – identified by 13 percent of respondents.
- Later Saturday evening service – identified by 21 percent of respondents.
- Sunday service – identified by 20 percent of respondents.

2.2.12 Arcata & Mad River Transit System Service Survey: Summary of Responses

PMC conducted an on-board survey of A&MRTS passengers the week of May 2, 2011. The two-paged survey was comprised of 26 questions that gauged commute patterns, service opinions, suggested improvements and demographic profile. A total of 42 surveys were completed.
The prevailing demographic profile of the survey respondents is as follows:

- 78 percent of respondents identified as female;
- 80 percent are between 18 and 34 years of age;
- 89 percent reside in Arcata;
- 51 percent listed their primary occupation as students;
- 73 percent are affiliated with the HSU Universal "Jack Pass" System; and
- 97 percent of those Jack Pass users are enrolled students.

2.2.13 Arcata & Mad River Transit System Service Survey: Key Findings

The responses of the 42 interviewees reinforces a strong school/work commuter market with:

- 78 percent of the trip purposes identified as either school or work.
- 49 percent use Arcata Transit more than 5 times a week. Another 44 percent use it between 2 and 5 times per week.
- 55 percent have used the bus more than a year.

A&MRTS survey: pg 192-94
A&MRTS Recommendations: pg. 129-131

- 40 percent do not have a driver's license.

Findings also suggests:

- Morning travel is less concentrated in the AM peak and more spread out, reflecting the importance of the post secondary school market. However, afternoon travel tends to be more concentrated in the PM peak (59 percent of travel was between 3:00 PM and 6:00 PM).
- A relatively high transit dependent market – 32 percent of respondents do not have access to a household motor vehicle, with another 39 percent that have one vehicle in their household.
- A high concentration of residences and trip destinations close to transit routes – 93 percent walked to catch the bus and 93 percent indicated they would walk from the bus to their destination.
- Overall satisfaction with the service suggesting that A&MRTS has been designed to effectively serve its priority markets including post secondary school, work, and social/recreation.

Service improvements frequently identified by respondents included:

- Increased service availability (frequency) – identified by 17 percent of respondents.
- Later Saturday evening service – identified by 18 percent of respondents.
- Sunday service – identified by 21 percent of respondents.

2.2.14 Fortuna Senior Transit Bus Service Survey: Summary of Responses and Key Findings

The City of Fortuna conducted its own on-board survey of Fortuna Senior Bus passengers which have been used for this transit plan. The one-paged survey was comprised of 9 questions that gauged frequency of usage, service opinions, and suggested improvements. A total of 54 surveys were completed and collected by the city.

Findings suggest:

- Current fare does not prevent them from using the bus – 92 percent of respondents.
- The bus is reliable - 96 percent responded that the bus has not failed to pick them up.
- Most riders do not drive – 69 percent of respondents, or have access to a car – 20 percent.
- Riders tend to use the bus on a regular basis – 67 percent use it between 1 and 5 times a month, while 28 percent use it 2 to 4 times a week.
- Ride requests are honored – 84 percent of respondents are given rides, while 16 percent have been denied rides.
- A high degree of overall satisfaction with the service suggesting that Fortuna has been designed to effectively serve its customers.

Service improvements frequently identified by respondents included:

Larry

HTA.ORG
Board packet / Agenda

COMPARATIVE PERFORMANCE ACTIVITY REPORT

MONTH	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	YTD
Full Fare	2,449	2,915	3,316	3,362	3,063	2,633	2,914	**20,652**
HSU Student	851	8,742	21,113	23,428	17,698	12,522	14,881	**99,235**
Reduced	1,003	1,062	966	1,236	1,042	1,269	1,142	**7,720**
								0
Transfers	84	49	78	27	50	61	52	**401**
City Passes	166	249	313	289	205	190	201	**1,613**
	0	0						**0**
TOTALS	**4,553**	**13,017**	**25,786**	**28,342**	**22,058**	**16,675**	**19,190**	**129,621**

MONTH	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	YTD
Full Fare	2,597	2,606	2,704	2,803	2,618	2,494	2,337	**18,159**
HSU Student	1,086	7,404	20,918	21,120	17,154	12,681	11,993	**92,356**
Reduced	1,206	1,084	1,312	1,221	1,107	1,181	1,390	**8,501**
								0
Transfers	158	136	177	101	124	152	181	**1,029**
City Passes	224	141	220	214	212	213	177	**1,401**
		0						**0**
TOTALS	**5,271**	**11,371**	**25,331**	**25,459**	**21,215**	**16,721**	**16,078**	**121,446**

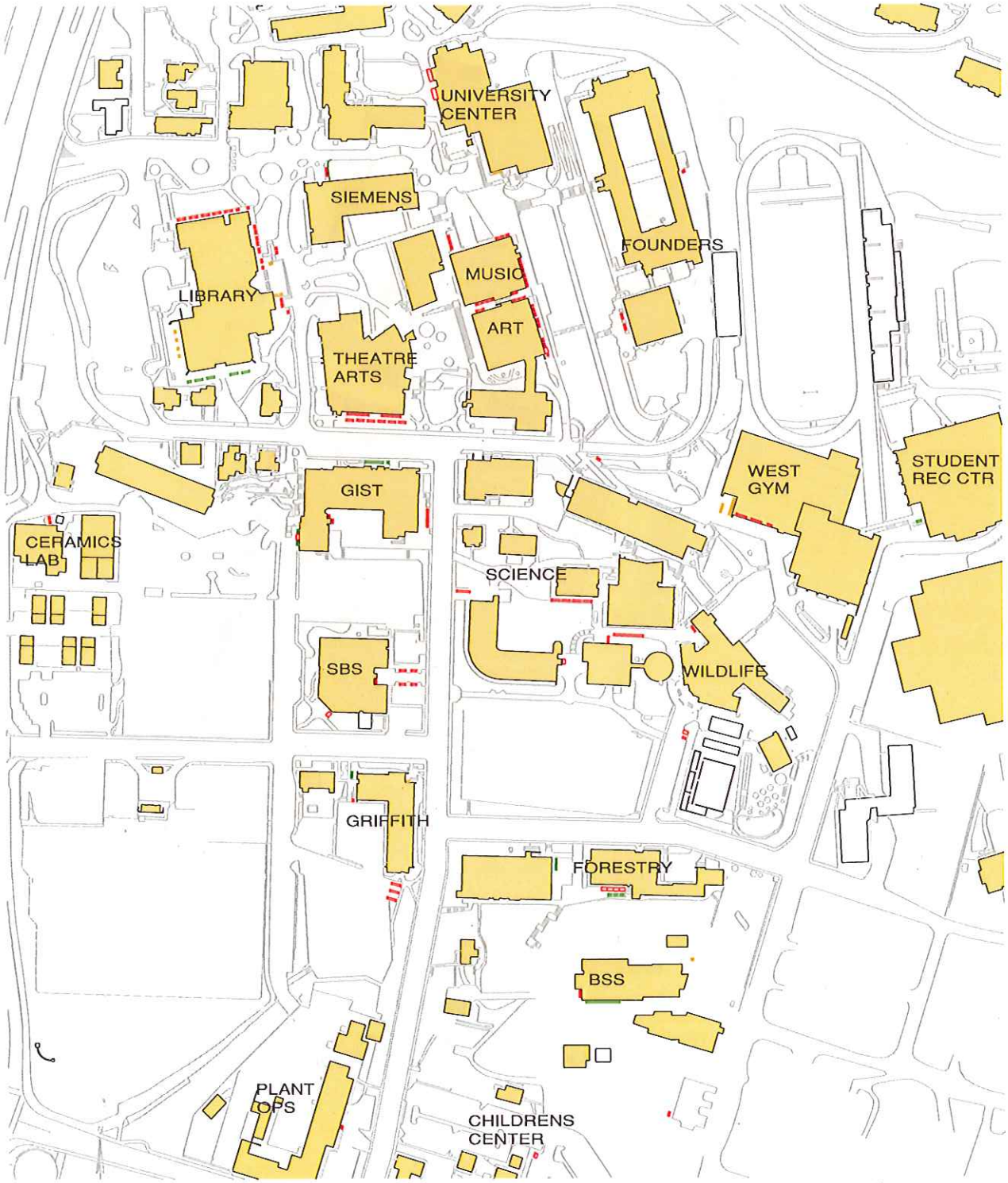
CHANGE	(718)	1,646	455	2,883	843	(46)	3,112	8,175
% Change	-15.8%	12.6%	1.8%	10.2%	3.8%	-0.3%	16.2%	6.3%

Larry Paoli
Recd 4/19/12
Parking & Transportation Meeting

Master Plan Site Furnishings

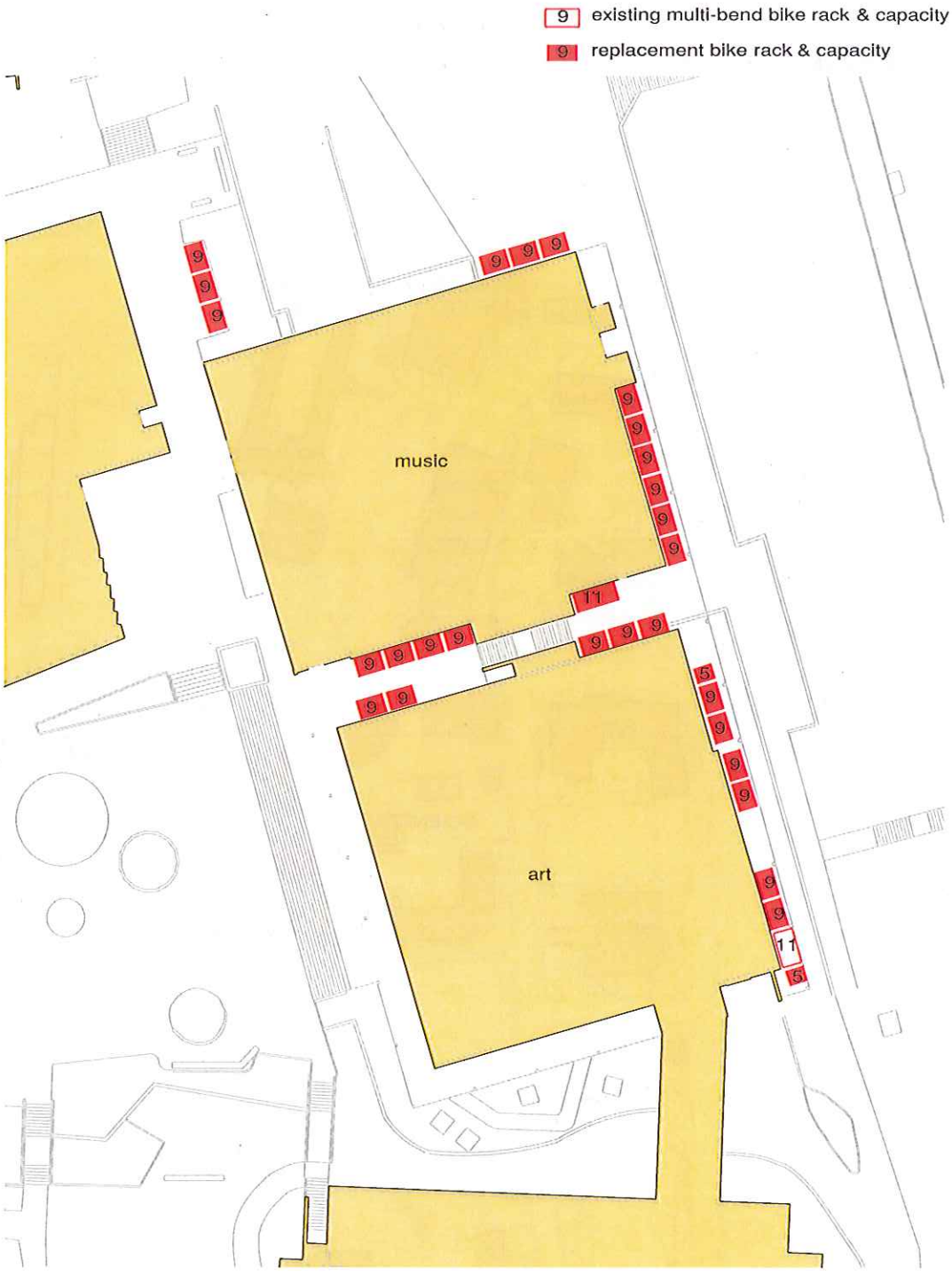
BIKE RACK REPLACEMENT & ADDITIONS

920 existing bike spaces
1601 bike spaces after replacement



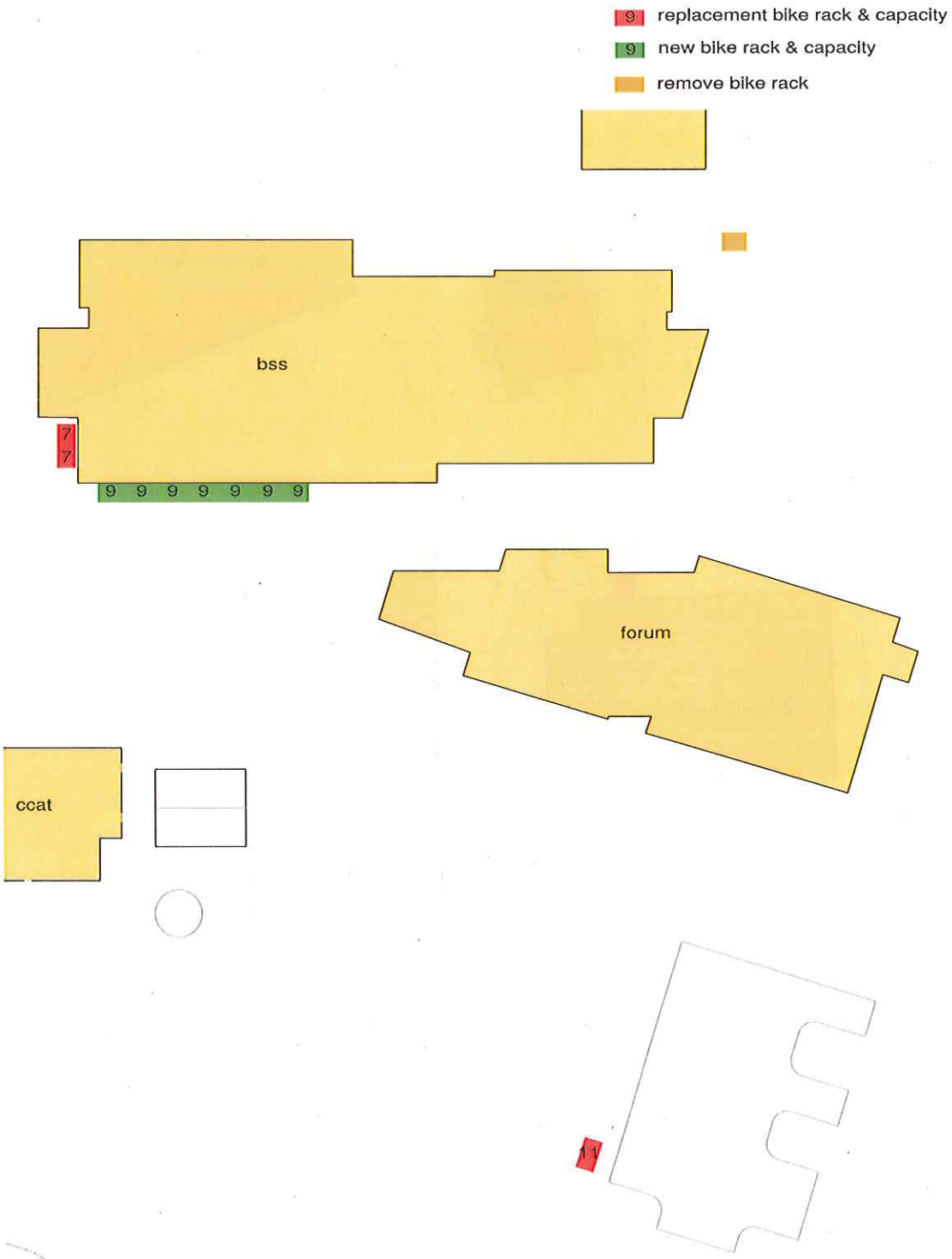
Not to Scale
30 Sep 2007

replacement bike rack locations
additional bike rack locations



ART-MUSIC

175 existing bike spaces
275 bike spaces after replacement



BSS

28 existing bike spaces
88 bike spaces after replacement

CERAMICS LAB

12 existing bike spaces
14 bike spaces after replacement

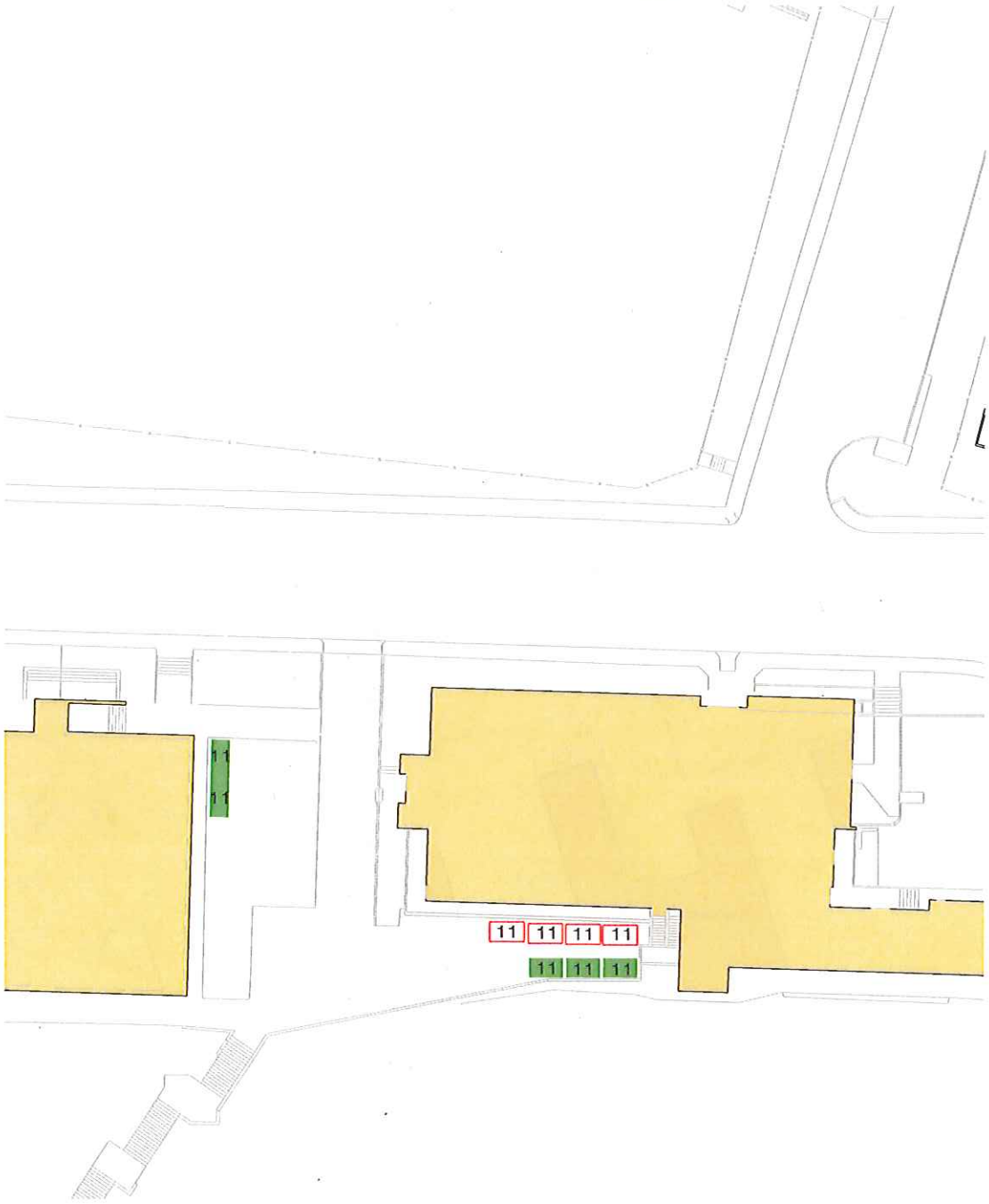
9 existing multi-bend bike rack & capacity

CHILDREN'S CENTER

9 existing bike spaces

11 existing multi-bend bike rack & capacity

9 new bike rack & capacity



FORESTRY

44 existing bike spaces
99 bike spaces after replacement

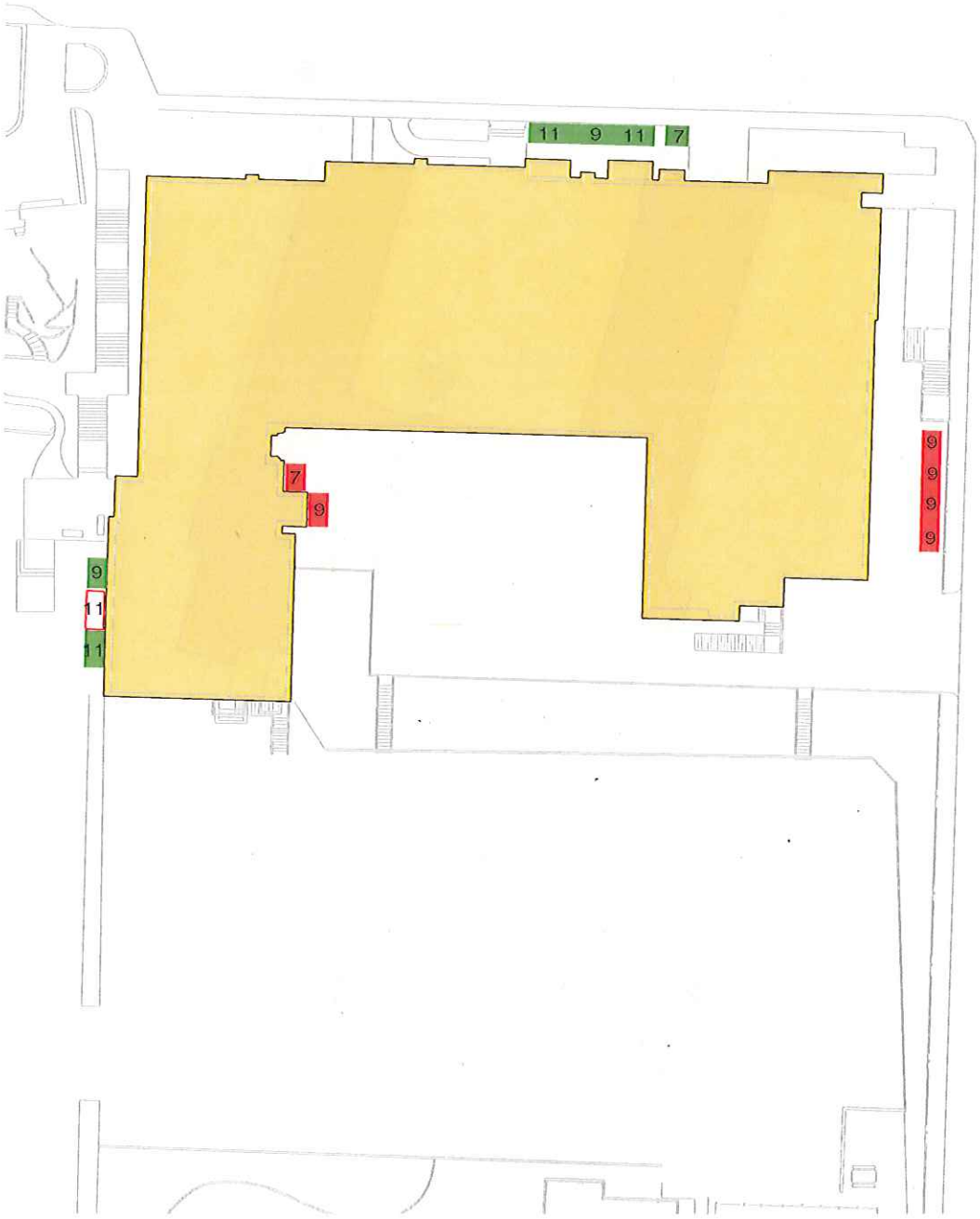
9 replacement bike rack & capacity

FOUNDERS

16 existing bike spaces
27 bike spaces after replacement

9 replacement bike rack & capacity

9 existing multi-bend bike rack & capacity



GIST

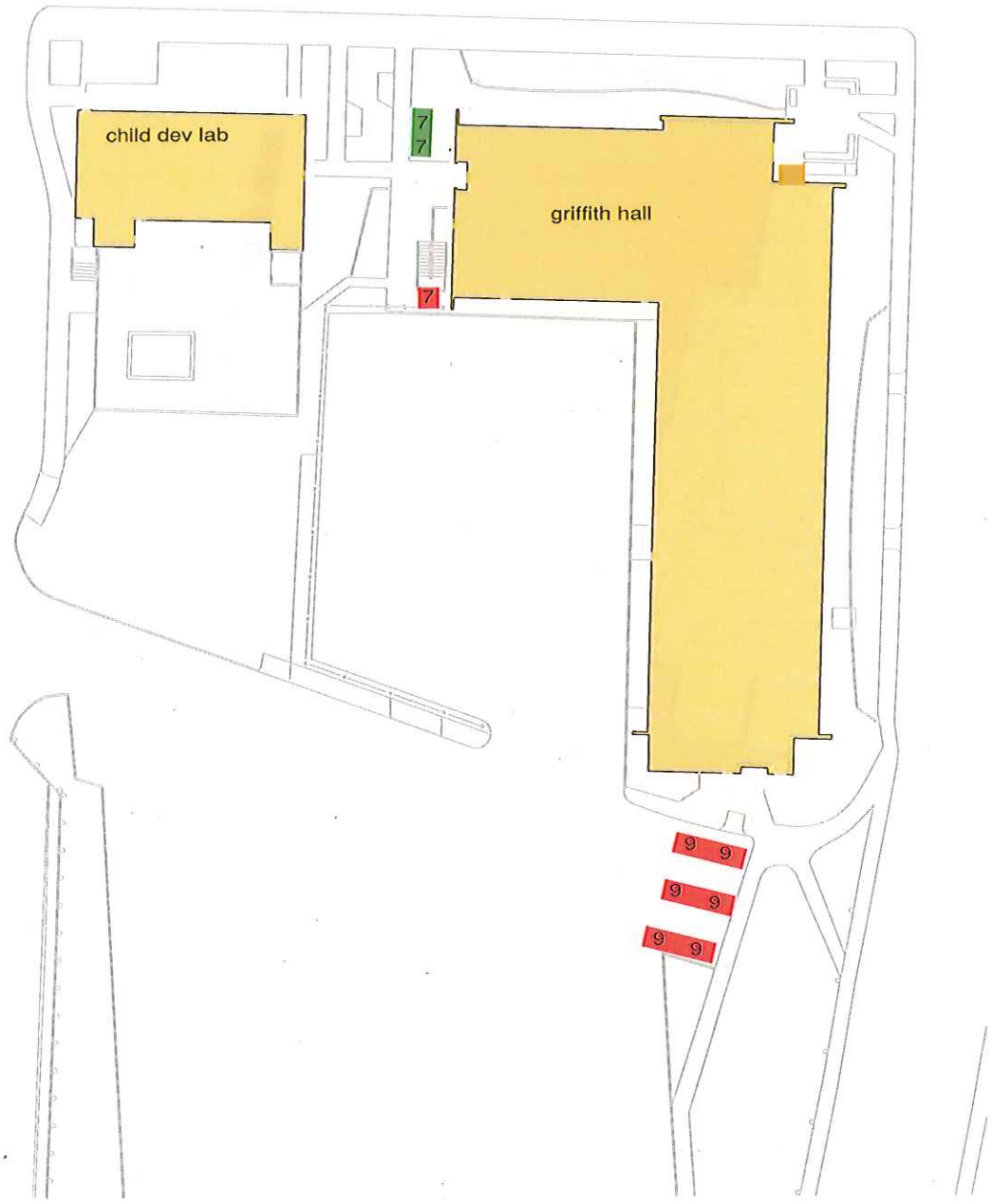
33 existing bike spaces

121 bike spaces after replacement

9 replacement bike rack & capacity

9 new bike rack & capacity

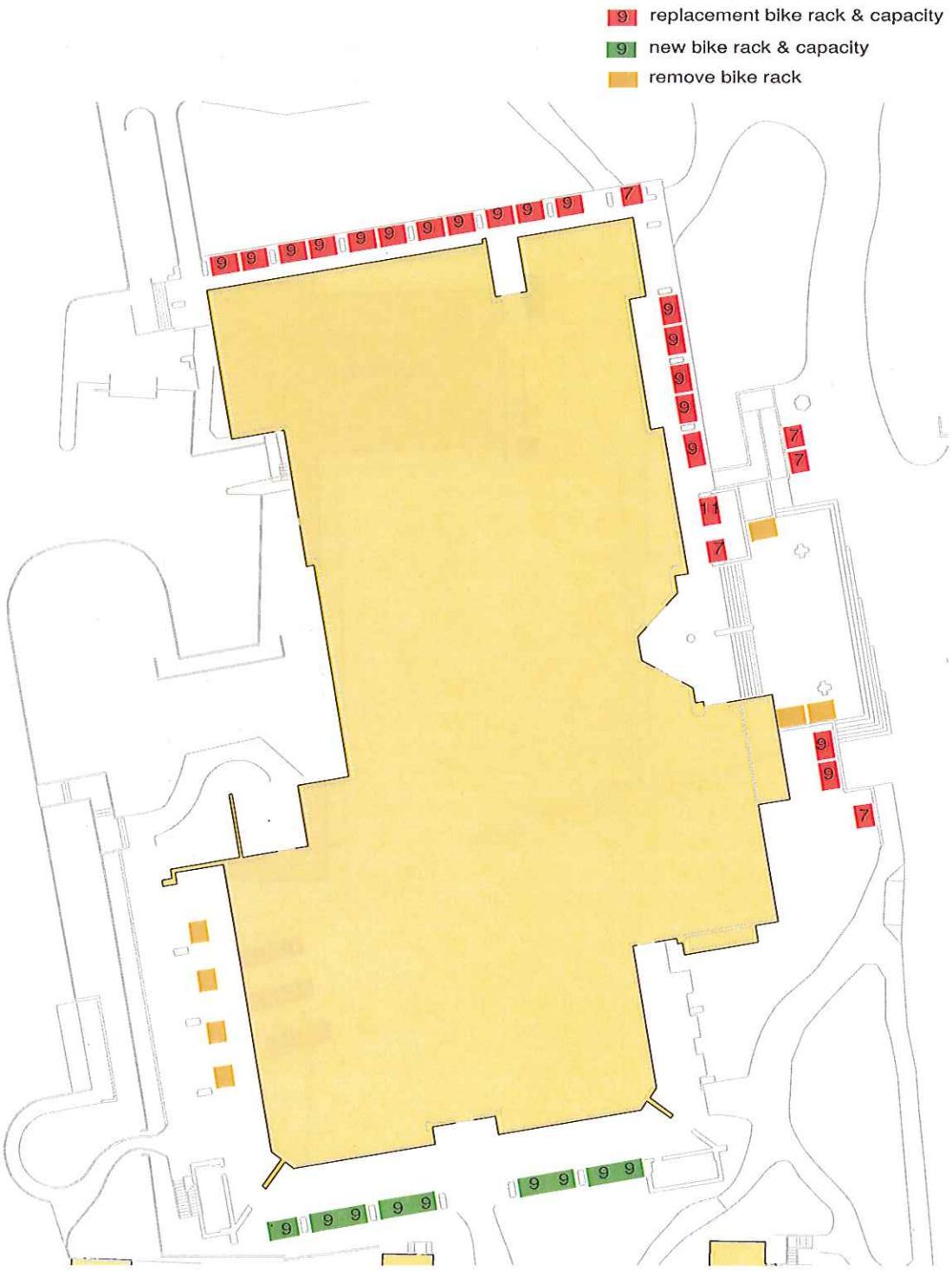
remove bike rack



GRIFFITH

36 existing bike spaces

75 bike spaces after replacement



LIBRARY

176 existing bike spaces
289 bike spaces after replacement

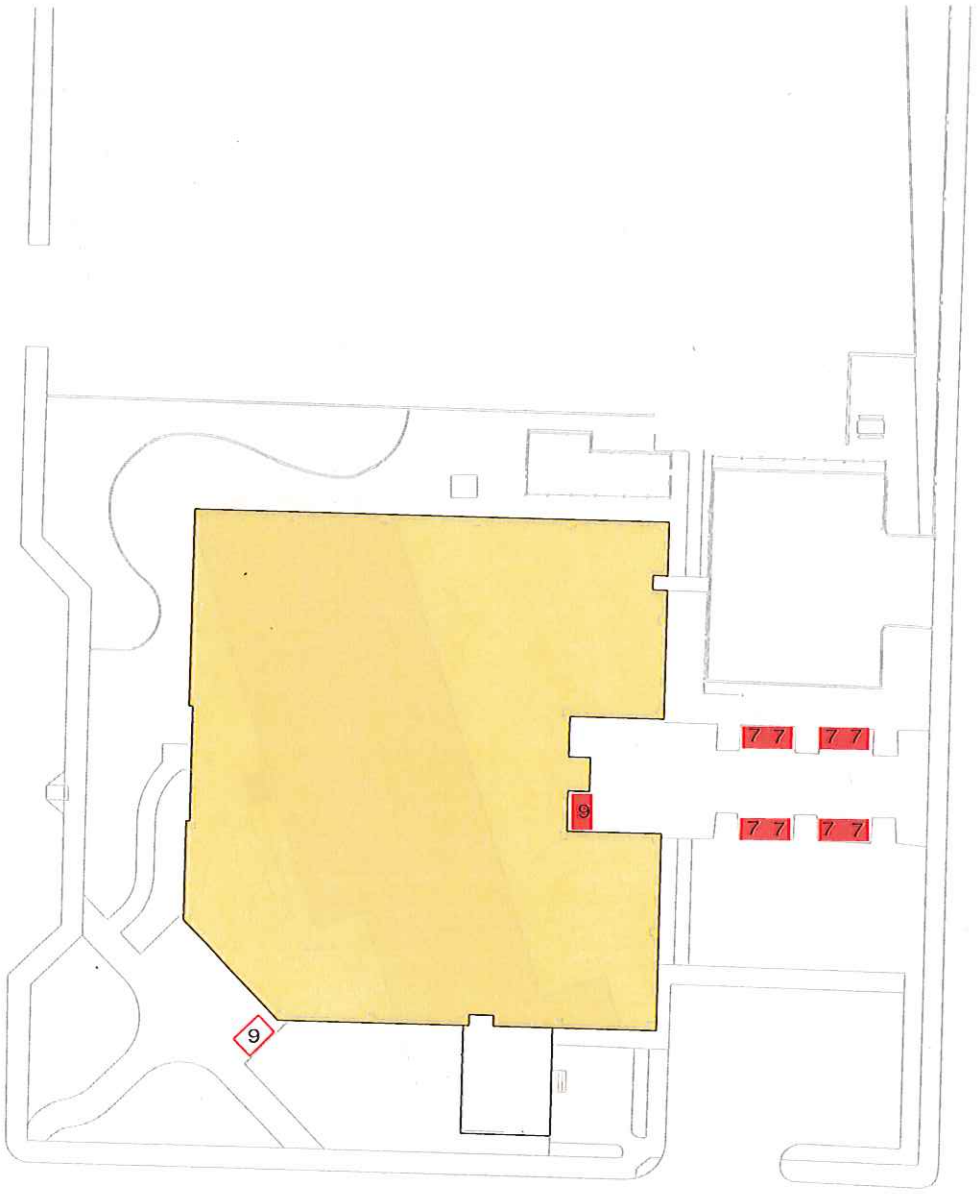
9 replacement bike rack & capacity

PLANT OPERATIONS

4 existing bike spaces

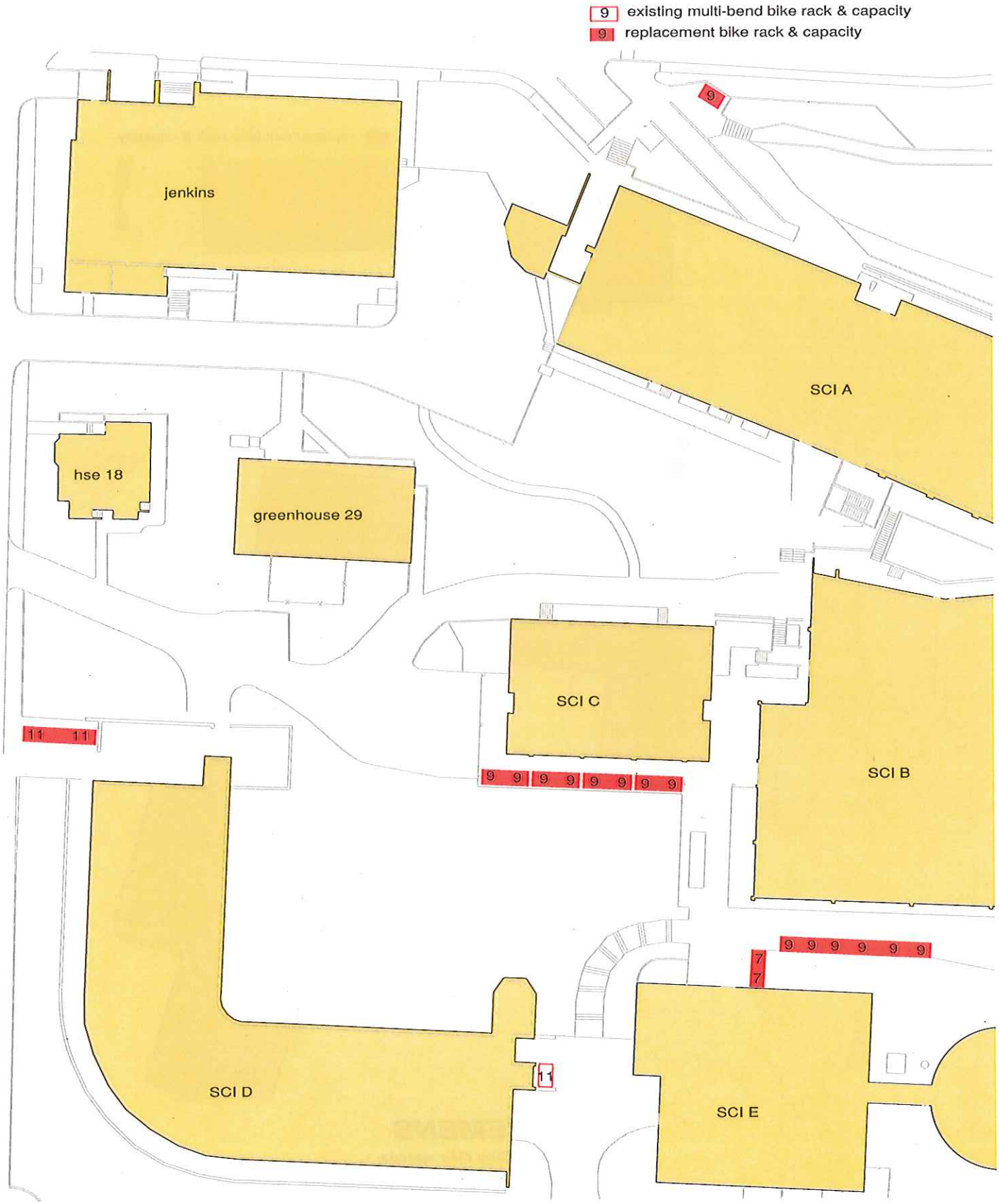
7 bike spaces after replacement

9 replacement bike rack & capacity
9 existing multi-bend bike rack & capacity



SBS

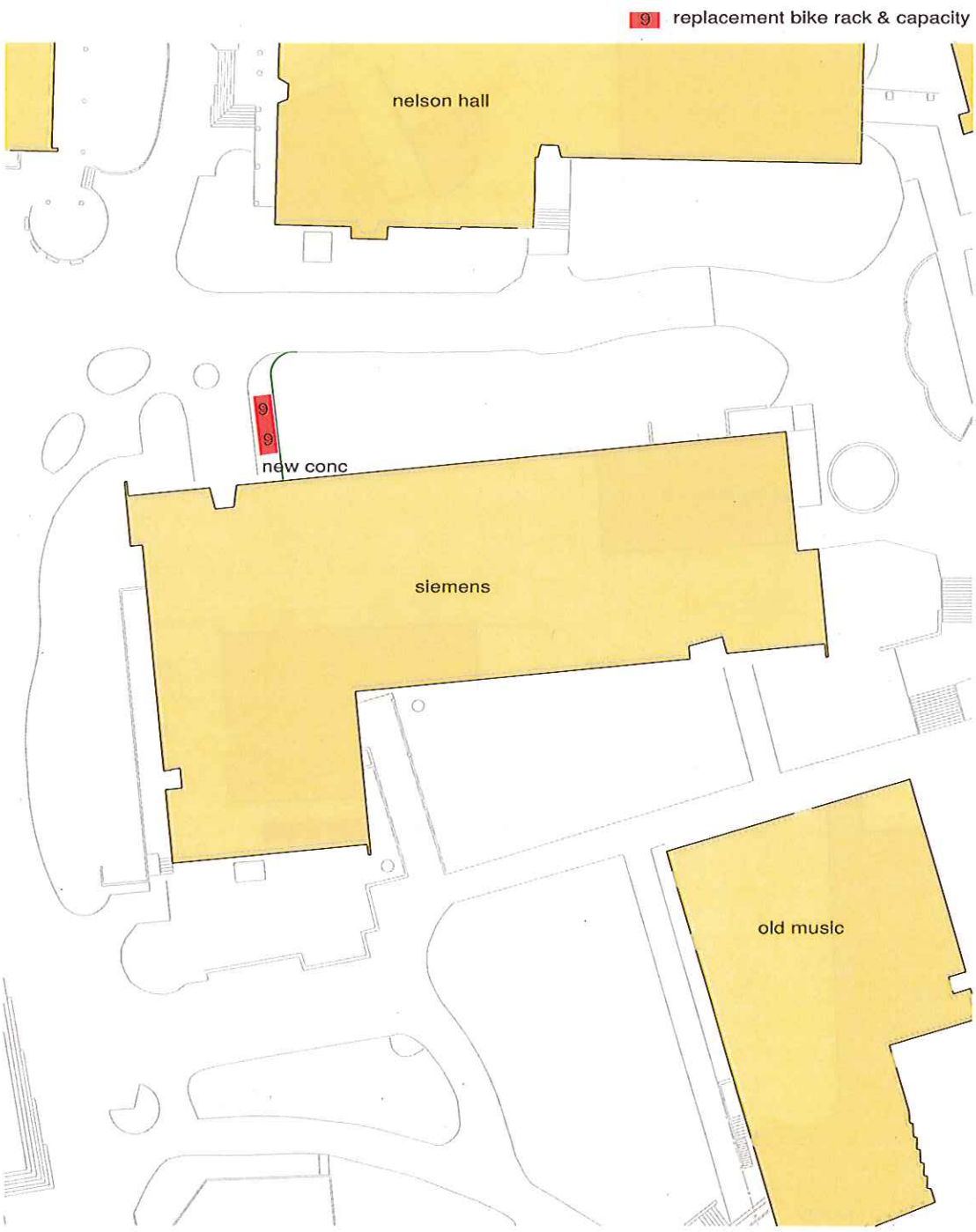
49 existing bike spaces
74 bike spaces after replacement



SCIENCE

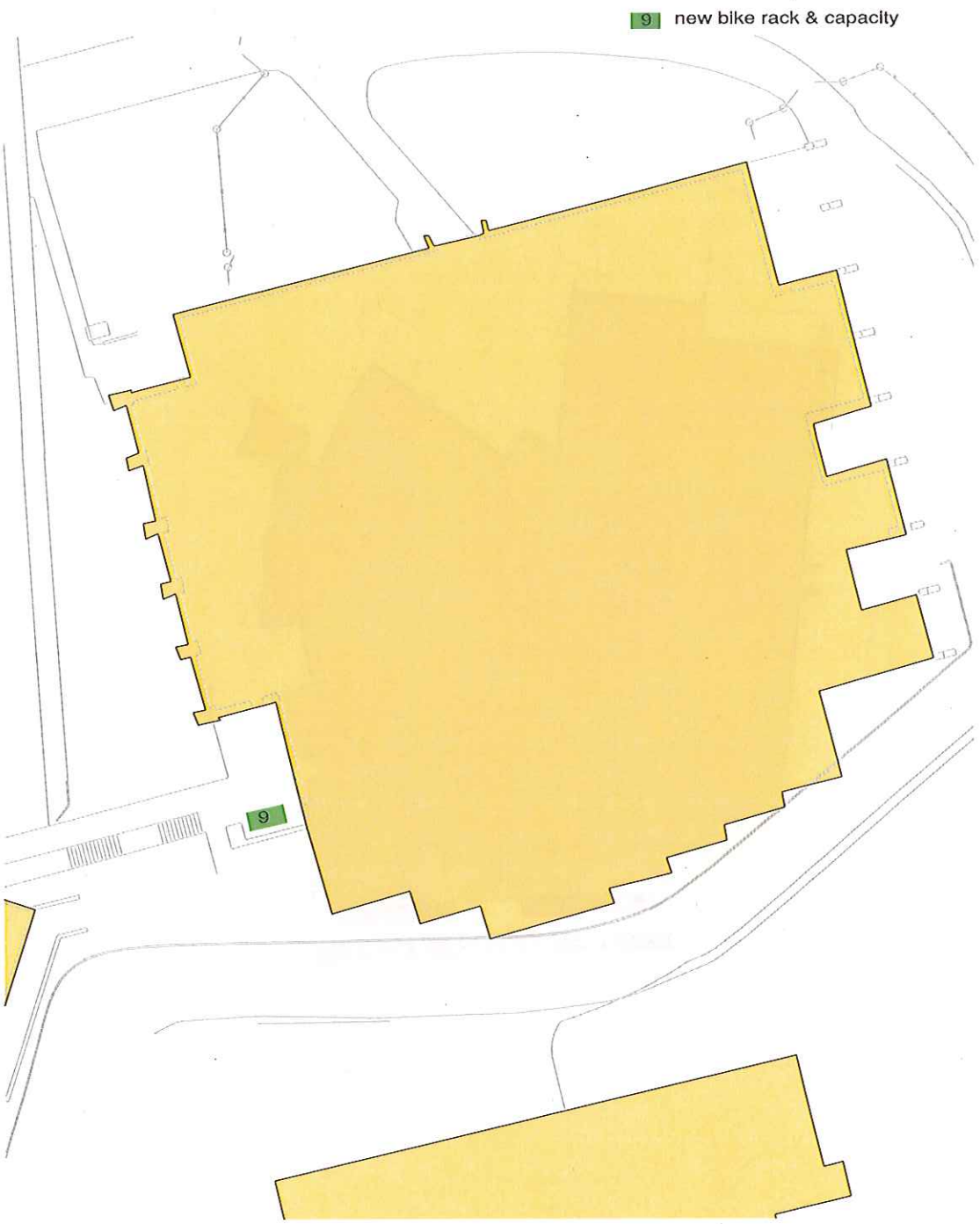
99 existing bike spaces

182 bike spaces after replacement



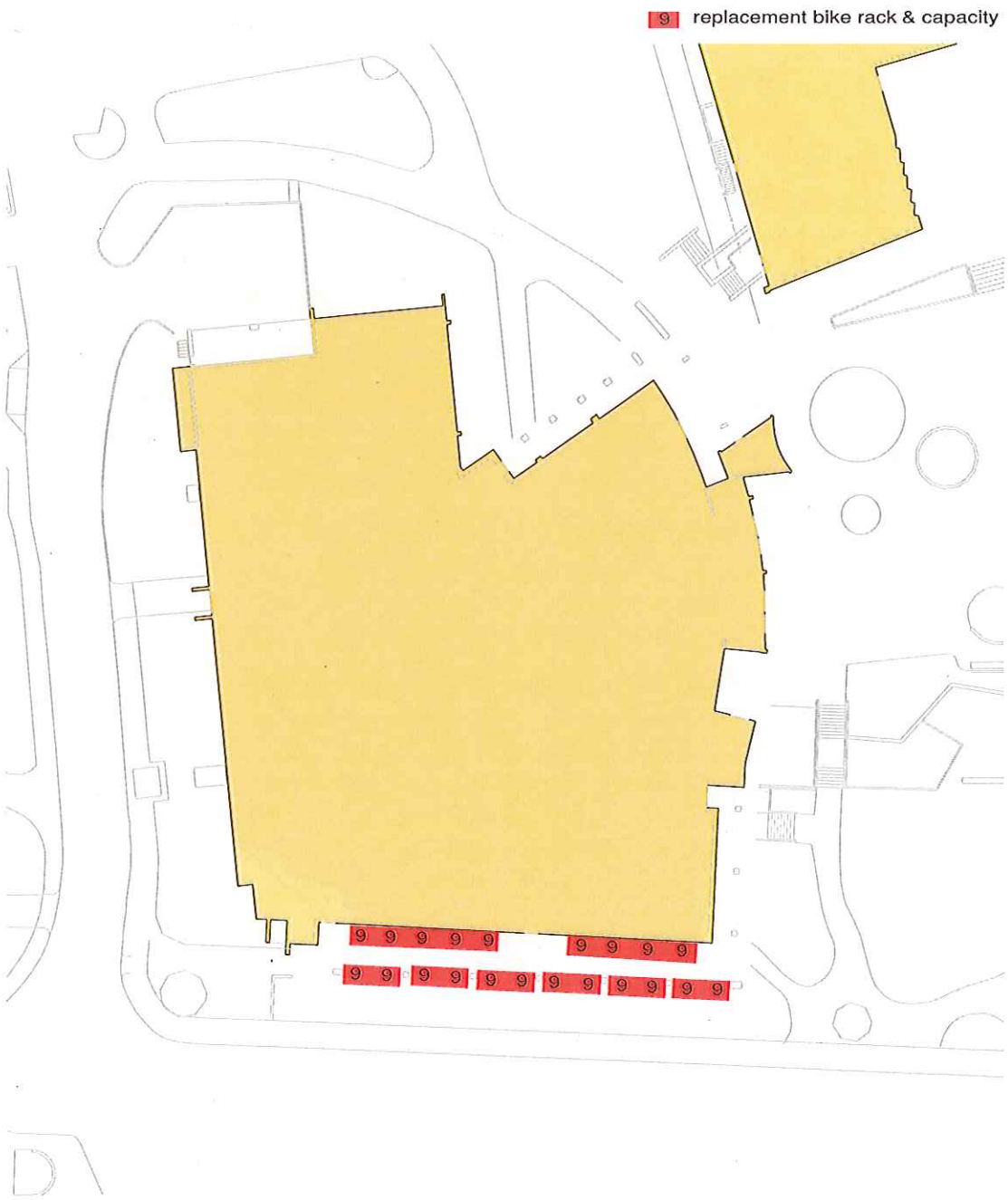
SIEMENS

8 existing bike spaces
18 bike spaces after replacement



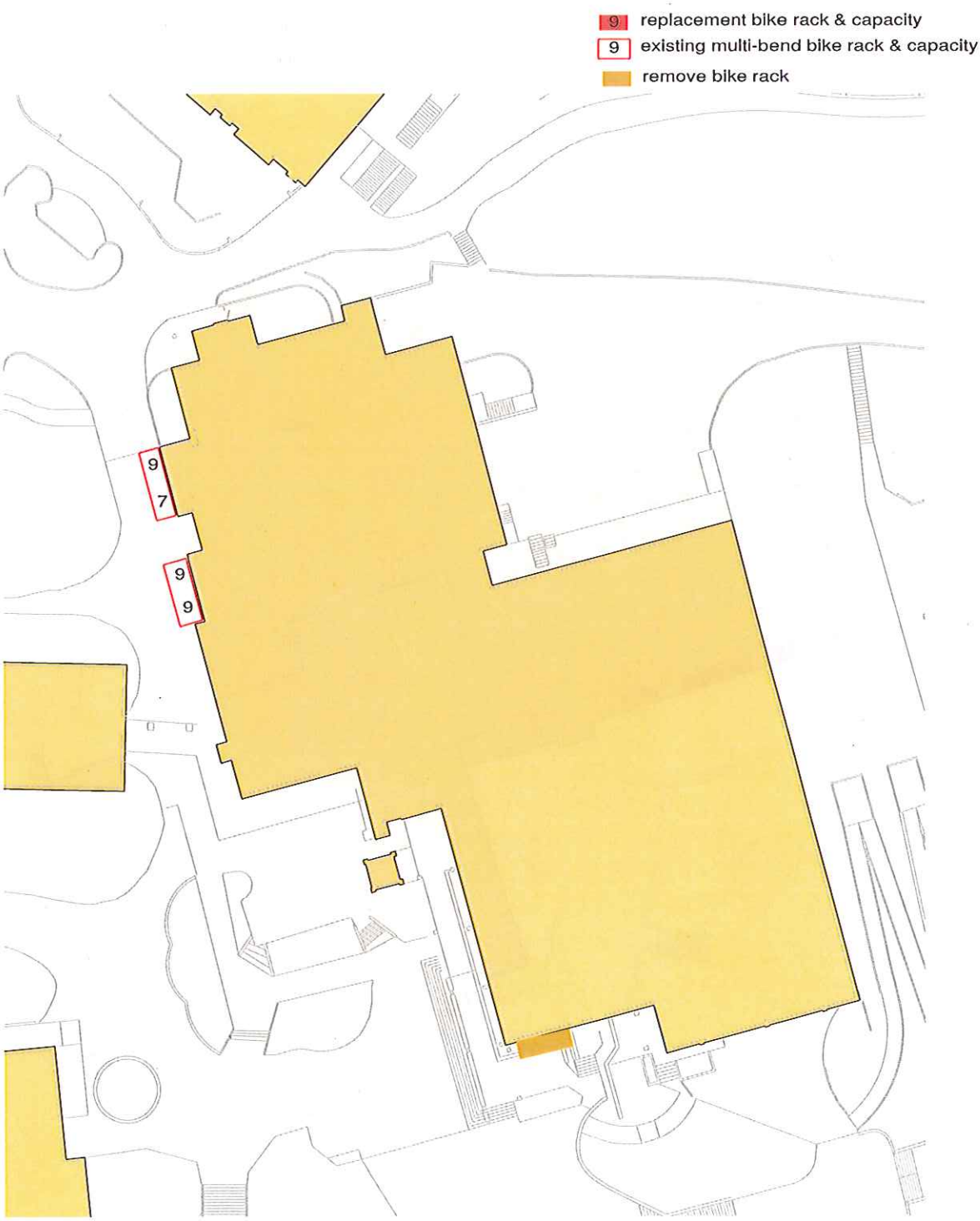
STUDENT REC CTR

0 existing bike spaces
9 bike spaces after replacement



THEATRE ARTS

122 existing bike spaces
189 bike spaces after replacement



UNIVERSITY CENTER

46 existing bike spaces
34 bike spaces after replacement

WEST GYM

52 existing bike spaces
55 bike spaces after replacement

WILDLIFE

11 existing bike spaces
36 bike spaces after replacement

fragmd.org / Ozone chemistry.htm

Search: • Alternative Transportation (1st hit)
- Carpooling (1st hit)
- Bus schedule (1st hit)
- Bike Rack Locations (2nd hit)
- zip car (not on 1st page)
- Carpool forum (no link)
- Bicycle (3rd hit)

Edits To page: Pking Comm. svcs

- Bullet for Zipcar unde Alt. transportation
- Remove Green Wheels (not active on campus)
- Change Bicycling & Bike Riding to one or other for consistency
- Add AlterNet Rides
- Add Map for bike rack & bus stop locations on campus
- Add ZipCar link
- Bus Info: headline/Bold "Bus Schedules"
  - explicitly state what area each busline covers

[all students section
bullet buslines - and service area]

link for allenet on carpooling page
link to succesful carpooling tips

- Zipcar
- AlterNet Rides (have link to A.R on Parking Svcs & T.C.'s page)

on walking page Put link to bus stops and find statistic about how many people live w/in walking distance.
(3 blocks is furthest stop to walk to)

email Jenny regarding bike rack locations

Appendix 7:

HOP Flyer

HUMBOLDT STATE UNIVERSITY

ALTERNATIVE MEANS OF TRANSPORTATION AT HSU

Thinking of bringing a car to campus? Parking is sometimes difficult to come by and a timely endeavor when you have to get to class. Below are a variety of transportation alternatives available to the campus community. Try a new form of transportation today!

BIKE RIDING

Bicycles are one of the most useful and economical alternatives to the motor vehicle because they are relatively inexpensive to buy and need only minor repairs. For students living in Arcata, the campus is only a 5-10 minute ride away. Humboldt State University provides bike racks throughout the campus. For help maintaining and repairing your bicycle, contact the Bicycle Learning Center, located behind Nelson Hall. The Bicycle Learning Center is a volunteer-run bike shop and club. They provide tools, books, and knowledge to help campus community members learn how to repair and maintain their own bikes, be more comfortable riding as a form of transportation, and reduce the amount of automobile-driving on and off campus. Open hours are posted outside the shop.

JACK PASS AND BUS INFORMATION

Humboldt State University's Jack Pass program encourages mass transit and reduced fuel consumption by enabling students to travel on Humboldt County bus systems for free. Save car and parking expenses, and help protect the environment at the same time! The Jack Pass is funded from a portion of regular student fees. All HSU students will have unlimited free ride access on the Redwood Transit System (RTS) buses, which serve the Route 101 corridor from Trinidad to Scotia, including Valley East and Valley West in Arcata, the Eureka Transit System (ETS) buses which serve the city of Eureka and Arcata & Mad River Transit System (A&MRTS) which serves the Arcata area.

Currently registered students simply slide their HSU student identification card through the bus fare box and receive a free ride. Staff and faculty can buy into the program for $60.00 a semester and Extended Education students can buy into the program for $30.00 a semester, at the Student Financial Services window on the second floor of the Student Business Services building.

HUMBOLDT
STATE UNIVERSITY

CARPOOLING

Each day you have 3 or more people in your car (2 if that is the car's maximum capacity), stop by the drive-up window at the Parking & Commuter Services office on Rossow St, show your HSU parking permit and receive a Carpool Preferential Parking Permit for the day. These Preferential Permits allow you to park at meters at no additional cost.

WALKING

If you live on campus or in Arcata, you can get by without a car. The University, downtown Arcata, restaurants, shopping centers and health care services are all within walking distance. Try the Original Mode of Transportation; Be a Pedestrian!

MOTORCYCLES AND MOPEDS

Parking permits for motorcycles and mopeds are 1/4 the cost of automobile permits as they take only 1/4 of the parking space. Motorcycles and mopeds are allowed to park on any unmarked street (no stall markings) as well as in any of the 15 motorcycle zones located throughout the campus.

ZIPCAR

Students at Humboldt State now have wheels when they want them with Zipcar's car-sharing program. Humboldt State has partnered with Zipcar to bring you 2 cars to campus. Cars are available on-demand 24/7, to be reserved by the hour or day. Join today and you can be driving in no time.

Zipcar is car sharing, an alternative to car rental and car ownership that gives you the freedom to take a car when you want it, and put it back when you're done.

FOR FURTHER INFORMATION GO TO
http://www.humboldt.edu/parking/index.html

Appendix 8:

Notes regarding meetings with T.C. Comet:

ENVS 411

meeting w/TC

3/8/12

1) could be addressed, but too costly
   ~ outside of HSU control
2) TC meeting w/ Transportation committee (15th → March).
   - can ask carpooling questions @ meeting
3) TC will inquire about carpool
4) [redacted] ~~Bike learning center~~ How/who is Admin of website
5) Carpooling Incentives
   - might not be feasible for semester long implementation
6) Increase in parking fee
7) Logistics of getting current - local address
   - Michael Winkler ~~will se~~ TC will send contact info for Michael
8) Might be too big of a barrier for recruitment
   - ASK: Recruitment office ask Marissa Head of HOP who to contact in charge of recruitment
     Housing would be enforcement
     John capachio
9) TC hopes this will occur based on our usage
   - Zipcar dictates how many cars we have
   - outside our control we are hosts

(10) ~~A~~ Resources
How can we promote Δ that will be implemented to make better

(11) TC says its a must!

(12) Good Idea, maybe talk to Traci to see if something resembling this exists
Add Bus$ steps good idea

(13)

(14) PKing / Trans SVC - tapped out for $$ might not be feasible due to lack of $
- ~~under~~ not a good bang for buck, why is this needed

(15) Actively being worked on

* TC will monitor → send report in fall back

* Transportation meeting 15th

ENVS 411

2/7/12

2pm

[TC Meeting]

- "zim ride" → Buying a SVC. take care of everything
- "greenscene" website → zipcar website (takes you to HSU)

Transportation committee ⇒ engaging in their "hot topics"

- chair → lynn soderberg

Transportation Demand management studies (Pomona, Long Beach, ?Fullerton)

- → profile of on campus transport. info
- → some campus' have already done such studies
  - ↳ can use these as references

Karen Hople (Prkng svcs) → ~~Trans. study~~ ~~Translation Study~~ okay

speak w/ first

3 systems come to campus

- AMRTS
- RTA
- HTA

} connectivity

} senses: parent, new student

Student Trans. Pg → one main pg. website linked

- Carb Sharing
- Bus Info / Bus lines demystified
- link to existing rideshare match
- rudimentary match SVC (moodle blog.)
- Carpooling info. (implement incentives)
- Zip car info

2/7/12

* Letting know people what transp. options are *

Additionally → 1 page briefing to go into HOP packet for prospective students

Karen Hoppy Hoppie / ~~trans~~ prking SVC
HOP
Lynn Soderberg / chair trans. committee

- weekly announcements email
- flyers
- Dorms bulletin
- transp. search → 1st in site search (spk to Karen)

estimates → emission savings

goals → individual schools (no commitment; by HSU to higher standards than state mandate)
→ CSU policy for goals
originally pushed → Update to energy & sustainability policy for CSUs
→ "Chancellor exec. order 987"

AB32 (climate neutrality legislation)

survey → Qs regarding carpooling that haven't been or can be answered could be potential Qs for transportation survey in future

Grants ⇒ Humboldt Loyalty Fund

Meeting with T.C. Comet

4/10/12

survey question
monetary increase ⇒ per semester or per academic year

#1 Duplicate
#2 possible with some considerations & research, & timeframe
#3 ?
#4 ?

survey results will be used for Trans. committee / focus is on pike shape program the demonstrated need for such a program
Final Draft of survey is basically done won't be administered until fall

proposing fee increase

Issues with union negotiations
no full impact across the board fee increase

#2 ... relative to your negotiated parking fee if any

we realize we may have to Δ wording a certain way

concept of finding a threshold

HOP Packet - flyer
- T.C. will look over & will add to sustainability web page
- contact Marissa Maur/Mahr to get into packet

VTPI.

Incorporating survey Q's into survey
- email electronic version of our Qs to T.C., he will have grad. students look over Qs to incorporate
- Edit Q#2 before giving to T.C.
  ↑
  whatever we come up with based on Trans. Committees feedback

Find Municipal examples
or another CSU parking fee increase to state what we expect the result to be

02-08

*one page briefing about transportation options → ~~H.O.P.~~ → prospective students

Initial Meeting with T.C. Comet

Stuff to ask TC:

- what kinds of benefits exist for carpoolers?
  *weekly announcements
- stats:
  - cars driven?
  - bikes?
  - parking spaces?
  - alternatives?
  - incentives? • research other campus'
- designated parking spaces
- advertise free parking passes

*understanding interconnectedness

LTA
RTA
AMRT

1 page to link

*prospective parents

*student transportation
- zip cars? → linked to page
  Cal Poly Pomona, Long Beach

- transportation survey

- what has been done in the past?

- what direction to go in?

*emissions savings
- state goals for school reduction expectations → AB32 goals/planning →

- bicycle library? intern?

- van/shuttle?

- where to link a webpage to?

*housing → carpool
- information into program

- tech person to mgmt website
- Zimride → annual cost

*transportation committee → meeting

*transp. demand mgm. plan → profile
commuters? - areas/timing
staff?

*2005 transportation study → Parking Services
Caryn Hoppe
- how many parking spaces? → metered, general, etc.
- can you give up 10 spaces?

*survey Q → use of carpooling

Meeting with T.C. Comet

04-10

* ~~wallet?~~
* ~~meet Kellie @ 1~~
* ~~home: WLDF + soils folder~~

- how to proceed w/ survey?
- how to address survey in implementation?
- does TC want our questions in his survey?
- time frame for survey?
  - administered in Fall 2012
- what will results be used for?

parking amt. ↑ .. negociated — % amts. below, relative to your current parking fees → more valid (unions? general?
  - change the wording?

→ • vs. 2005 Mobility Study → relative check in changes → benchmark
  → perception change
  • bike share program need →
  2 grad students

HOP → Marissa Manr
- link to zip car page

- incorp. into survey → • e-mail T.C. survey Q's
  • update wording of #2

- Transportation Demand Study

- Institutional Research

notes during meeting with T.C. Comet
~~March~~ 03-08

Alternatives

- Increased frequency of bus during peak school hours
  - Alter A&MRTS bus schedule to arrive every half-hour during peak hours
  - Discuss options about more bus route times - varied
- Create and distribute a carpooling interest poll (regarding creation/institution of an HSU carpool forum) part of survey?
- Make it easier for Parking Services to track carpooling passes given out – somehow? → memo to trans. ~~dept~~ dept.
- Create a carpooling forum for HSU students, staff, faculty facebook?
- Carpool incentives
  - ? Create a carpooling permit that is sold at a discounted rate, permit is tied to student/staff/faculty identification numbers and all carpoolers must be present during time of purchase with valid HSU IDs
  - ~~Create preferential parking for carpoolers (near Parking Services kiosk)~~
- Increase in parking fee for single occupancy vehicles
- Provide incentives for students/staff/faculty who do not drive to campus
  - ? Incentives for using alternative modes of transportation – c-card points
- ~~Tiered parking fees; the further someone lives from campus the less expensive a parking~~ permit ~~is to purchase~~
- Restrict on campus residents from bringing vehicles
  - Ban/limit parking permits for Freshman (or students that live on campus)
- ~~Expand the Zipcar fleet~~
- ~~Make Zipcar free for HSU staff/faculty (employees)~~
- Advertise the existing forum, Zipcar, carpooling, other alternative transportation
  - via fliers, e-mails, announcements, website, etc.
  - Tabling at a fair
  - Advertise parking pass incentives around campus
  - Calculate how much gas/carbon emissions can be saved/offset by carpooling or using other forms of alternative transportation
- Create a flyer for HOP packet about alternative transportation options
- Increase awareness using flyers or pamphlets with maps
  - Create maps that show where access to alternative modes of transport exist and their amenities (e.g. Bike racks, bus stops, bike help) – duplicate as flyers, posters, and stationary maps
- Update and streamline the Parking Services website — interoffice email from Lynne to get everyone on same page on how to get carpool stats printed
  - Organize the website – add links to zipcar, bus schedules, carpooling info
- Create a link or page on the sustainability website about alternative transportation
- ~~Create covered parking for bikes~~
- Bike library or bike sharing or bike borrowing ? Mike Conway

Appendix 9:

2005 Transportation Access and Parking Survey:

The California State University

Humboldt State TRANSPORTATION ACCESS AND PARKING SURVEY

The University is examining how best to improve travel to, from and on the campus. An area of special interests is the improvement in walking, public transit, ridesharing and bicycling travel modes to campus. This effort will consider traffic flow and parking improvements as well. Please assist us by completing this survey form.

It is expected that it will take you approximately 5 minutes to take this survey.

1. Please indicate whether you are:

- Undergraduate Student
- Graduate Student
- Faculty
- Staff/MPP
- Other (please specify) _____

2. Do you live:

- On campus
- Off campus

3. If you live off-campus, what City/Town do you live in?

_____

4. How many miles do you commute each way?

_____

5. What time do you typically arrive on campus?

- Early morning (Before 7:30)
- Morning (7:30 - 9:30)
- Late Morning (9:30 - 12:30)
- Early Afternoon (12:30 - 3:30)
- Afternoon (3:30 - 6:00)
- Evening (after 6:00 P.M.)

6. What time do you typically depart campus?

- Early morning (Before 7:30)
- Morning (7:30 - 9:30)
- Late Morning (9:30 - 12:30)
- Early Afternoon (12:30 - 3:30)
- Afternoon (3:30 - 6:00)
- Evening (after 6:00 P.M.)

7. Indicate your primary mode of transportation to campus

- Drive alone
- Carpool
- Vanpool
- Motorcycle/Scooter
- Walk
- Bicycle
- Skateboard/Rollerblade
- Other
- Public Transit (Indicate Route)

8. What are three principle reasons you commute by your current mode of travel? Please indicate in order of importance, insert a number (1, 2, or 3) with 1 being most important and 3 being least important

Convenience	
Low Cost	
Travel Time/Speed	
Reliability	
Safety	
Child/Travel Companion Needs	
On Campus Movement Needs	
Comfort	
Shorter Walk On Campus	
No Choice	
Other	

9. How long does your typical commute to campus take?

10. If you do not already use an alternative mode of transportation (carpool, public transit, bicycle, walk), please check below all applicable reasons why:

- There are no carpool or public transportation alternatives convenient to my home
- The times I arrive and/or depart the campus vary
- Using an alternative mode of transportation takes too long
- I feel unsafe using public transportation
- I feel unsafe walking on city streets and/or on campus
- I feel unsafe riding a bicycle on city streets and/or on campus
- Bicycle parking spaces on campus are inadequate
- Bicycle parking spaces on campus are not protected from inclement weather
- There is no place to change clothes or clean up
- Health or disability prevents me from using bicycles.
- Other (please specify)

11. Do you currently have a parking permit?

- Yes
- No

12. If you drive, where do you typically park?

- Off Campus
- On Campus

13. Parking on campus is convenient

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

14. Should the University provide more parking spaces?

- Yes
- No

15. Currently there is a per semester fee for parking on campus. If the university constructed additional parking facilities thus making parking more available, please check the items you agree with

- I would not pay an additional fee for a convenient parking space
- I would pay an additional $5 / semester for more convenient parking
- I would pay an additional $10 / semester for more convenient parking
- I would pay an additional $25 / semester for more convenient parking

I would pay an additional $50 / semester for more convenient parking

16. As the City of Arcata and HSU grow, local on-street, city parking, and parking in surrounding neighborhoods will continue to be reduced/restricted. This may require expansion of campus parking facilities, and increases in parking fees. If you currently drive to campus, how would you get to campus considering these possibilities?

- Continue to Drive
- Carpool
- Transit
- Bicycle
- Motorcycle / Scooter
- Walk
- Skateboard / Rollerblade
- Other

17. What other comments or suggestions do you have regarding travel to/from campus and university parking improvements?

Thank you for completing the survey. Survey findings will be posted on the University web site in the near future.

Complete >>

Results Summary

Filter Results

To analyze a subset of your data, you can create one or more filters.

Total: 1730
Visible: 1730

1. Untitled Page

1. Please indicate whether you are:

	Response Percent	Response Total
Undergraduate Student	**63.8%**	**1103**
Graduate Student	8.5%	147
Faculty	9.3%	160
Staff/MPP	16.6%	287
View Other (please specify)	1.9%	32
Total Respondents		**1729**
(skipped this question)		1

2. Do you live:

	Response Percent	Response Total
On campus	8.2%	142
Off campus	**91.8%**	**1584**
Total Respondents		**1726**
(skipped this question)		4

3. If you live off-campus, what City/Town do you live in?

View	**Total Respondents**	**1584**
(skipped this question)		146

4. How many miles do you commute each way?

View	**Total Respondents**	**1588**
(skipped this question)		142

5. What time do you typically arrive on campus?

	Response Percent	Response Total
Early morning (Before 7:30)	12.3%	205
Morning (7:30 - 9:30)	**62.4%**	**1037**
Late Morning (9:30 - 12:30)	20.2%	336
Early Afternoon (12:30 - 3:30)	2.9%	48
Afternoon (3:30 - 6:00)	1.5%	25
Evening (after 6:00 P.M.)	0.7%	12
Total Respondents	**1663**	
(skipped this question)	67	

6. What time do you typically depart campus?

	Response Percent	Response Total
Early morning (Before 7:30)	0.2%	3
Morning (7:30 - 9:30)	0.4%	7
Late Morning (9:30 - 12:30)	2.8%	46
Early Afternoon (12:30 - 3:30)	21%	348
Afternoon (3:30 - 6:00)	**58.8%**	**975**
Evening (after 6:00 P.M.)	16.9%	280
Total Respondents	**1659**	
(skipped this question)	71	

7. Indicate your primary mode of transportation to campus

	Response Percent	Response Total
Drive alone	**60.7%**	**1030**
Carpool	7.4%	125
Vanpool	0%	0
Motorcycle/Scooter	0.5%	9
Walk	15.9%	270
Bicycle	9.1%	155
Skateboard/Rollerblade	0.4%	7
Other	0.7%	12
View Public Transit (Indicate Route)	5.3%	90
Total Respondents	**1698**	
(skipped this question)	32	

8. What are three principle reasons you commute by your current mode of travel? Please indicate in order of importance, insert a number (1, 2, or 3) with 1 being most important and 3 being least important

		Response Percent	Response Total
View	**Convenience**	**82.1%**	**1375**
View	Low Cost	37.7%	631
View	Travel Time/Speed	69.6%	1166
View	Reliability	53.7%	900
View	Safety	21.6%	362
View	Child/Travel Companion Needs	23.4%	392
View	On Campus Movement Needs	18.4%	308
View	Comfort	27.2%	456
View	Shorter Walk On Campus	17.8%	298
View	No Choice	25.3%	423
View	Other	22.5%	377
	Total Respondents		**1675**
	(skipped this question)		55

9. How long does your typical commute to campus take?

View	**Total Respondents**	**1643**
	(skipped this question)	87

10. If you do not already use an alternative mode of transportation (carpool, public transit, bicycle, walk), please check below all applicable reasons why:

	Response Percent	Response Total
There are no carpool or public transportation alternatives convenient to my home	45.2%	522
The times I arrive and/or depart the campus vary	**68.7%**	**793**
Using an alternative mode of transportation takes too long	50.5%	583
I feel unsafe using public transportation	8.5%	98
I feel unsafe walking on city streets and/or on campus	5%	58
I feel unsafe riding a bicycle on city streets and/or on campus	12%	139
Bicycle parking spaces on campus are inadequate	6.5%	75
Bicycle parking spaces on campus are not protected from inclement weather	9.4%	109
There is no place to change clothes or clean up	14.7%	170
Health or disability prevents me from		

	using bicycles.	7.7%	89
View	Other (please specify)	32.5%	375
		Total Respondents	**1154**
		(skipped this question)	576

11. Do you currently have a parking permit?

	Response Percent	Response Total
Yes	**58.6%**	**1005**
No	41.4%	711
	Total Respondents	**1716**
	(skipped this question)	14

12. If you drive, where do you typically park?

	Response Percent	Response Total
Off Campus	22.3%	331
On Campus	**77.7%**	**1152**
	Total Respondents	**1483**
	(skipped this question)	234

13. Parking on campus is convenient

	Response Percent	Response Total
Strongly Agree	9%	151
Agree	14.1%	235
Neutral	15.6%	260
Disagree	25.8%	432
Strongly Disagree	**35.5%**	**594**
	Total Respondents	**1672**
	(skipped this question)	57

14. Should the University provide more parking spaces?

	Response Percent	Response Total
Yes	**71.9%**	**1215**
No	28.1%	474
	Total Respondents	**1689**
	(skipped this question)	41

15. Currently there is a per semester fee for parking on campus. If the university constructed additional parking facilities thus making parking more available, please check the items you agree with

	Response Percent	Response Total
I would not pay an additional fee for a convenient parking space	**43%**	**708**
I would pay an additional $5 / semester for more convenient parking	28.2%	465
I would pay an additional $10 / semester for more convenient parking	27.7%	457
I would pay an additional $25 / semester for more convenient parking	11.2%	184
I would pay an additional $50 / semester for more convenient parking	5.6%	93
Total Respondents		**1648**
(skipped this question)		82

16. As the City of Arcata and HSU grow, local on-street, city parking, and parking in surrounding neighborhoods will continue to be reduced/restricted. This may require expansion of campus parking facilities, and increases in parking fees. If you currently drive to campus, how would you get to campus considering these possibilities?

	Response Percent	Response Total
Continue to Drive	**62.3%**	**900**
Carpool	7.3%	106
Transit	8%	116
Bicycle	10.7%	154
Motorcycle / Scooter	1.5%	21
Walk	7.6%	110
Skateboard / Rollerblade	0.4%	6
Other	2.1%	31
Total Respondents		**1444**
(skipped this question)		275

17. What other comments or suggestions do you have regarding travel to/from campus and university parking improvements?

View **Total Respondents**	**1100**
(skipped this question)	**630**

Appendix 10:

Sample table of statistics to be used for monitoring the relationship between a parking fee increase and commuting behavioral changes:

	GENERAL+RESIDENT (G+R)		
YEAR	PERMIT FEE	NO. PERMITS SOLD	HEADCOUNT
2000-01		2381	
2001-02		2496	
2002-03		2505	7611
2003-04		2457	7550
2004-05		2246	
2005-06		1878	
2006-07		1686	
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			
	STAFF (S)		
YEAR	PERMIT FEE	NO. PERMITS SOLD	HEADCOUNT
2000-01		961	
2001-02		945	
2002-03		973	1455
2003-04		948	1455
2004-05		953	
2005-06		916	
2006-07		963	
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			

	MOTORCYCLES		
YEAR	PERMIT FEE	NO. PERMITS SOLD	HEADCOUNT (G+R+S)
2000-01		44	
2001-02		51	
2002-03		56	9066
2003-04		52	9005
2004-05		65	
2005-06		68	
2006-07		61	
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			

	RTS		
YEAR	BUS RIDERSHIP	NO. OF JP USERS	HEAD-COUNT
2000-01			
2001-02			
2002-03			
2003-04			
2004-05			
2005-06			
2006-07			
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			

	ETS		
YEAR	BUS RIDERSHIP	NO. OF JP USERS	HEAD-COUNT
2000-01			
2001-02			
2002-03			
2003-04			
2004-05			
2005-06			
2006-07			
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			

	A&MRTS		
YEAR	BUS RIDERSHIP	NO. OF JP USERS	HEAD-COUNT
2000-01			
2001-02			
2002-03			
2003-04			
2004-05			
2005-06			
2006-07			
2007-08			
2008-09			
2009-10			
2010-11			
2011-12			
2012-13			

JP = Jack Pass

Appendix 11

Timesheets

Project Work Log: Hannah Farrell	
Event	**Duration:**
Meetings with TC (3)	3 hours
Meeting with group outside of class	6 hours
Class time (26 meetings)	50 hours
Independent research (brainstorming/background/alternatives)	10 hours
Independent research/communication (implementation/monitoring)	8 hours
Background document writing	1 hour
Alternatives document writing	2 hours
Criteria chart creation	1 hour
Implementation document writing	1 hour
Monitoring and Evaluation document writing	1 hour
Compiling & editing final draft	2 hours
Independent ppt presentation preparation	3 hours
Group meeting for ppt presentation	3 hours
	Total: 93 hours

Project Work Log: Lynette Villagomez		
Date	Event	Duration (hr:min)
	meeting with TC	1:00
10-Feb	meeting with group	0:40
10-Feb	independent research	0:30
14-Feb	Transportation Committee Meeting	1:00
17-Feb	meeting with group	1:00
19-Feb	independent research	5:30
	alternatives brainstorm	0:45
	alternatives doc	1:00
	meeting with TC	1:30
	alternatives_2 doc	0:45
	WeighingAlternatives_LV doc	1:45
	Research_implementation/strategies	1:10
	editing weighing alts/ implem_strat	2:30
	e-mail to Lynne Soderberg	0:15
5-Apr	research CSU parking fees	3:00
8-Apr	research CSU parking fees/eval_monitoring	4:00
17-Apr	research prep transp. Meeting	1:40
17-Apr	Transp. Meeting handout	0:20
18-Apr	Transp. Meeting handout	1:15
19-Apr	Transportation Meeting	1:15
28-Apr	final draft edits/ppt presentation	4:30
29-Apr	presentation	1:15
29-Apr	"meeting with group	3:40
30-Apr	bibliography/presentation outline	1:00

Project Work Log: Lee Tumminello		
	Event	**Duration:**
	Meetings with TC (3)	3 hours
	Meeting with group outside of class	6 hours
	Class time (26 meetings)	50 hours
	Independent research (brainstorming/background/alternativ	15 hours
	Independent research/communication (implementation/mon	10 hours
	Background document writing	1.5 hour
	Alternatives document writing	2.5 hours
	Transportation Commitee Meeting	1 hour
	Implementation document writing	1 hour
	Monitoring and Evaluation document writing	1 hour
	Compiling & editing final draft	2 hours
	Independent ppt presentation preparation	1 hours
	Group meeting for ppt presentation	3 hours
		Total: 97 hours

References:

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http://calstate.edu/impact/sustainability/on-campus.html

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(CEPA) California Environmental Protection Agency- Air Resources Board. "Assembly Bill 32: Global Warming Solutions Act". Accessed February 19, 2012. http://www.arb.ca.gov/cc/ab32/ab32.htm

Recommended Transportation Plan

http://www.humboldt.edu/facilityplan/Downloads/master_plan/meeting_archive/transportation_plan_recommendation.pdf

Stanford transportation webpage. Accessed on 03/28/2012.

http://www.transportation.edu.stanford

Wilbur Smith Associates. "Parking and Mobility Study Humboldt State University". April 27, 2005. Accessed February 19, 2012.
http://www.humboldt.edu/parking/Downloads/parking_mobility_study.pdf

Zipcar hand pamphlet for Humboldt State University (distributed by T.C. Comet)

Zimride overview (can be found at zimride.com) accessed via e-mall from Amy Fox (Zimride representative)