

Sustainable Transportation For Smith College: An Investigation of the Campus Parking Master Plan



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Abstract

This project investigates how well the Campus Parking Master Plan has been implemented at Smith College. To address this project, I partnered with current classmate Lauren Bachtel. Together we conducted interviews with James Lowenthal, Chair of Smith's Sustainability Committee, and Paul Ominsky, Director of Public Safety. We also thoroughly analyzed the Campus Parking Master Plan, which was drafted for Smith College by consultants Fuss and O'Neill in February 2007. We found that drafting of the Campus Parking Master Plan was done primarily to confirm construction of Ford Hall, as well as a push from Smith College faculty and staff to decrease the demand for parking, rather than increase the supply of parking spaces. We found that while most of the programs outlined in the Campus Parking Master Plan are successful in reducing parking on campus, there is definitely room for improvement. Overall, our findings indicate that while the Campus Parking Master Plan was drafted for economic reasons, it was done so with environmental sustainability in mind. Therefore it is a great starting point toward achieving sustainable transportation at Smith College.

INTRODUCTION

The Problem

When Smith College's administration was in the process of confirming the construction of Ford Hall, Northampton officials declared that 366 new parking spaces must also be constructed to accommodate for the college's projected population growth. However, Ford Hall was not intended to bring new faculty or staff to campus; it was designed to provide students with a more modern engineering and science facility. This resulted in a group of faculty and staff that were concerned with environmental sustainability to suggest that the administration develop a plan to decrease the demand for parking on campus rather than increase the supply of parking spaces. Eventually this led to drafting of the Campus Parking Master Plan by consultants Fuss and O'Neill.

There are many reasons why various faculty and staff members pressed Smith's administration to decrease demand instead of increase the supply. Firstly, Northampton

officials do not favor the construction of additional parking spaces; they simply need to address the city-parking issues. According to James Lowenthal (2008), Chair of Smith's Sustainability Committee, city-officials showed that they were flexible and willing to work with Smith College to address parking more "creatively, economically, and responsibly". Secondly, there is no free parking. Although parking spaces appear to be cost-free, Professor Lowenthal (2008) stated that a single outdoor parking spot costs approximately \$4,000 to construct and maintain, while a single garage parking spot costs \$28,000. Thus, the construction 366 new parking spots would have been a huge financial burden for Smith College, as well as an eyesore on Smith's beautiful campus. Lastly, and most important, Smith College has made a commitment to be environmentally sustainable; therefore it would be inconsistent for the college to provide additional parking spaces on campus. Instead, faculty and staff urged Smith College's administration to promote and provide alternative modes of transportation.

Background

The Campus Parking Master Plan was developed to find "feasible TDM (Transportation Demand Management) actions that could be applied to decrease the vehicle demand on campus by encouraging use of alternative travel modes" (Fuss and O'Neill, 2007). There are eighteen programs outlined in the Campus Parking Master Plan; however, only five are the primary focus of this project. Programs that were implemented in the fall of 2007 include: Parking Permit Pricing Modifications, the Parking Cash-Out Program, and the Car-Sharing Program (Zipcar). Programs that have yet to be implemented include: the Park and Ride Lot and Biking Promotion Programs/Facilities.

Parking Permit Pricing Modification

This program is an attempt to manage parking by increasing the cost of parking permits. Basically, there is no incentive for faculty, staff, or students to find alternative modes of transportation when free or low-cost parking is available. The program recommends increasing the parking costs for a one-year trial period and performing parking demand evaluations throughout the academic year. The program also suggests that higher costs be assigned to core parking areas, resulting in a shift of vehicles to peripheral parking lots. The plan states that “when peripheral lots are used, especially by students, it is more likely that vehicle owners will take advantage of alternative modes of transportation that are more readily available, rather than using their car every time they want to run an errand” (Fuss and O’Neill 2007). To make parking in the periphery more appealing, the plan suggests that Smith College consider improving the pathway between the river crossing and the tennis courts by increasing the lighting and improving the path surface and the landscape. They also suggest that adequate bicycle storage be provided, as well as a regularly scheduled shuttle van service that provides connection to the core-campus areas. Overall, the goal of the Parking Permit Pricing Modifications is to “reach a better balance of parking demand and on-campus parking supply, and encourage use of other means of transportation to and from campus” (Fuss and O’Neill 2007).

Parking Cash-Out Program

“Under a parking cash out program, an employer provides its employees

the choice of using free or employer-subsidized parking spaces or accepting a cash payout for relinquishing their right to available parking” (Fuss and O’Neill 2007). In other words, this program provides faculty and staff members with a certain amount of money if they decide to leave their vehicle at home. This program may operate on a monthly or annual basis and “may or may not be worth the cost of the parking space” (Fuss and O’Neill 2007). To encourage involvement, the Campus Parking Master Plan recommends that employees be allowed to join or leave the program at any time during the year. The plan suggests that occasional parking permits be offered so that faculty and staff may drive to campus in the event that they cannot arrange an alternative mode of transportation. The program is also designed to provide users with detailed information on various alternative transportation options, such as ridesharing, the Zipcars, park and ride lots, etc. The plan estimates that this program will reduce parking demand equivalent to 130 to 200 spaces; however, its success relies heavily on PVTA buses, carpooling, bicycle use, and walking (Fuss and O’Neill 2007).

Car Share (Zipcars) Program

This program provides participants with the option of renting a Zipcar for errands, traveling, or extra-curricular activities, in the event that they use alternative modes of transportation to get to campus (Fuss and O’Neill 2007). The ultimate goal of the Zipcar is to discourage faculty, staff, and students from using their personal vehicles. One Zipcar is estimated to result in a decrease in parking demand equivalent to 20 parking spaces. The Campus Parking Master Plan recommends that at the end of the first year, Smith evaluate based on the benefits and effectiveness of the program in order to determine if it should be expanded (Fuss and O’Neill, 2007).

The plan also states that the Car Share Program will have a total of four Zipcars by 2008.

Park and Ride Lot

This program is designed to transport commuters to campus by either placing a park and ride lot near a public transit stop or using a private shuttle service. The Campus Parking Master Plan recommends that “Smith College consider promoting the use of a park and ride lot along major commuter routes such as Route 9 or Route 5 in Northampton” and “consider providing maintenance costs for park and ride lots that lay on major routes to the campus (Fuss and O’Neill 2007). One major incentive of using this program is that parking in a park and ride lot is cheaper than parking on campus. This program also allows participants to take part in other programs designed for alternative modes of transportation, such as the Parking Cash-Out Program.

Bike Promotion Programs/Facilities

This includes both the Bike Sharing Program and the Bicycle Incentive Programs.

The Bike Sharing Program promotes the use of bicycles by faculty, staff, and students mainly for running errands. Currently at Smith, there is a student club known as the “Bike Kitchen”, which “provides minor repairs, information on how to repair bicycles and semester-long bicycle rentals” (Fuss and O’Neill 2007). This program recommends that the college increase both financial support and marketing support for

the Bike Kitchen as a foundation for promoting bicycle use as an alternative mode of transportation.

The Bicycle Incentive Program is designed “to encourage the use of bicycles among commuters” by providing incentives, such as “short-term and long-term bicycle parking, covered bicycle racks that protect against weather, shower facilities and commuter rewards” (Fuss and O’Neill 2007). The program stresses the importance of bicycle storage facilities near the Campus Center and the PVTA bus stop, as well as showers and storage lockers in administrative buildings (that have yet to be constructed or will be renovated). It allows for participation in the Parking Cash-Out Program and also suggests that Smith provide additional incentives “in the form of gift certificates to local bicycle or active-wear stores” (Fuss and O’Neill 2007).

Objectives

This project has three main objectives: to investigate why all of the recommended programs in the plan are based on economic benefits, to evaluate the success and failure of implemented programs based on how they reduce the demand for parking on campus, and to contribute to Smith College’s goal of becoming environmentally sustainable by refining programs outlined in the plan and suggesting new ones.

METHODOLOGY

Research

To gather information for this project, my partner, Lauren Bachtel, and I obtained a document of the Campus Parking Master Plan from the Smith College Public Safety website

in early March. Shortly after, we spoke with Professor Gregory White (government/EVS 300), who recommended that we interview James Lowenthal, Paul Ominsky, and Ruth Constantine due to their extensive knowledge about the Campus Parking Master Plan.

Interviews

On April 14, 2008 at 9:15am, we interviewed James Lowenthal, Chair of Smith's Sustainability Committee/Associate Professor of Astronomy. Professor Lowenthal provided us with a document titled, "Reducing Smith's Parking Demand" and answers to several questions pertaining to sustainable transportation at Smith College and the Campus Parking Master Plan. At 2:30pm on April 14th, 2008, we interviewed Director of Public Safety, Paul Ominsky, who also provided information about sustainable transportation at Smith College and the Campus Parking Master Plan. We were unable to conduct an interview with Ruth Constantine, VP/Finance & Administration, because she was out on medical leave.

RESULTS

Economic Basis of the Campus Parking Master Plan Programs

Programs outlined in the Campus Parking Master Plan indicate that Smith College is more interested in the economic impacts of reducing parking on campus, rather than the environmental impacts. In the plan, the description of various programs always places great amounts of significance on cost analysis. For example, how much money Smith will save by not having to construct a given amount of parking spaces (Table 1). The Campus Parking Master Plan never indicates how programs contribute to environmental sustainability.

Table 1. Transportation Demand Management - The Reduction of Parking Spaces Due To Implementation of New Measures (Fuss and O'Neill, 2007)

Element	Description	Time Frame		Action	Reduction in Parking Spaces	Cost Estimate
		Implementation Year	Evaluation Year			
1.) Car Sharing Program	Expand existing Zipcar program	Fall 2007	Spring 2008	2 Cars (Existing)	40 Spaces	n/a
		Fall 2008	Spring 2009	Add'l 2 Cars (4 Total)	80 Spaces	\$36,000 ±
2.) Parking Cash-out Program	Offer a cash-out program to employees	Fall 2007	Spring 2008	\$20 per employee per month	140 Spaces*	\$34,000±/year
3.) Park & Ride Lot	Partner with the City and MassHighway in winter maintenance of new park & ride lot at VA Medical Center in Leeds or provide financial assistance to shuttle bus service	Fall 2007	Spring 2008	Snow Plowing or other financial assistance	20 Spaces	\$4,000±/year
				Spring 2008 Total:	200 Spaces	\$38,000
				Spring 2009 Total:	240 Spaces	\$74,000

* Assumes continuation of existing 5-College bus subsidy, emergency ride home program and car pool matching program.

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Success or Failure of Campus Parking Master Plan Programs

Parking Permit Pricing Modifications

This program was successful in increasing the cost of faculty permits to \$50, which is \$25 more than the permit cost in the 2006-07 academic year (Table 2). However, the program failed to increase the cost of core parking areas, which was intended to encourage parking in the periphery (Table 3). Smith has also failed to improve the pathway between the river crossing and the tennis courts, add bicycle storage or a shuttle van service to the peripheral areas of campus.

Table 2. Parking Permit Prices – These are the current permit parking prices at Smith College. (<http://www.smith.edu/pubsafety/documents/Parking%20Permit%20Registration%20Final2007.pdf>)

Type	Decal #	Fee
Alumnae		25.00
Car Pool		10.00
Commuter		25.00
Perimeter Lots		25.00
Rental Property		5.00
Service		10.00
Faculty/Staff		50.00
Faculty/Staff 2 nd Decal		50.00
Ada Comstock		150.00
Student Decal		150.00
SSW Summer Faculty/Student		5.00

Table 3. Campus Parking Cost Considerations – Proposed Rates
(Fuss and O’Neill, 2007)

Type	Core-Campus	Garage	Peripheral
<i>Student Residents</i>			
Seniors	\$200	\$125	\$75
Juniors	\$250	\$175	\$125
Sophomores	\$300	\$225	\$175
<i>Commuter (Day) Students</i>			
		\$50	\$25
<i>Faculty & Staff</i>	\$75	\$50	\$25
<i>Carpool</i>		\$10	
<i>Five-College Students</i>			\$25
<i>Visitors</i>	Meter & Permit	N/C Permit	N/C Permit

Note: Number of permits issued is dependent on on-campus parking supply (i.e. available spaces).

Costs are per year.

Parking Cash-Out Program

This year seventy-five faculty and staff participated in the Parking Cash-Out Program receiving approximately \$200 when they agreed to leave their car at home and find an alternative mode of transportation. This program was successful in providing participants with occasional parking permits and detailed information on alternative modes of transportation, as suggested in the Campus Parking Master Plan.

Car Share (Zipcar) Program

Smith College currently has two Zipcars, each costing \$18,000 and eliminating twenty parking spaces (Zipcar, 2008). Smith faculty, staff, and students can join the Zipcar program for \$35 a year, which allows them to rent out the car for \$7/hour or \$55/day with gas and car insurance included in the price (Zipcar, 2008). At the end of the academic year, if Smith has not made \$18,000 from participant use, they must pay the Zipcar service company the difference. According to Paul Ominsky (2008), this

year brought a high demand for the current Zipcars and Smith plans on getting two more in the very near future.

Park and Ride Lot

According to the Campus Parking Master Plan, a park and ride lot was supposed to be implemented in the fall of 2007; however, Smith College failed to do so (Table 1). From James Lowenthal (2008), we learned that the Pioneer Valley Transit Authority (PVRTA) receives \$100,000 from Smith College, Hampshire College, Amherst College, and Mount Holyoke College, and \$200,000 from the University of Massachusetts. This means that Smith College only offers the PVRTA \$25 per year per student. We also found that state bus subsidies are considerably low. Considering that park and ride lots rely heavily on public transportation and state funding, it became evident that implementation of this program is dependent on more than just Smith College's administration.

Bike Promotion Programs/Facilities

Smith College was unsuccessful in increasing the financial support or marketing support of the "Bike Kitchen", as proposed in the Bike Sharing Program of the Campus Parking Master Plan. However, Smith Public Safety have begun to help the students that run the "Bike Kitchen" by finding the abandoned bikes that are repaired and later sold. Also, in terms of the Bicycle Incentive Program, no measures have been taken to increase the use of bicycles among commuters. In particular, Smith has not installed covered bicycle racks, or showering facilities, nor have they offered monetary incentives specific to bicycle use.

Contribution to Smith College's Goal of Sustainable Transportation

After careful analysis of the Campus Parking Master Plan, Lauren and I have decided that we can contribute to Smith's goal of becoming environmentally sustainable. We have refined various programs outlined in the plan and have found new programs that Smith can implement to promote sustainable transportation. These revisions and new suggestions will be discussed in greater detail in the Recommendations section of this paper.

DISCUSSION

The Campus Parking Master Plan was drafted to emphasize the economic benefits that various programs will have on Smith College. Overall, Smith College's administration puts the economic status of the college high on the priority list, therefore the plan is designed to prove to the college's administration that implementation of various programs will be cheaper than constructing 366 new parking spaces. I do not believe that preaching about environmental impacts of programs would be enough to turn the administration away from additional parking on campus. However, the Campus Parking Master Plan is constructed in a way that promotes both environmental and economic sustainability for Smith College.

It is important to remember that the Campus Parking Master Plan is only a draft and therefore has a very loose outline for how and when programs should be implemented. Regardless, Smith has been able to successfully implement three programs that are essential for reducing the demand for parking. These programs include: the Parking Permit Pricing Modifications, the Parking Cash-Out Program, and the Car Share (Zipcar) Program.

Parking Permit Pricing Modifications

Increasing the price of the faculty permits from \$25 to \$50 was a good step for encouraging faculty to find alternative modes of transportation. However, to really create an incentive for faculty to find different transportation methods, Smith should consider making driving to campus inconvenient by making parking permits a financial burden. As suggested in the Campus Parking Master Plan, this financial inconvenience can also be used to push parking into peripheral areas of campus, i.e. residential streets. However, because the proposed rates for the core and peripheral parking were not implemented this year, many commuters continue to park on and around core campus. Due to the fact that peripheral parking is unpopular, the college has not dedicated any time or money into improving the pathway between the river crossing and the tennis courts, nor have they added bicycle storage or increased shuttle service to the periphery of campus.

Parking Cash-Out Program

The Parking Cash-Out Program is the best program outlined in the Campus Parking Master Plan. In its first year running, the program has seventy-five participants and of all the programs that have been implemented, it is the most successful. A major reason for its success is that it provides participants with occasional parking permits. These permits can be used at random, on any day, allowing faculty and staff flexibility and comfort within the program. Another obvious reason for its success is that it provides a monetary reward to participants.

Although the program was successfully implemented in the fall of 2007, Paul Ominsky (2008) revealed that evaluation in 2008 exposed several issues to address.

For example, should faculty and staff that do not own cars receive payment from the Cash-Out Program? If there is more than one faculty or staff member in a household, should both receive payment if they normally drive one vehicle? Should the Cash-Out Program be an option for students? These questions are still awaiting answers.

Another major issue is figuring out how to make the Cash-Out Program appeal not only to faculty and staff that live in close proximity to campus, but those that live further away, as well.

Car Share (Zipcar) Program

The reason that the Zipcar program is successful at Smith College is that it allows you to leave your own car at home. This dramatically reduces the amount of money spent on car maintenance and gas, as well as a parking permit for the campus. During our interview, Paul Ominsky (2008) suggested that Zipcars were extremely popular on campus and overall, Smith is very happy with the Zipcar program because it promotes and encourages sustainable transportation at Smith College. Due to the fact that Zipcars provide a convenient and cheaper option for faculty, staff, and students, there is a heavy demand for more cars. As this demand continues to grow, so to will the Car Share Program and Smith's effort towards environmental sustainability.

Although, the Smith College administration was successful at implementing a few of the programs outlined in the Campus Parking Master Plan, others have yet to be implemented. These include: the Park and Ride Lot and Bike Promotion Programs/Facilities.

Park and Ride Lot

A park and ride lot is dependent upon public transit and private shuttles, therefore it is intended to be cheaper than parking on campus. However, due to a lack of financial support from Massachusetts State, there is not enough adequate transportation to service a park and ride lot for faculty and staff that live outside of the Five-College region. In fact, the money that is provided from the five colleges is only enough to move students, faculty, and staff between the five-college area during the school year. Therefore, the park and ride lot that the Campus Parking Master Plan proposes is not entirely under Smith College's control, rather it can only be implemented and become a success when state bus subsidies are increased. Paul Ominsky (2008) believes that implementation of park and ride lots would be a great way to reduce parking on campus, as well as promote sustainable transportation. He proposes that four park and ride lots be implemented at varying locations off of campus in order to accommodate faculty and staff coming from all directions, and he stresses the importance of an having an adequate shuttling service.

Bike Promotion Programs/Facilities

Considering that the majority of Smith College faculty and staff live within one to three miles of campus, biking is the easiest way to travel. However, the college lacks promotion for bicycle use, meaning that a high number of faculty and staff within close proximity to the college continue to drive their personal vehicles. A group of students at Smith have made great efforts toward promoting bicycle use by opening the "Bike Kitchen", which makes it easy to rent a bicycle or get your own bicycle repaired. However, without support from Smith, the "Bike Kitchen" will

remain a tiny group of students that attempts to repair bicycles for one or two hours on the weekend. The reason bicycling is still a rather unpopular alternative mode of transportation is because Smith College has done a poor job of promoting biking or providing cyclists with appropriate facilities or incentives.

Recommendations

The following list of programs contain recommendations that Lauren and I believe can contribute to both the environmental sustainability and economic sustainability of Smith College by decreasing the demand for parking on campus.

Parking Permit Pricing Modifications

Free or low-cost parking does not motivate people to leave their cars at home; however, increasing the price of parking permits on Smith College campus will push faculty, students, and staff to find alternative modes of transportation. Although, Smith increased faculty parking permits by \$25 this academic year, we propose that Smith continue to increase the price. We also recommend that the college make permit prices the same for faculty, staff, and students regardless of where the spot is located, i.e. core campus or peripheral areas. Making peripheral parking cheaper than core parking will help eliminate the demand for parking on campus; however, it will not discourage personal vehicle use. Considering that a single outdoor parking space costs \$4,000, faculty and staff, as well as students should be expected to pay more for their spot. We believe that placing a financial burden on parking can be used as a way to promote both environmentally sustainability and economic sustainability at Smith College.

Parking Cash-Out Program

After interviewing James Lowenthal and Paul Ominsky, we believe that the Parking Cash-Out Program can be improved in two different ways. The first idea, presented to us by James Lowenthal (2008), is that Smith College needs to offer more money to faculty and staff who “cash-out” (1). More money provides more incentive not to drive, and taking into consideration the amount of money that Smith will save by reducing the need for parking spaces, offering \$500 to participants will not hurt the college financially. The second idea, suggested by Paul Ominsky (2008), is that the college give “x” amount of money to faculty and staff that live near campus and double that amount to faculty and staff who live further away from campus. This will encourage a broader range of faculty and staff to participate in the program. We believe that Smith College’s administration should push for these improvements because the Parking Cash-Out Program is one of the best programs in terms of eliminating parking on campus; therefore it also has the most positive environmental impacts.

At the beginning of our investigation, Lauren and I thought that Smith College should invest a significant amount of time and money into the Park and Ride Lot, as well as the PVTa system. Although, we still think that financial support for those two services is important, we have concluded that Smith will be most successful promoting bicycling and walking as alternative modes of transportation. Hence, we propose that Smith College invest in a Bike/Ped Program, designed to make campus safer for both cyclists and pedestrians, and a Bike Sharing Program, which would provide students with bicycles and bicycle services.

Bike/Ped Program

This program is designed to make campus a safe place for both cyclists and pedestrians by suggesting a variety of safety improvements that Smith College can

adhere to. For instance, Smith could install more raised cross-walks on campus, keep bike paths well maintained, install pedestrian and bicycle traffic lights along busy cross-walks (especially Green Street and Elm Street), improve visibility at driveways, and add additional emergency call boxes on campus. By making these improvements top priority, Smith College can easily become bike/ped-oriented.

Bike Sharing Program

The implementation of this program would actually provide incoming first-year students with their own bicycle if they agreed to leave their vehicle at home for an entire year. A program similar to this occurred at Ripon College located in Ripon, Wisconsin. Incoming freshman were given a Trek 820 mountain bike, a helmet, and a lock, totaling to approximately \$400, if they promised not to bring a car to campus for entire year (<http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2008/02/14/national/a033807S12.DTL>). Lauren and I think this an excellent idea for promoting sustainable transportation at Smith. Considering the cost of a parking spot, providing incoming students with bikes would be unquestionable. We think that the “Bike Kitchen” should be the foundation from which the Bike Sharing Program starts, especially if the college provides the “Bike Kitchen” with financial aid.

To conclude, our investigation of the Campus Parking Master Plan revealed that initial drafting of the plan was done to enable the construction of Ford Hall. Although focus was placed on the economic benefits of many of the programs outlined in the draft, Lauren and I discovered that the faculty and staff that supported drafting of the Campus Parking Master

Plan had environmental sustainability in mind. We think the programs outlined in the plan are definitely a great step towards sustainable transportation at Smith College. Therefore, our final recommendation is that the administration and the entire college look at this project and be reminded that the effort and funds put into the drafting of the Campus Parking Master Plan need to continue into the future in order for Smith to become truly sustainable.

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