Exploring Bike Rack Utilization on Salisbury University’s Main Campus

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Transportation and Parking Issues

A bicycle is a key tool of transportation for most college students; they provide fast, easy, cheap and efficient transportation at all hours of the day. Salisbury University is a University of National Distinction and an affordable option for many students. The student population at Salisbury has risen 40% over the past 10 years, and is expected to continue rise in the near future. Bicycles are a very popular form of transportation around the campus. A quick look around the campus will show a high number of bicycles; they are utilized by students, faculty and staff. Many times the bicycles cannot be locked to proper bicycle racks due to lack of space or inefficiently designed bike racks at specific buildings. Over the past semester I have assessed campus bike racks for their utilization. The purpose of my independent study is to create a campus bike rack survey, analyze the placement of bike racks, and conduct a public education campaign. The bicycle count information is a necessary component needed to make recommendations on how to improve the current bicycle infrastructure. My project also focuses on the creation of institutional policies. I have developed a bike code of conduct as well as bike literature for the campus body. Finally, this exploration of different options at other universities has led me to construct an ideal scenario for biking around a college campus.

Parking is typically at the heart of all transportation systems on college campuses. As Salisbury University expands, less and less parking is available for students, faculty and staff. We live in a culture dependent upon the personal automobile. This is not an ideal system for a university setting. Three university responses to growing parking needs include increasing supply of parking areas; rely on the free market system to meet the increasing demand, and lastly the demand management approach. Increasing parking supply includes purchasing, and
constructing parking lots or parking garages for students, faculty and staff. Relying on the free market system allows outside parties to build and construct parking. This system here at Salisbury University also includes students parking illegally in areas off campus, such as the Superfresh, BB&T Bank, and CVS parking lots, creating tensions between the town and the University. Lastly, the demand management approach means the university explores and employs alternative transportation like more extensive shuttle service, increases bike infrastructure and makes it safer and more efficient, and also creating a more pedestrians friendly campus. Demand management usually requires planning with the surrounding town for better options for students, faculty and staff. From a biking standpoint, the best option is the demand management approach (Toor and Havlink 2004).

**Parking Permits**

All university campuses utilize parking permits. Parking permits are necessary for a campus to function and to have some control over vehicle traffic. Without permits there would be an excessive number of students, daily, attempting to park on campus and many confrontational situations would arise. Limiting the number of parking permits issued allows those with permits a guarantee to have a parking spot on campus. Limiting who can purchase permits beyond just credit hours is a popular method of distributing permits. Another common option to reduce the number of vehicles on campus is to increase the price of parking permits; this is a reasonably easy process for administration but there will certainly upset some individuals. A great way to avoid the opposition and still reduce the number of cars on campus is to install a “parking cash-out program.” This is the compensation students and employees to not purchase a parking permit and explore alternative modes of transportation to campus. A study
completed in the Los Angeles central business district showed that if commuters have the option if a “cash out” system there would be a 67% reduction in solo driver commuting (Toor 88).

Stanford University began using the “cash out” model while slowly raising parking rates, in the mid-1990s. Over the years Stanford invested $4 million in bicycle infrastructure and increased the number of students and employees biking to campus by 900. In order for Stanford to satisfy the vehicle parking for the same 900 individuals, they would have needed to invest nearly $18 million (Toor 87). The cost saving between bicycle infrastructures and parking infrastructure is amazing and the clear choice is bicycle infrastructure. While there is a cost associated with exploring alternative transportation, there are ways to reduce the immediate cost to an institution.

Seen below in Table 1 and Figure 1 is University System of Maryland Institution’s parking permit costs for commuters.

Table 1
*Parking permit Prices at University System of Maryland Institutions*

<table>
<thead>
<tr>
<th>USM Institution</th>
<th>On campus Permit Commuter/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frostburg State University</td>
<td>$40.00</td>
</tr>
<tr>
<td>University of Maryland, Eastern Shore</td>
<td>$40.00</td>
</tr>
<tr>
<td>Bowie State University</td>
<td>$64.00</td>
</tr>
<tr>
<td>Coppin State University</td>
<td>$70.00</td>
</tr>
<tr>
<td>Salisbury University</td>
<td>$110.00</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>$239.00</td>
</tr>
<tr>
<td>Towson University</td>
<td>$303.00</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>$550.00</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>$598.00</td>
</tr>
</tbody>
</table>

*Data gathered from individual Institutions. See works cited*
Salisbury University is in the middle in terms of cost for parking permits with the next highest rate $129.00 away. The University could raise rates substantially and still be well below the prices others. The average cost of parking permits at USM Institutions is $224.

Raising rates has proved effective in reducing parking demand on college campuses. The University of Colorado studied a 40% increase from $29 to $89 in their rates and found a demand reduction of 14% (Toor 83). The University of Washington increased their rates by $18/month, thus reducing the parking demand by 17%; in 2001 University of Washington conducted a study resulting in determining a 10% increase in permit cost would reduce the demand by 1% to 2% (Toor 83). One drawback of increasing parking rates at universities

<table>
<thead>
<tr>
<th>Institution</th>
<th>Cost for Commuter Parking Permit</th>
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<tr>
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<td>$40.00</td>
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<tr>
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</tr>
<tr>
<td>University of Baltimore</td>
<td>$598.00</td>
</tr>
</tbody>
</table>
without viable alternative options is there will be little effect on parking demand. At Salisbury University there are alternative transportation options, but they are not inclusive to all students living off campus. Therefore increase in rates will have a notable impact on demand at Salisbury. With an increasing in parking rates more revenue will follow, those fees must go to investment in alternative forms of transportation.

Typically parking permit pricing is seen as static, a one price fits all situations. This model usually increases demand of parking due to each trip to campus does not have a fee directly associated. One alternative is a “pay as you use” system. The University of Wisconsin, Madison has started this program with the use of new technologies. The user is charged upon entrance and exit of the parking lot. This helps increase parking turnover and reduce the number of students who want to drive to campus daily (Toor 86). Framing parking permit pricing in unique lights will help to determine the best options. As see above in Figure 1 the cost at University of Baltimore is extremely expensive, but they do offer many options for students.

Having several options is very attractive and ensures everyone has a reliable mode of transportation to campus. Option one allows the user to park 4 times during the semester for $20, option two allows the user to park 18 times during the semester for $75, option 3 allows the user to parking 36 times during the semester for $150, and lastly option 4 allows the user unlimited parking during the semester for $299 (Auxiliary Enterprises, 2013). This tiered system of parking is highly attractive to students, and university employees who utilize public transportation, walking or biking as their primary mode of transportation. The occasional permit is ideal for those times when one might have a presentation requiring the transportation of related materials, when there is a doctor’s appointment during the day, or somewhere to be following work or class. The option to park on campus a few times a semester eases the mind of those who
primarily use alternative transportation, without paying for unlimited parking on campus. This is a model Salisbury should investigate when analyzing its parking permit prices.

**Infrastructure Cost**

The least costly and easiest form of transportation for institutions to invest in is bicycle infrastructure. The most expensive form of transportation for college campuses is parking infrastructure. On average there are 124 parking spots per acre, and the cost of the spots can rise quickly. Below is a graph of cost per parking spot based on acre cost. The numbers are relevant and important to studying infrastructure use because showing the cost of a parking spot easily shows that parking permits do not come close to covering the cost of a spot.

<table>
<thead>
<tr>
<th>Land Cost per Acre</th>
<th>Cost of each spot @ 124 spots/acre</th>
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<tbody>
<tr>
<td>$350,000</td>
<td>$2,825</td>
</tr>
<tr>
<td>$700,000</td>
<td>$5,645</td>
</tr>
<tr>
<td>$1,000,000</td>
<td>$8,065</td>
</tr>
<tr>
<td>$1,500,000</td>
<td>$12,100</td>
</tr>
</tbody>
</table>

(Table 2 – Land Value per Parking Space for Different Land Values)

The above numbers are amazingly expensive, adding parking can quickly become expense for a university to easily purchase. Salisbury University has very little available land surround it. Additional parking lot construction would require that the university purchase homes and businesses, tear them down, and then build a parking lot. Those construction costs would rise exponentially. On campus there is currently construction along College Avenue, replacing the tennis courts with a parking lot. According to the Architectural and Engineering Servicer and Capital Projects office, the cost per parking spot is approximately $8,600. This number includes
entrance gate, lighting, landscaping and sidewalks (E. Berkheimer personal communication, May 12, 2014). Over $8,000 is extremely expensive, and based on Table 2 above puts that land cost at over $1 million. As the university expands, the cost will likely rise.

The average parking spot can hold approximately a dozen bicycles. While bikes would most likely not be placed on a parking lot, it creates an argument to simply add more bike racks to allow for more students to bike to campus.

On average a bike rack costs $660, much less expensive that a parking spot. With easy, safe, and efficient bike infrastructure comes retrofitting campus with efficient and uniform bike racks, bike lockers, commuter shower facilities, and bike paths to and from campus from high student population areas. These changes make any campus much easier to navigate by bicycle. A look at Salisbury University will show there already are shower facilities that could be available in Maggs Gym. Bike lockers exist in a modified form, in Seagull Square bike barn. Opening the barn to more than those who live in Seagull Square could increase bike use by those who may have more expensive bikes, or live too far to bike to campus, but want an efficient way to travel around campus during the day. As new infrastructure is being implemented, public relation campaigns ensure all parties are aware of the facilities available for cyclists.

New infrastructure is not always easy to fund if there is not a lot of base support. One way to reduce the infrastructure cost for bikes and alternative transportation is to follow California’s lead. California State law mandates all parking fines must go to alternative mode of transportation. Penal code Section 1463.7 states,

“Funds transferred to the Regents of the University of California pursuant to Section 1462.3 may not be utilized to purchase land or to construct any parking facility. These funds shall be utilized for the development, enhancement, and operation of alternate methods of transportation of students and employees of the University of California and
BIKE RACK UTILIZATION STUDY

for the mitigation of the impact of off-campus student and employee parking in university communities.”

This ensures there is always be a budget to sustain alternative transportation for the California System Institutions. When campuses are budging as the seams for parking, there real only solution is to invest in alternative transportation.

**Deterrents and Solutions**

A big problem with getting students to bike to campus is they are simply not accustomed to the bike as a main mode of transportation. Most students come from the suburbs where the personal automobile is dominant. There is, however, a culture shift already happening in response. National trends show fewer and fewer teens are getting their driver’s license due to the cost of a vehicle, or just lack of desire to drive. In Maryland areas like Montgomery County and Washington DC, there is ample public transportation making it very easy to get around without a car. As a Salisbury University has a growing student population, one can expect there are many students without driver’s license. Salisbury University also is attracting more international student each year. These students typically cannot afford to buy a car once arriving at Salisbury University. The simplest option is to purchase a bike and ride to the store or a friend’s apartment. Having efficient bicycle infrastructure will attract more international students, as the bike is more popular abroad than in the United States. The University should not alienate these students by not having easy transportation options for non-drivers. A university with excellent bike infrastructure is extremely attractive to the new generation of college students. Many students now evaluate university selection based on “green” ratings, and for many students the greener the better. Salisbury University needs to attract these sustainably focused students. According to the Princeton Review green colleges “foster more welcoming academic and social communities,
and result in buildings that feel more resort than dorm, more sports club than gym. Going green also improves quality of life when it comes to dining. Fruits and vegetables transported from across the country are often picked early and then sprayed with chemicals… food tastes better when it's local and organic” (Green Colleges and Quality of Life). These types of features are important to all types of students not just the environments.

Safety is a huge concern for students, administration, and parents. Getting to and from campus at night can be a daunting task; however, there are several programs which can be implemented on campuses that can help make the situation a little bit safer. They include campus patrols, a night escort services, safety shuttle, and additional blue lights. When it comes to safety and biking, there are many other factors to be considered. The main concern is biking on roadways. Biking is always risky, but with thoughtful design they can be an extremely safe of transportation. The most ideal bike path would be an off the roadway path. However, if there needs to be on-the-road path the best type is far from the edge of the road. Some type of physical barrier between the road and the bike path, like a curb, parallel parked cars, or some type of reflective device would provide a safer option for cyclists and drivers. The distinction between the path and the roadway needs to be as clear as possible.

**Best Practices**

Students across the United States have led the way in developing successful campus bike programs. Student advocacy is essential for change on campus to occur. The new trend in bicycle programs is installing a bike share program. There have been many successful student initiatives for bike share. At Simpson College in Iowa an international student had an idea that united the student body with an interesting idea: he wanted free bikes on campus for students to use. The goal was to install reliable, alternative transportation students without vehicles. The program
began and was accepted with enthusiasm by the administration. The program was a success and they have, “revived a lot of positive feedback,” (Public Relations Department). At Oakland University in Michigan three students wanted quick transportation around campus so they proposed a bike that went online in 2009. Their Dean and Assistant Vice President for Student Affairs stated, “I am very pleased with the overwhelmingly positive campus response to the program. I believe the early success of the program can be attributed to the student involvement in virtually every stage of this program's development” (Land, 2009). Student voice is key for any change on university campuses. The voice of the students can positively change a campus and turn it into a bike friendly university.

College transportation plans integrated with the local community are vital to develop an easy sustainable transportation for college students, faculty and staff. University of California, Davis has the best system in the country for bicycle traffic. As their infrastructure is the gold standard for bicycles, Salisbury University would benefit greatly from modeling their system after this or other successful bike programs. The City of Davis has been described as “a university-oriented city with a progressive, vigorous community noted for its small-town style, energy conservation…bicycles and the quality if it’s educational institutions,” (Toor and Havlink 192 2004). UC Davis is one of two schools that have achieved the coveted platinum status from the League of American Bicyclist (Staff 2013). UC Davis has some exciting bicycle stats, for one they have nearly fourteen miles of bike paths on campus. They also have a full time bicycle coordinator position who oversees an annual budget of $40,000-$50,000. These funds mostly come from bike registration, which costs $8 for three years. Many state, federal, and private grants also help make up the budget. Bicycle registration is enforced by students who patrol the bike racks for unregistered bikes in an electric truck. Fines for having an unregistered bicycle, as
well as other bike violations can be as high as $81. On campus there is a full-service repair shop that allows students to DIY or pay for basic services (Toor and Havlink 2004). There are also the bicycle lockers, which are available for rent. Bike lockers are extremely to commuters, many have expensive bikes and want weatherproof and theft proof storage; bike lockers provide both.

In all, the most important thing a university can do to ensure a successful bike system is have a great working relationship with the town. Both organizations will benefit from this relationship, the school can get more students and faculty on bikes and out of parking lots, the town can get a much better transportation system for its citizens to employ.

*Best practices at Salisbury University*

The bike infrastructure for Salisbury University includes 60 bike rack areas on the Main Campus and several bike lanes surround campus, and major student neighborhoods. Improvements to bike infrastructure on campus have mostly come about in the last year the bike lane are currently down Bateman Street, and bike “sharrows” on Camden Avenue. More additions on the campus include Bike Fixit Stations, there are currently 5 stations located at various high traffic areas. The Office of Sustainability has helpful information about biking around the Campus community on its webpage, and University Police will register bicycle and engrave the bike with a name and phone number in case of theft. Over holidays the police will make extra patrols in bike rack areas, check to ensure bikes are locked, collect abandoned or unlocked bikes, and monitor the racks on one dedicated computer screen (J. Davies personal communication, February 6, 2014).

While infrastructure does exist, there is a lot of room to improve for Salisbury University. It is highly recommended that Salisbury University strive to be recognized as a bike friendly university by the American League of Bicyclists. The application process is lengthy, and to begin
BIKE RACK UTILIZATION STUDY

the process Salisbury University will need to complete the quick assessment. Once complete the League of American Bicyclist will make recommendations for the university to get certified. During spring 2014 William Nelson attended a Bike Friendly University workshop and he gathered that Salisbury needs to make improvements to receive “honorable mention” recognition. Once the University is part of the Bike Friendly University, more investment will come from students, and the community (W. Nelson personal communication, February 2014).

Research Methodology

Over the past semester I have assessed campus bike racks for their utilization. The purpose of my independent study is to create a campus bike rack survey, analyze the placement of bike racks, and conduct a public education campaign. Bike counts were conducted using a clicker device. Initially I needed an availability count for each rack. I utilized the Sustainability website, along with a manual count. Once the rack availability was calculated, a bike count was conducted beginning near TETC, and ending near Fulton Hall. During the counts I went to each bike rack area and count the individual bikes, then record. After going through the 60 areas for a number of days, I analyzed the data through Excel. I first calculated the number of racks that were on average at or above 80% capacity, and then calculated the racks that were on average at or below 20% capacity. These racks were then studied for their location, style and efficiency in user use.

Data collection times were seven times as follows throughout the spring semester:

Wednesday. February 26th 10am, Tuesday March 11th 3pm, Wednesday March 12th 9am,
Tuesday March 25th 11am, Wednesday March 26th 12pm, Tuesday April 1st 12pm, and
Wednesday April 2nd 11am. These times were selected based on peak parking period defined by Parking Services as 9am and 3pm, 11am-1pm defined as peak campus travel based on surveying,
and days chosen defined as “normal” commute days based on best practices by a number of surveying organizations.

Table 3 below displays the average weather for each count day, and the actual weather.

**Table 3**

<table>
<thead>
<tr>
<th>Date</th>
<th>Actual Temp (F)</th>
<th>Average Temp (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26-Feb</td>
<td>31°</td>
<td>40°</td>
</tr>
<tr>
<td>11-Mar</td>
<td>56°</td>
<td>43°</td>
</tr>
<tr>
<td>12-Mar</td>
<td>55°</td>
<td>44°</td>
</tr>
<tr>
<td>25-Mar</td>
<td>32°</td>
<td>47°</td>
</tr>
<tr>
<td>26-Mar</td>
<td>33°</td>
<td>48°</td>
</tr>
<tr>
<td>1-Apr</td>
<td>48°</td>
<td>50°</td>
</tr>
<tr>
<td>2-Apr</td>
<td>57°</td>
<td>50°</td>
</tr>
</tbody>
</table>

*Source: Weather Underground*

This past spring was cooler and wetter than the average spring, the bike count data maybe skewed due to the weather, and college students are typically fair weather cyclists.

**Survey Observations**

Figure 2 below displays the average number of bicycles at each bike rack area during the survey. The bike symbols represent each of bike rack areas, and are proportional based on how heavily the rack is utilized.
Fig. 2 Produced by Salisbury Univ., Geography Department/GIS Department. Dr. D. Harris. April '14.
Observations of Figure 2 display the generalization that the rack area closest to the tunnel for each building is most heavily utilized. The racks near Holloway Hall are not utilized due to their locations and the type of rack. There are few classes in Holloway and no study areas. Students taking classes likely opt to park at Blackwell or Fulton to study and do homework. The Devilbiss bike rack is another area with few bikes. A reason could be nursing majors in the building are there early, and stay late. The might not feel comfortable biking to campus after dark, another reason to increase the safety of bike infrastructure, not just on campus but from areas off campus with high student population.

There are also under-utilized racks in the rear of Perdue Hall, Holloway Hall, and Futon Hall. Those racks are simply not visible to students, and are not convenient to main entrance doors. To increase utilization simple signs could be located around the buildings to direct students to the unused rack areas. In Figure 3 below the unused and unknown rack behind Perdue Hall.

Figure 3 Perdue Hall
Figure 4 below numbers all the rack areas around the campus.

Fig. 4 Produced by Salisbury Univ., Geography Department/GIS Department. Dr. D. Harris. April ’14.
The racks that were specifically looked at were the areas where utilization was over 80% (7 areas) and under 20% (26 areas). The racks that were over 80% were number 10, 19, 20, 21, 32, 33, and 34. It is clear these racks are the ones near the residence halls. Many freshmen bring their bikes to campus, but then simply do not use them once here. If the freshmen chose not to use their bikes, usually that would not be a problem, since they are just walking to class. The issue becomes when the bikes that are used become locked up to surrounding trees, fences, and poles. Freshmen need to be encouraged to not only bring their bikes but use them while commuting around campus, and going of campus to visit the store.

Figure 5 above displays the overabundance of bikes near the residence halls.

Corresponding with The following are bike racks that re underutilized: 1, 2, 3, 5, 9, 11, 12, 17, 22, 23, 30, 31, 36, 37, 38, 39, 40, 42, 44, 49, 52, 53, 56, 57, 58, and 59. There is always a reason racks are underutilized; the majority of these racks are still the old style. The traditional style is not easy or efficient to use when running late to class. They are also not located at ideal for student use to main entrances.
The below figures help show why the above racks are underutilized.

Figure 6

Figure 7

Figure 8
Recommendations

Bike use is important for the University, and there are steps that can be taken to increase the utilization. Based on my research I have formulated recommendations for Salisbury University to increase bike rack utilization and to increase the efficiency, safety and usability of all bike infrastructures on Campus.

Low Cost/Low Effort

- Take advantage of transportation grants
  - Research this past semester has shown that the vast majority of alternative transportation progress at other universities has been majority funded by grants, little university money was spent. The University of West Virginia, for example, has a personal rapid transit system, which was built in 1975, even with a $60 million price tag, 80% of the project was paid for by the federal government, with the rest coming from the university, county, and city. There are many grants that can be utilized for Salisbury University.
  - The US Department of Transportation (DOT) has a Research and Innovative Technology Administration: University Transport Centers program, they administer out $77 million in 22 grants. [http://www.rita.dot.gov/utc/](http://www.rita.dot.gov/utc/)

- Mandatory (free!) bike registration with University Police.
  - This would allow for the University to track the number of bikes, on campus and would also increase the number of bikes recovered in the event they are stolen. These registration stickers could even reduce the number of bikes stolen in the first place.

- Celebrate commuting by bicycle
  - Engaging in events that make bikers feel welcome on campus with thing like morning coffee for bikers, or discounted merchandise at the local bike shop. The GUC could also set up a bike store with locks, helmets, lights, etc.
  - This simple act will encourage more individual to take up alternative transportation. Changing the culture at Salisbury University to one of alternative...
transportation will go a long way to ensure the automobile becomes less present on campus.

- Increase the cost of parking permits. Currently $110/year.
  - Price difference should go to supporting alternative transportation.
  - Only allow student living more than 1.5 miles from campus to buy a parking permit
  - Fluctuate cost of permit based on distance to the university.
  - There are many ways to take a look at parking permits. A great option would be to do a tiered system, where students can purchase only the number of times that want to park. This will ease the mind of commuters.
  - As Salisbury University currently stands, there is reality is on abundance of parking for all students. The issue is with the location of the parking. At Salisbury the Dresser Parking lots are never full, and can be utilized by all students who have a parking permit. For the time being, raising the parking rates will do little to reduce parking on Salisbury’s campus as upperclassmen will resort to Dresser Lot permits.

- Better visibility through signs at popular bike racks near the buildings IE: in front of Perdue install sign(s) explaining over flow racks around the back

**Medium Cost/Medium Effort**

- Mobile Bike shop in Red Square bimonthly
  - Students need to be confident in their bicycle, offering bicycle maintenance on campus will ensure students are safe on their bike.

- Replace racks not in compliance with new campus rack standard due to lack of ability to use U Lock safely
  - The new campus standard, the “wave type rack” is the most efficient bike rack in terms of quickly and safely locking the bike. The U lock is commonly recognized as the safest type of lock. The University needs to encourage the use of the U lock across campus.

- Install bike lockers
  - Bike lockers are necessary for campus. Students and faculty with more expensive bikes are most concerned about theft and natural elements. Lockers ensure weather is kept out as well as thieves. To offset the high cost of bike lockers most universities charge for locker use.

- Develop safer pedestrian cross from University Park to Main Campus
  - University Park is considered on campus housing and must be attended to as such. Keeping students safe as the cross from each side of campus is necessary. A tunnel or bridge should be constructed between University Park and Main Campus.
BIKE RACK UTILIZATION STUDY

- Conduct a one day bike count on an ideal weather day in the fall and spring semesters
  - The bike count this semester was disrupted by the cold and wet weather. Most students are fair weather riders, counting during fair weather will ensure an accurate count for days when the racks will be heavily utilized.
  - This will keep track of the number of bike on campus, and that information can be used to make necessary improvements in the bike infrastructure as time progresses as more bikers come to campus.

**Best Practices**

- Create position of Bicycle Coordinator
  - Having one individual responsible for biking or alternative transportation as a while will ensure they stay a priority for the University. An intern, Graduate Assistant, AmeriCorps worker or part time staff member could fill this position.

- Develop bike share program
  - Bike share will allow those without the means or desire to purchase a bike to enjoy the benefits of cycling around the Salisbury campus and community.
  - Free bicycle to all freshmen and upperclassmen that do not bring a car to campus.
    - Decreasing the number of cars on campus will help ensure students do not demand more parking, and allows all students equal access to the bicycle as a health transportation option.

- Develop car share program (Enterprise CarShare)
  - A prominent reason all students bring cars to campus is the lack of an efficient way back to the Western Shore or out to Ocean City. A car share program will allow students without cars to easily travel home. The ability to move gives peace of mind to students.

- Develop comprehensive transportation plan with the city of Salisbury.
  - The more comprehensive to better, keeping the mission of both in line in terms of transportation will ensure Alternative transportation becomes easy, safe and efficient for students, and university employees.

- Create efficient, clean, safe system for University shuttle to include areas such as Cedar Crossing, Salisbury Housing, the Camden neighborhood and other popular off campus housing areas.
  - Most students live within one or two miles of campus. There is no reason for those students to need to drive to campus, creating a shuttle system for those students not in University Park, University Village, or University Orchard will go a long way to reduce parking congestion on campus.

- Develop Wayne Street as a one-way street with safe bike path.
  - Wayne Street is a high use street for bikes coming from University Park, and University Orchard. There are also a substantial number of students in the May
Drive neighborhood. Wayne St. as is currently lies is rather dangerous for bikers during athletic events, and the morning rush to the parking garage. Incorporating traffic calming measures, as well as designated off street bike lines will ensure all students have a safe trip to campus and athletic events.

- Bike path along Route 13 from the CVS down to Cheers as well as Bike lanes and traffic calming measures on West College, Camden Ave and Dogwood.
  - A bike path along the perimeter of the campus allows students and community members to quickly traverse the area on the bicycle. Every day there are many students who cycle along the sidewalk down Route 13, creating a dangerous mix with the pedestrians.

- Develop more distance learning for core university courses - classes meet once a week on campus and meet another time online for lecture, or video lecture or discussion boards.
  - Distance learning is necessary for universities to lower their car and parking issues, as well as carbon emission. If classes only meet once a week, there are automatically less days students will need to travel to campus. This would create an interesting culture on campus, but one that is necessary.
Works Cited


California Penal code Section 1463.7


BIKE RACK UTILIZATION STUDY


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