
ALEXANDER LIBRARY ENTRANCE PLAZA STUDY

RUTGERS UNIVERSITY
NEW BRUNSWICK, NEW JERSEY

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Table of Contents

Executive Summary	3
Introduction	4
Observation Methods	5
Observations	6
Analytic Conclusions	9
Policy Recommendations	9
Appendix	11

Executive Summary

This report examines the front entrance to Alexander Library at Rutgers University in New Brunswick, New Jersey through quantitative and qualitative observational studies. After a preliminary site visit, it was hypothesized that the courtyard at the front entrance of the library can function as a social gathering place, that the yard in front of the library is underutilized, that bicycle access and parking is not sufficient for peak times and that the street in front of the building is unsafe for crossing pedestrians. Pedestrian counts were accompanied by observations on the interactions between pedestrians and motorists in the street and the way that the library plaza space was being utilized.

Following the observational study, it was concluded that the library courtyard fails to function as a social gathering place and that the open space at the front entrance is underutilized. Additionally, it was discovered that there is a potential hazard for pedestrians crossing the street to and from the library. Finally, it was observed that lack of sufficient lighting and an emergency call box could cause safety concerns for library patrons at nighttime.

In response to these results, several policy recommendations were proposed, including the addition of tables and chairs to the library courtyard and redevelopment of the open space in front of it. Also, the separation of patron bicycle parking from Rutgers bicycle rental facilities was suggested. To calm nighttime safety concerns, improved lighting and the addition of an emergency call box were encouraged. Finally, in addressing safety issues related to pedestrians crossing the street, repainted crosswalks and traffic calming elements on College Avenue were proposed.

Introduction

One of the most critical pieces of infrastructure for any university is the library. It is typically one of the highest trafficked areas on a campus, used as a place to study, learn and interact. It is a must stop for any prospective student visiting the school, and for most students a heavily frequented location during their studies. In many ways, the library is a microcosm of the university as a whole, exemplifying its size, architecture, emphasis on technology and care for public spaces. With this in mind, an observational study was designed to examine the approach to the Archibald S. Alexander Library at Rutgers University. This report explains the methods used in the study and evaluates how successful the library's front entrance plaza is as both a public space and a functional entrance to the building.

Alexander Library is located on College Avenue in New Brunswick, New Jersey at the heart of the main Rutgers campus. Nearby are Records Hall (the main administration building), the student gym, the Student Center, and numerous dormitories and classroom buildings. Alexander Library sits at the northern end of College Avenue where it meets George Street and Route 18. Hours during the Fall 2011 school semester are 8 AM to 2 AM Monday through Thursdays, 8 AM to midnight Fridays, 10 AM to midnight Saturdays, and noon to 2 AM Sundays.

The library is the oldest and largest library across the Rutgers campuses and contains a wide range of collections, including a reference collection of more than 30,000 volumes. In September, 2011, a coffee shop, Scarlet Latte, opened in the basement of the library. The coffee shop is open 11 AM to 10 PM Monday through Thursdays, 11 AM to 5 PM Fridays, 12 PM to 5 PM Saturdays and 1 PM to 10 PM Sundays. Additionally, a new courtyard between the library and adjacent School of Communication and Information was opened in September.

I visited the library's entry plaza with Kyle Gebhart on five different dates and times of day in September 2011 to observe the functionality of the library's front entrance. We studied the courtyard, paths leading to it, and streetscape directly in front, and after a preliminary visit to the site, the following hypotheses were crafted:

- The redesigned courtyard at the library's entrance can function as a social gathering place and an outdoor seating area for the new café
- The yard area in front of the courtyard is underutilized
- Bicycle access and parking is not sufficient for peak times
- The section of College Avenue in front of the library is unsafe for pedestrians crossing it to and from the library

Observation Methods

Kyle and I made a preliminary visit to Alexander Library on Thursday, September 15 at 5 PM in unexpectedly chilly late summer weather, with daytime temperatures dropping below 60 degrees for the first time in months. The courtyard in front of the library had just been redesigned with new pavers and benches installed, with the old bicycle racks removed. We expected to analyze the effects of the removal of the bike racks, but upon arriving for this preliminary visit we found that brand new racks had been installed in the courtyard. Re-examining our situation, we decided to observe the plaza in a broader fashion, and expanded our scope to include the immediate streetscape in front after noticing that part of the crosswalks were very faded and hard to see.

We returned to the site on Friday, September 16, Monday, September 19, Tuesday, September 20 and Wednesday, September 21 during morning, afternoon and evening periods to conduct our observations. A combination of quantitative and qualitative methods was used in the study. From a quantitative perspective, we took counts in 30 minute blocks of pedestrians entering the plaza, noting whether they headed left toward the School of Communication and Information or straight toward the library (Figure 3). By doing this we hoped to gain an understanding of how plaza activity varied across different times of day and how this correlated to activity levels in the new courtyard and pedestrian conflicts with vehicles in the street.

Additionally, we observed the two crosswalks on College Avenue immediately in front of the library, and recorded in 30 minute blocks the number of pedestrians using them and the interaction they had with automobiles as they crossed, divided into three categories: Pedestrian yielded to vehicle, vehicle yielded to pedestrian, and no traffic during cross. During the first two observation periods we noticed that occasionally cars would stop in the crosswalks to unload or pick up passengers. We counted instances of this in the final two observation periods, but with only two periods observed and a handful of vehicles counted, the data did not merit inclusion here. Finally, at the beginning and end of each observation period, we recorded the number of bicycles parked on the bike racks, the number parked elsewhere than the bike rack, and the number of people utilizing the new benches in the courtyard.

In addition to these measurable observations, we noted how people were using the grassy area in the plaza, which includes a wooden stage and some public art. We also observed what activities people were using the new courtyard and benches for, and the impact of the new café. Finally, we closely watched the interactions of cars and pedestrians in front of the plaza to better understand how effective the crosswalks were.

Observations

Quantitative Observations

Weather was fairly consistent across the four days. Temperatures ranged from 60-65 degrees F on each day with clear skies, excepting the final observation in the late afternoon of Wednesday, September 21, which saw overcast skies with a threat of rain. There was a noticeable variance in



pedestrians entering the plaza during different times and days (Figure 4). The first observation, between 3:40 and 4:10 PM on Friday, September 16, saw 71 people enter the plaza, with 68 heading toward the library and 3 toward the Communication School. Lunch time Monday, between 11:40 and 12:10 showed an increase, with 91 entering the library and 12 the Communication School. The evening of Tuesday, September 20 was by far the busiest observation period, with 163 pedestrians

entering the library and 10 the Communication School between 8:50 and 9:20 PM. The final observation between 4:30 and 5:00 PM on Wednesday, September 21 showed 106 to the library and a surprising 39 to the Communication School.

Initially we anticipated that it would be too difficult to count both entering and exiting pedestrians, but after the first study day we decided it would be feasible. We counted exiting pedestrians in the last three observations, but the data did not reflect many differences from the entering numbers and was missing the first day so it is not included in this report.

The next data collection involved the pedestrian/vehicle interactions in front of the library (Figure 5). There was a correlation between the number of pedestrians entering the plaza and the total number of pedestrians using the crosswalks, but no correlation with the way pedestrians interacted with automobiles. If a pedestrian stopped at the entrance to the crosswalk or in the crosswalk to wait for a vehicle to pass, the interaction was counted as pedestrian yielding for vehicle. If a vehicle stopped or slowed in front of the crosswalk to allow the pedestrian to cross, it was counted as a vehicle yield. During Friday afternoon's 30 minute block, 17 pedestrians were observed using the two crosswalks on College Avenue, with three yielding to vehicles, five crossing after vehicles yielded, and nine crossing without traffic conflicts. Monday's lunchtime observation showed a more than doubling in pedestrians utilizing the crosswalks, with the highest share (18) crossing without conflict, 15 crossing with automobiles yielding, and 9 waiting as vehicles failed to yield. Tuesday's observation at night showed the most concerning results, with 12 pedestrians having difficulty crossing due to vehicles not stopping and only 3 instances of

cars yielding. This may indicate better lighting is needed. Wednesday had the highest amount of pedestrians yielding to vehicles (15), with 10 vehicles yielding to pedestrians and 13 crossing without traffic. This could be due to traffic being heavier and drivers in more of a hurry during rush hour.

There are three bicycle racks in front of the library with each holding eight bikes. The racks were not at capacity during any of our visits (Figure 6), but during each observation there was at least one bike parked somewhere other than the bike racks. Additionally, new bikes for the new Rutgers bike rental program had arrived before our first observation, as Alexander Library is a pick up location for the program. As the rental program had not yet started during any of our observations, we counted five rental bikes on the racks at each observation. There were 9 other bikes on the racks and 1 chained to a hand railing during the Friday afternoon observation, 5 on the rack and 3 chained in other areas during the Monday morning visit, 7 on the rack and 1 elsewhere in the Tuesday night period, and 11 on the racks and 1 other during the Wednesday late afternoon observation.



Fourteen new benches were installed in the courtyard, and these were used sparingly during our visits (Figure 7). There were 6 people using the benches at 3:40 PM Friday, 8 at 11:30 AM Monday, 2 at 8:45 PM Tuesday, and 2 at 4:25 PM Wednesday.

Qualitative Observations

While quantitative observations were important to give a numerical understanding of certain activities, we also made notes throughout our visits on things we observed in the area.

Courtyard Activity

The courtyard was not particularly active during any of our observations. Bicycle riders used it to park their bikes in the racks, but did not linger and left to enter the library or Communication School immediately after. The benches served primarily as a place to perform activities that were not allowed or inappropriate inside the library, such as smoking and talking on cell phones. Occasionally someone would be observed socializing with another person or enjoying the nice weather and reading. No one in the courtyard was observed eating or drinking an item purchased from the Scarlet Latte café inside the library.

Open Space Activity

The grassy area in front of the courtyard was never observed as being used for anything other than a through route for pedestrians to and from the Communication School using the meandering sidewalk connecting it to the library's entrance pathway (see Figures 1, 2 and 3). In the grass there are some art installations that seemed to go completely ignored, and a wooden stage that is an eyesore and seems out of place in its location (Figure 9). The School of Communication's Flickr account revealed a photo of the stage being used during Rutgers Day, but at no point during our observations was the stage utilized. The weather was ideal for outdoor activities, so this lack of use of the space over the course of the four days we observed is unlikely to be an anomaly.

Street Safety

As the quantitative counts revealed, pedestrians often struggled to cross the street to get to and from the library due to automobile drivers not yielding. We observed several factors at play in this scenario. The southbound lane of College Avenue appeared to have been recently repaved, while the northbound lane looks as though it has not been repaved in quite some time. The crosswalks on the southbound lane were repainted after paving, but the portions in the northbound lane were not and are extremely faded. This leads to crosswalks that are likely difficult for drivers to see (Figure 10). Furthermore, signs warning drivers of crossing pedestrians are situated beyond the library crosswalks, and one of them is faded (Figure 11). Drivers may see these signs too late to slow down for the library crosswalks. Finally, with the study area being located near the northernmost end of College Avenue, we observed that drivers turning onto the road from Huntington St, George St, and Route 18 accelerated as they entered the street, potentially arriving at the crosswalks at speeds too fast to allow drivers to recognize the need to yield to pedestrians.

Nighttime Safety

The most foot traffic into the library occurred in our 8:50 to 9:20 PM study (Figure 4). Once classes and daily activities end, many students appear to head for the library to study and work on the following day's assignments. Darkness brings with it more safety concerns, and indeed over the last year at Rutgers there have been instances of late night crimes in the College Avenue area. We observed two possible safety concerns during our night visit. One, the plaza area, especially the new courtyard, are not well lit (Figure 13). In fact, the courtyard's sole source of light appeared to be the fluorescent lights inside the library emitting through the windows to the outside. Two, we could not locate an emergency call box. These boxes, denoted by a bright blue light on top, are located throughout the Rutgers campuses to provide a quick connection to campus police in the event of a safety concern.

Analytic Conclusions

The redesigned courtyard at the library's entrance can function as a social gathering place and an outdoor seating area for the new café

False. During our observations, the courtyard did not seem to entice hardly any use other than those activities which were inappropriate inside the library. The coffee shop's location inside the library's basement may make it too far away to encourage patrons' to take their purchases outside.

The yard area in front of the courtyard is underutilized

True. No activity was observed in the open space. The area is completely ignored by pedestrians and is an opportunity for redevelopment.

Bicycle access and parking is not sufficient for peak times

False. Even in beautiful weather, the bicycle parking was never over capacity. There could be some potential confusion with the rental bikes being mixed in with patrons' bikes, but aside from that the space seemed to be functioning as desired.

The section of College Avenue in front of the library is unsafe and inconvenient for pedestrians crossing it to and from the library

True. The difficulty for pedestrians in getting vehicles to stop, especially at night and during rush hour, was concerning. Additionally, the poor lighting both on the street and in the library courtyard could be improved.

Policy Recommendations

1. Add tables and chairs to courtyard

A few small tables and chairs would support a greater range of activities for the courtyard and better entice café customers to eat and drink outside.

2. Redevelop open space

Remove the stage and landscape the open space to be more attractive or extend the courtyard to make a larger public plaza.

3. Separate bike rental facilities and patron bike racks

Rental bikes should be located separately from patron bikes in their own rack with appropriate signage and markings.

4. Improve lighting

Lighting should be installed in the new courtyard, and lighting on College Avenue in front of the library should be improved.

5. Add an emergency call box

An emergency call box in a prominent location in front of the library could deter crime or aid crime victims.

6. Repaint crosswalks

Even if the northbound lane of College Avenue is not repaved, the faded crosswalks should be painted.

7. Traffic calm College Avenue before library

Traffic calming elements for the southbound lane of College Avenue approaching the library should be explored, including moving the pedestrian warning signs to be located before vehicles reach the crosswalks. A “yield to pedestrians” sign should be placed on the center line before the crosswalks.

Appendix

Figure 1: Satellite View of Alexander Library Entrance Plaza



Source: Google, 2011

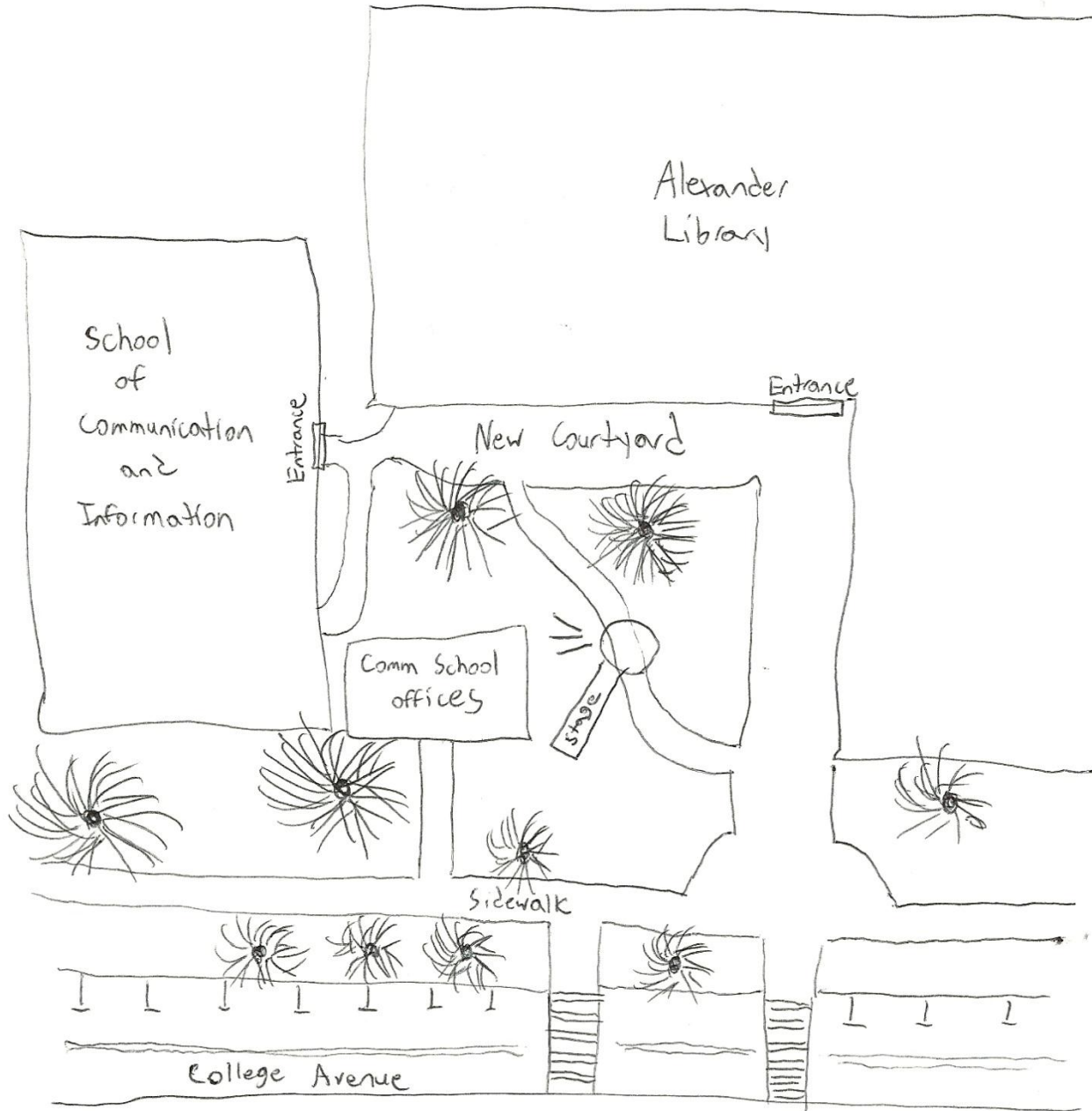
Figure 2: Bird's Eye View of Alexander Library Entrance Plaza



Source: Pictometry International Corp, 2010

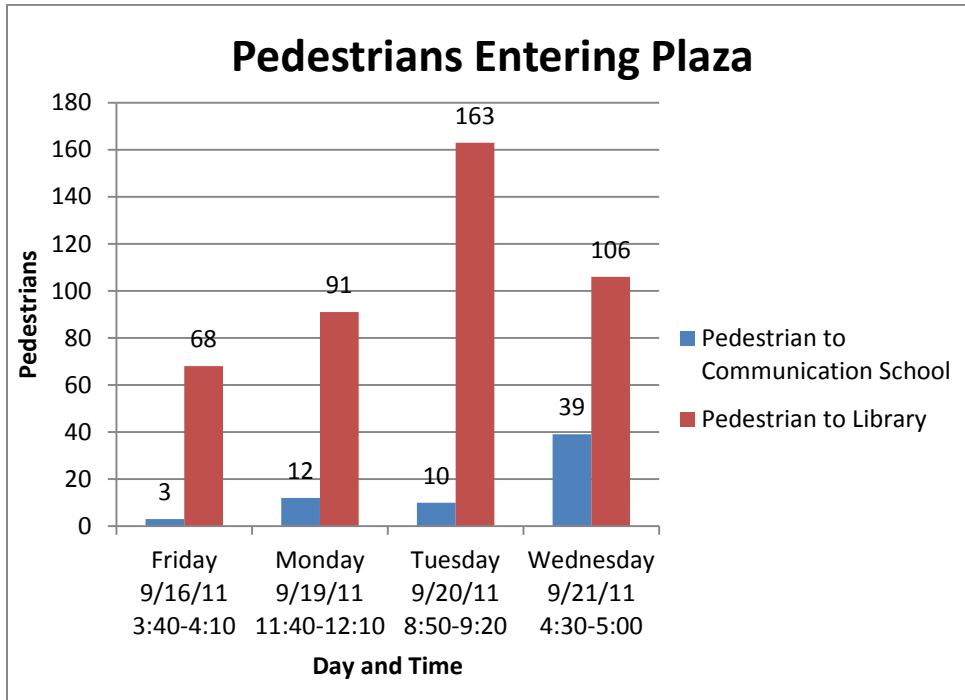
Figure 3: Sketch of Alexander Library Entrance Plaza

Alexander Library Entrance Plaza Layout



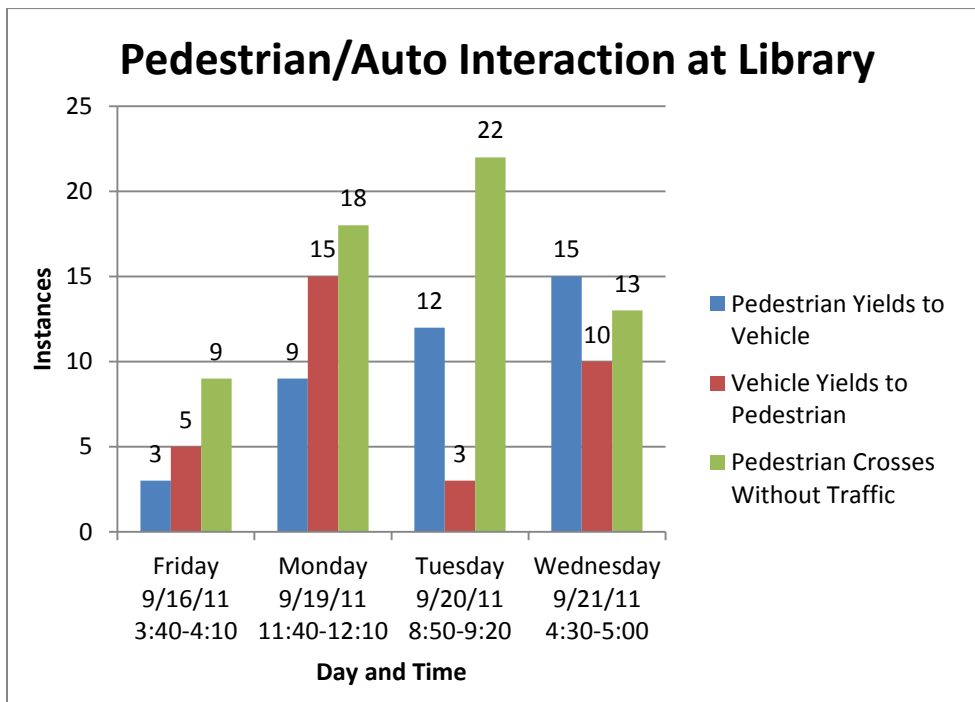
Source: Jonathan Hawkins, 2011

Figure 4: Pedestrian Traffic Entering Alexander Library Entrance Plaza



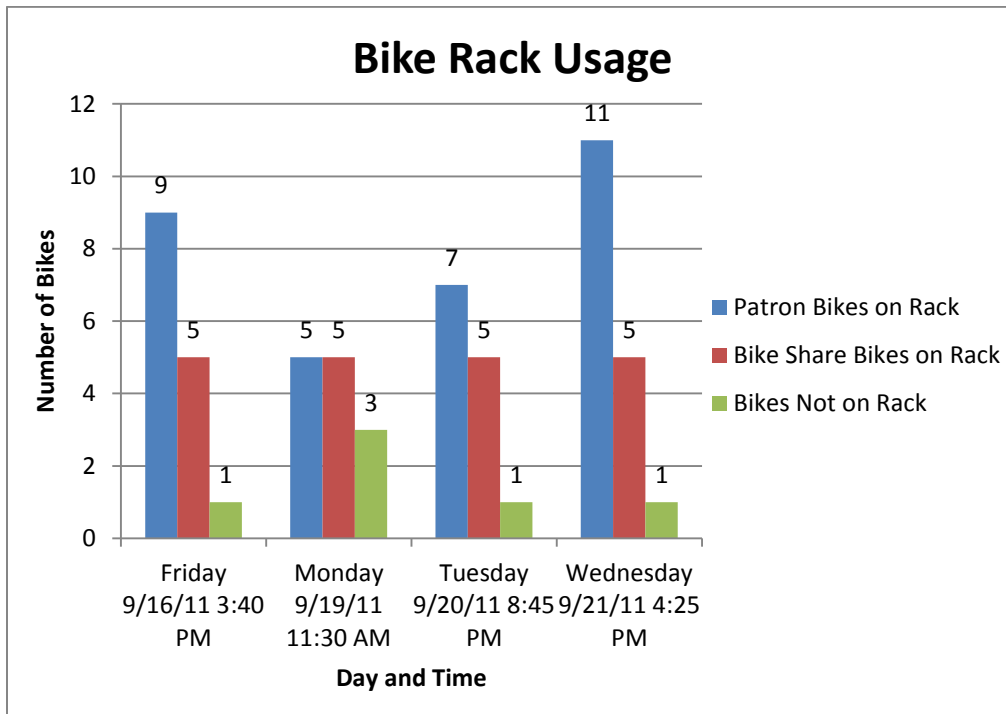
Source: Jonathan Hawkins and Kyle Gebhart, 2011

Figure 5: Conflicts between Pedestrians and Vehicles in Front of Alexander Library Plaza



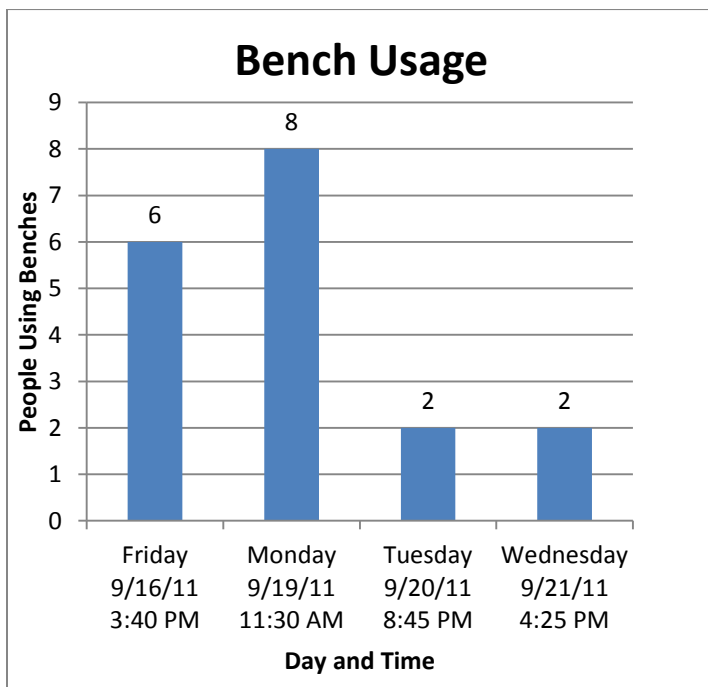
Source: Jonathan Hawkins and Kyle Gebhart, 2011

Figure 6: Bike Rack Usage in Alexander Library Entrance Plaza Courtyard



Source: Jonathan Hawkins and Kyle Gebhart, 2011

Figure 7: Bench Usage in Alexander Library Entrance Plaza Courtyard



Source: Jonathan Hawkins and Kyle Gebhart, 2011

Figure 8: Bicycle Not Parked in Rack



Source: Jonathan Hawkins, 2011

Figure 9: Stage in Front of Alexander Library



Source: Jonathan Hawkins, 2011

Figure 10: Crosswalk in Front of Alexander Library



Source: Jonathan Hawkins, 2011

Figure 11: Vehicle Yield Signs Just After Crosswalks in Front of Alexander Library



Source: Jonathan Hawkins, 2011

Figure 12: Vehicles Turning Onto College Avenue and Accelerating



Source: Jonathan Hawkins, 2011

Figure 13: Alexander Library Courtyard at Night



Source: Jonathan Hawkins, 2011