# CAMPUS PARKING MASTER PLAN

Smith College  
Northampton, Massachusetts

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EXECUTIVE SUMMARY

Study Background

This campus parking study was initiated as a result of the development agreement between the City of Northampton and Smith College. In that agreement, Smith recognized the need for a comprehensive approach to planning for its campus parking, both as it relates to current campus activity, and future campus programs. Other past studies by Smith, such as the Smith College Landscape Master Plan, and the 1999 Parking Study, pointed to the need for a plan for parking that reflected the goals of encouraging and enhancing a pedestrian campus, preserving the extraordinary heritage and landscape elements of the campus, discouraging parking spill-over into the adjacent residential neighborhood, and other goals. Accordingly, this Campus Parking Master Plan looks to reflect the college’s goals aimed at creating a culture on campus based on environmental and economic sustainability.

The scope of this Campus Parking Master Plan was developed with input from the City of Northampton. Smith contracted with the consultant Fuss & O’Neill, Inc. to prepare this study. The main purpose of the Campus Parking Master Plan is to document existing campus parking supply and demand for parking spaces as well as provide a recommendation for the number of parking spaces needed to serve the various college users and programs. These demand estimates focus on current year 2006 programs and on a 10-year future. A good deal of emphasis was also placed on the analysis of feasible TDM (Transportation Demand Management) actions that could be applied to decrease the vehicle demand on campus by encouraging use of alternative travel modes, and accordingly, decrease the demand for future parking spaces.

During the course of this study, there were numerous meetings to solicit input and review project progress. There were three public meetings with the neighborhood, as well as other meetings with city officials, Smith College officials, and faculty/staff representatives from other college committees.

Existing Parking Supply & Demand

Smith College currently has about 1560 parking spaces on campus, located in 59 parking areas and including the 353-car parking garage on West Street. A parking occupancy study which counted occupied parking spaces in and around the campus during a typical class day was conducted. The occupancy study indicated that the highest demand for parking occurred in the area north of Elm Street. Parking on the south side of the campus (including the parking garage and some staff lots in the Physical Plant and Ainsworth Gym area) were generally underutilized.
Parking Space Needs - Status Quo

Parking needs for the Smith campus were developed based on a determination of parking rates for three major categories of parking users: commuter students; resident students; and faculty/staff. A detailed review of other parking data and studies at similar New England colleges, as well as industry rates for college campuses was conducted and served as the basis for the parking rates used in this study. The recommended parking space needs, assuming no new transportation demand management actions are implemented that would reduce the use of the auto on campus, are described in detail in this report. The estimate of current (i.e year 2006) parking need of 1877 spaces indicates a deficiency of about 317 on-campus spaces based on current activities & programs. This current need breaks down by user group as 56% faculty & Staff, 37% student, and about 7% other. Based on the 10-year growth period the future space deficiency is estimated at about 347 spaces.

Future Parking Need - With Transportation Demand Management Actions

With implementation of certain TDM actions, it is estimated that a reduction in the order of 240 parking spaces would be possible for the campus. The total demand for on-campus parking in the future is estimated at 1907 spaces. This is a parking deficit of about 107 spaces in the future compared to the current parking supply on campus.

Recommended Actions to Reduce Parking Demand

Measures aimed at reducing single occupancy vehicle trips by employees and students and promoting the use of alternative modes of transportation were considered and evaluated. These measures, called Transportation Demand Management (TDM) considerations, can be applied to reduce the demand for parking on the Smith campus. The four general categories of demand management actions that are discussed and recommended in detail in this parking study are the following:

A. Parking Management
   • Pricing & Parking Permitting
   • Residential Permit Parking Program
   • TDM Coordinator Role
   • Parking Monitoring, Coordination, Enforcement

B. Transit Utilization
   • Encourage Public Transit Use
   • Park & Ride

C. Ridesharing
   • Ride Share Incentive Programs
   • Emergency Ride Home Program
D. Other Actions
   • Car Share (Zipcar) Program
   • Parking Cash Out Program
   • TDM Marketing
   • Bike Sharing Program
   • Bike Incentive Programs
   • Housing On or Near Campus

Parking Plan Recommendations

The recommendations of this campus parking study are detailed in Section 7.0. Highlights of these recommendations include the following:

1. Maximize Utilization of On-Campus Parking Facilities
2. Control Smith Student and Employee Parking On Adjacent Residential Streets
3. Implement Specific Parking Strategies and Transportation Demand Management Actions That Will Reduce The Demand For Parking At Smith
4. Promote Alternative Travel Modes Of Biking and Walking
5. Improve Traffic Safety & Circulation Around the Campus

The priority of actions recommended for implementation are also discussed in Section 7.
1.0 STUDY OVERVIEW

Fuss & O’Neill was retained by Smith College to develop a Campus Parking Master Plan for the College. The main purpose of this plan is to document the existing campus parking supply and demand for parking spaces and to provide a recommendation for the number of parking spaces needed to serve various college users. The parking demand estimates focus on current (year 2006) college programs and on a ten-year future.

The goals and objectives of this master plan that were identified during this project include the following:

- Improve location of parking so that it supports the college programs (i.e. activity centers), safety of vehicle access, and the safety of the campus community.
- Improve parking management, review current strategies and make improvements to management and methods of operations such as:
  - Designation of parking areas for user groups.
  - Potential for shared parking.
  - Enforcement and policing of parking areas.
  - Strategies for controlling use of parking facilities (e.g., the garage, pricing).
  - Reduce impact of college vehicular activity on surrounding neighborhood streets.
- Encourage use of alternative modes to/from campus (i.e. walking, biking, PVTA transit, car-pooling) in order to reduce the number of vehicles coming to campus.
- Discourage public vehicles from using the central (core) campus area.
- Improve availability and signing of visitor parking (e.g. admissions office, other).

The following are the major work tasks included in this study:

- Inventory of existing supply of parking spaces on the college campus.
- Determination of current parking demand in terms of actual occupancy of parking spaces on and around the campus. (Currently, parking is linked to building square footage and dormitory capacity.)
- Development of current parking rates according to major user category (i.e. student, faculty/staff).
- Estimation of future parking demand on the campus.
- Review of pedestrian circulation and safety on and around the campus.
- Preparation of recommendations for improved parking accommodation and parking management strategies for the campus, including actions to consider for reducing parking demand.
2.0 EXISTING PARKING

2.1 Existing Parking Supply

Smith College currently utilizes 59 parking areas campus wide, which contain 1,560 parking spaces. These areas are primarily off-street parking lots and the 353-car parking garage on West Street. In the campus Quad area, parking spaces on Mandelle Road and Paradise Road are also included in this 1,560-space number, since these are campus (private) roads. In each of these parking areas, Smith College designates each space for a particular use (i.e. student, employee or service vehicle parking) through a color-coding system. Table 1 shows a breakdown of the number of spaces provided for each use as designated by the college.

There are approximately 400 parking spaces located on city streets surrounding the Smith College campus. These include curbside public parking spaces which are mostly all unmarked and unmetered spaces except those on Bedford Terrace, part of Elm Street, Green Street, part of West Street, and part of Belmont Avenue. Other adjacent city streets that experience Smith College parking activity include: Prospect Street, Henshaw Avenue, Round Hill Road, parts of Elm Street, Kensington Avenue, parts of Belmont Avenue, Arnold Avenue and Ahwaga Avenue.

Figure 2, appended, shows the current Campus Parking Map, indicating the parking lot identification number and the number of marked spaces on campus.

2.2 Existing Parking Demand

Smith College currently has approximately 2,534 on-campus students and approximately 1,407 full- and part-time employees (faculty and staff). During the 2005-2006 academic year, Smith College distributed a total of 2,625 parking permits, of which over 1,900 were assigned to faculty and staff. The large number of faculty/staff parking permits is due, primarily, to a policy that allows employees to purchase an additional pass for a secondary vehicle. Overbooking of available parking is a common occurrence at institutions and businesses where not all employees are on-site at the same time. Smith College has multiple work shifts with some employees working off-campus.

Table 2 shows the current distribution of parking permits by user category.

In order to determine the demand for parking on the Smith College campus, parking space occupancy counts were conducted in late March during the morning peak period of school
activities between 10 and 11 AM and in the evening between 7 and 8 PM following completion of most class-related activities. Table 3 shows the parking occupancy for on-campus lots based on the time of day. The summary of on-street parking space occupancy for adjacent streets around the campus is shown in the appendix.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Designation</th>
<th>Total Parking Spaces</th>
<th>Occupied Spaces</th>
<th>Available Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday Morning</td>
<td>Smith Lots</td>
<td>1,560</td>
<td>1,118</td>
<td>442</td>
</tr>
<tr>
<td>Weekday Evening</td>
<td>Smith Lots</td>
<td>1,560</td>
<td>437</td>
<td>1,123</td>
</tr>
</tbody>
</table>

Figure 3, appended, shows the parking regions surveyed by location around the Smith campus. An analysis of the distribution of parking was conducted to determine which areas of campus have a parking surplus versus those that have deficiencies. To accomplish this, the campus was broken up into eight regions. Figure 3 shows the eight regions on a map of the Smith College campus. The regions along the north edge of campus are predominantly residential, while the main campus and southern regions primarily serve academic and administrative buildings. Figure 1 shows the current daytime parking supply vs. demand within the various regions on campus. Figure 4 shows this parking data relative to its distribution around the campus.

The occupancy study showed that during the peak class times on a typical weekday, the area of campus with the largest available on-site parking supply had the highest vacancy rate compared to other areas of the campus. This was region “G”, that area on the south side of campus bounded by Green Street, Lower College Lane, and West Street. Of approximately 732 spaces available, 445 (61%) were occupied during the survey time. This area contains primarily academic and administrative/ physical plant uses. Due to the proximity of free, on-street parking in other study regions, this parking region (Region “G”) is perceived by students that are located north of Elm Street and in the Quad to be outside of a walkable area.

The area on-campus with the highest parking density was the area north of Elm Street in regions “B”, “C”, “D”, and “E”. This area has some academic offices, but is primarily student residence use. Of the available off-street parking supply (359 spaces), 95% was occupied.

Elm Street and Kensington Avenue, both city streets, are heavily utilized by Smith parkers who are based in the north-central and western areas of the campus.

The general finding of the parking occupancy count was that the available parking on the south side of the campus (particularly at the parking garage and some staff lots in the Physical Plant and athletic areas) was underutilized.
2.3 Existing Parking Policies

The Smith College Department of Public Safety is responsible for issuing regulations with regard to vehicle registration, parking, and traffic. This department has a comprehensive 20-page document entitled “Regulations For Vehicle Registration, Parking and Traffic”, June 2006, which is made available to the campus community both in hard copy and online at http://www.smith.edu/pubsafety/. The major sections of the regulations are as follows:

- Compliance
- Registration and Eligibility
- On-Campus Parking Fees
- Extent of Privileges
- Parking Regulations and Fines
- Appeals of Parking Tickets
- Parking Violations Subject to Towing or Impounding
- Authority
- Regulatory Signage
- Traffic Regulations
- Snow Emergencies
- Definitions
- Amendments

Smith College Public Safety is responsible for issuing permits for members of the college community who wish to park in campus-controlled lots. A vehicle’s permit color designates in which spaces the vehicle may park. Smith College designates spaces by means of a color-coding
system, by marking spaces in their lots with various colors (e.g. white striped spaces for employees, green for residential students, red for commuter students and orange for service vehicles). Table 2 shows the various permits that are issued by Smith and the number of each that were distributed during the 2005-2006 academic year.

**Faculty & Staff** – Faculty and staff must pay $25/ year to receive a Smith College parking permit. For an additional $10/ year, employees may purchase a decal for a second vehicle. Employees are allowed to park in any lot with spaces marked for employee parking.

**Students** – Smith College distributes approximately 400 residential student permits (100 of which are for peripheral lots located near the stables off West Street) on a first-come first-serve basis, with seniors receiving first opportunity. First-year students are not allowed to bring cars to campus. Students must pay $150/ year (or $75/ semester) for regular student parking or $25/ year for a space in the peripheral lots. Starting with the 2006-2007 academic year, Smith College is requiring all individuals who bring cars to campus to register their vehicles and affix an identifying sticker, regardless of whether they purchase a permit to park on campus.

**Commuter Students** – Smith College provides an unlimited number of decals for students who live off-campus and commute. The cost of these decals is $25/ year. There is limited commuter parking however, located in three campus lots. Commuters are allowed to purchase residential decals ($25-$150/ year) in the event that they want additional parking options. Vehicles with commuter decals are allowed to park in employee spaces overnight and during the weekend.

**Visitors** – Visitors are required to park in marked visitor spaces unless they have obtained a temporary pass from the college, in which case they may park in employee parking spaces. Student visitors must register with the Public Safety Office in order to receive a temporary pass. Those visiting the campus for college-related business may receive a free temporary parking permit from the department they are visiting.

**Parking For General Public** – All non-student spaces, except for those in the garage, are available to the public-at-large between the hours of 5:00PM and 7:00AM on weekdays and all day on weekends. The public may utilize the Smith parking garage on West Street between the hours of 5:00PM and 1:00AM on weekdays and all day on weekends. College parking lots are not open to the public, however, during college declared snow emergencies.

**Snow Lots** – During a snow emergency as declared by the college, all vehicles registered with the college must be moved to designated snow lots, which are located in the stables area off West Street, as well as the parking garage for those vehicles with appropriate decals. Vehicles must remain in the snow lots until the remaining parking areas have been cleared. Any vehicle that is not registered with the college must be removed from all Smith lots until the parking ban is lifted.
3.0 FUTURE PARKING DEMAND

3.1 Projected Demand

Over the next ten years there is expected to be minimal growth in the Smith College population. The college plans to maintain the current student population of approximately 2,600 on-campus students with no expected growth. Minimal growth of the employee population is planned over the next ten years, with an estimate provided by Smith of no more than five new employees (faculty/staff) added per year. Following construction of the proposed Science and Engineering building at the Green Street / Belmont Avenue intersection, Smith College does not foresee any significant new building construction until late in the ten-year period.

Conway House, the recently completed Ada Comstock apartment building, and the future Engineering and Sciences Building are intended to house programs that are currently operating in other buildings on campus. Projected growth at Smith College thus is expected to result in no more than 50 additional employees over the next ten years. The addition of 50 employees will result in an increased parking need of about 37 spaces.

3.2 Future Parking Space Needs

The demand for parking at Smith was derived based on a review of industry standards for college and university parking, Smith's parking characteristics, and a detailed review and analysis of parking data from similar New England colleges. Rather than broadly applying one parking rate factor to the entire campus population (i.e. total of students and employees), a parking generation factor for each of the three major categories of parkers on the campus was developed and applied. The three user groups were faculty/staff (i.e. employees), residential students (i.e. living on campus), and commuter students. Parking for visitors, college service vehicles, and other Smith rental properties are in addition to the three categories above.

Based on expected future (year 2016) campus census and programs, the recommended on-campus parking supply is 1,907 spaces. This compares with 1,560 marked spaces provided on campus currently, leaving a difference (deficit) of approximately 347 spaces. Following construction of the Engineering and Sciences Building, Smith will hand over five parking spaces to the City in return for the removal of metered parking on Belmont Avenue, bringing the total available marked spaces to 1,555 and the total deficit to 352 spaces. This deficit in parking spaces does not account for current on-street parking available on adjacent city streets, nor does it account for the implementation of transportation demand management strategies which could help to reduce the demand for parking at Smith. Table 4 shows the recommended parking supply without transportation demand management considerations. The recommended number of spaces is based on the parking rates generated for the particular user groups as described below. Additional information regarding these rates can be found in Appendix A (Table A-2).

The morning parking occupancy study identified about 321 occupied curbside spaces on public streets within the immediate Smith area. These occupied curbside spaces basically take up the "deficit" in on-campus parking supply. These counts included Bedford Terrace, Prospect Street, and Henshaw Avenue (30 curbside vehicles parked), Elm Street between Bedford Terrace and Kensington Avenue (with 136 vehicles parked), and Kensington Avenue (22
vehicles parked). Of the vehicles parked along these city streets, it is likely that some are not associated with Smith-related activities.

### Table 4
RECOMMENDED PARKING SUPPLY WITHOUT TRANSPORTATION DEMAND MANAGEMENT

<table>
<thead>
<tr>
<th>User Group</th>
<th>Recommended 2006 Parking Spaces</th>
<th>Recommended Change in Spaces Due to Growth</th>
<th>Recommended 2016 Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Students</td>
<td>136</td>
<td>0</td>
<td>136</td>
</tr>
<tr>
<td>Residential Students</td>
<td>562</td>
<td>0</td>
<td>562</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>1041</td>
<td>37</td>
<td>1078</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>1739</strong></td>
<td><strong>37</strong></td>
<td><strong>1776</strong></td>
</tr>
<tr>
<td>Visitors</td>
<td>40</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Car-Pool</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Accessible</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Service</td>
<td>61</td>
<td>0</td>
<td>61</td>
</tr>
<tr>
<td>Rental Spaces</td>
<td>37</td>
<td>-.7**</td>
<td>30</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>138</strong></td>
<td><strong>-7</strong></td>
<td><strong>131</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1877</strong></td>
<td><strong>30</strong></td>
<td><strong>1907</strong></td>
</tr>
</tbody>
</table>

* Included under Recommended Parking Supply spaces for students, faculty & staff.
** Reduction due to removal of residential units located above 82-100 Green Street.

The following summarizes the parking rates generated by specific user groups at Smith (See Table A-2).

**Faculty & Staff** - Faculty and staff are currently provided parking at a rate of 0.70 spaces per employee. This accounts for the total number of employees at Smith College, which includes second shift employees and those not stationed on the main campus (such as those working at Fort Hill or elsewhere). It is recommended that a rate of 0.74 per employee be used for all future expansion. Using a rate of 0.74 spaces per employee will result in 57 parking spaces being needed to cover the existing shortage and projected staff growth over the next ten years. This is a conservative estimate (i.e. on the high side) considering that all employees are taken into consideration including those not on the main campus during peak periods.

**Residential Students** - Residential students are currently provided parking at a rate of 0.13 spaces per student. During the analysis phase, it was noted that this rate is lower than that provided at other schools. It is recommended that a rate of 0.24 spaces per student be used to determine actual parking need. Using a rate of 0.24 spaces per student will result in 259 parking spaces being needed due to the existing shortage.

**Commuter Students** - Commuter students are currently provided parking at a rate of 0.42 spaces per student. During the analysis phase, it was noted that this rate is lower than that provided at other schools with comparable commuter populations. However this is somewhat offset by the proximity to campus within which most commuter students live. It is recommended that a rate of 0.70 spaces per off-campus student be used to determine actual parking need. Using a rate of 0.70 spaces per student will result in 55 parking spaces being needed due to the existing shortage.
Visitors - Campus visitors are an important user group that needs to be considered when discussing the on-campus parking needs of Smith College. Currently, Smith provides 29 spaces that are designated for visitor parking. These spaces are spread throughout the campus with the largest number located in the parking garage. It is recommended that the number of designated visitor spaces be increased from 29 to 40. The parking rate used to determine the recommended number of employee spaces is conservative enough to account for any visitors that may come to Smith College on a day-to-day basis. In the case of a larger event during the academic year, the college should consider placing visitors in an overflow parking area and providing a shuttle to take them to the event location.
4.0 PEDESTRIAN AND BICYCLE CIRCULATION

4.1 Pedestrian Crosswalks

Smith College maintains a campus-wide network of walkways and internal roadways that serve the campus pedestrian traffic. In order to identify the level of pedestrian activity on principal pedestrian pathways, pedestrian counts were conducted at the main crosswalks surrounding Smith College in early March. The counts were conducted between 11:30 AM to 1:30 PM and 3:30 to 5:30 PM. From the counts it was determined that the highest amount of pedestrian traffic is located at the pedestrian signal at J.M. Greene Hall, followed by the unsignalized crosswalk located at Elm Street and Henshaw Avenue. It was noted that the heavily traveled pedestrian routes remain similar to those used prior to the construction of the Campus Center.

There are crosswalks on some college streets that are sharply angled as they cross the pavement, rather than crossing the roadway in a more direct, preferred right angle to the curbline. These include locations on Lower College Lane (near the dam access), at the Faculty Club, and near the Lyman Plant House. These locations should have the crosswalks reviewed for realignment, with consideration given to also maintaining handicap accessibility.

4.2 Campus Pedestrian Ways and Sidewalks

An inventory was taken of the condition and relative safety of the various sidewalks surrounding Smith College. It was noted that several sidewalk segments, especially those along Elm Street west of Henshaw Avenue, are in need of repair. Another issue is the visibility of pedestrians at some side-street crossing locations. The sidewalk along the south side of Elm Street, west of Paradise Road, is not adjacent to the street and is at times below the grade of the roadway. This removes pedestrians from the typical line-of-sight for motorists at driveway crossings and roadway crossings, causing a situation in which turning motorists are often unaware of pedestrian activity.

4.3 Bike Accommodation

Bicycles are a common mode of transportation throughout the Smith College campus, as well as throughout the City of Northampton. Bicycles share the internal campus road network with pedestrians and motor vehicles, which provides, for the most part, for safe and efficient travel throughout the campus. Marked bicycle lanes, which improve the visibility and safety of cyclists, are provided along Elm Street.

Concerns regarding bicycle travel around the Smith College campus are related to curbside parking and the large number of driveways located along the campus perimeter. On-street parking is a major hazard for bicycles, as they constantly have to be aware of car doors opening into the bicycle lanes. On-street parking also contributes, in some locations, to low visibility for
drivers exiting campus roads and driveways. This is especially true of the driveways located along Elm Street. These driveways are primarily used for delivery purposes and are low volume. However, as vehicles exit the driveways their line of sight is often obstructed by cars parked along the street. These parked cars block approaching bicycles from view, resulting in a greater chance for conflicts between bicycles and exiting vehicles.
5.0 TRAFFIC CIRCULATION AROUND CAMPUS

5.1 Internal Roadways

Smith College maintains several private roadways within and surrounding the campus. These roadways such as Mandelle Road and Paradise Road are used for access to the various academic and residential buildings primarily by delivery vehicles and Smith College vehicles. The use of the internal road network is primarily intended for authorized vehicles only. Vehicles with a valid handicapped registration are also allowed to use some of these roadways for access to various buildings. Paradise Road and College Lane are roadways that are also owned by Smith College but serve public travel as well. Public access is also allowed for handicapped parking and library activity (including the library book drop) via Neilson Drive.

It’s noted that there is a lack of clear, visible guide signage to direct college visitors to appropriate parking areas from adjacent city streets.

5.2 Driveways

Smith College has a large number of driveways that access the main roads, both city and college owned, which surround the campus. The majority of these driveways are used for access to parking or are for service and delivery vehicle access. There are 14 active driveways along the south side of Elm Street between Kensington Avenue and West Street. Figure 2 shows the number of curb cuts on each of the primary roadways located around the Smith College campus.

Driveways are a common point of conflict between vehicles and pedestrians, with drivers who are entering and exiting more concerned with oncoming traffic than they are with the presence of non-motorized users such as bicycles and pedestrians. These types of conflicts are compounded by the presence of on-street parking, which the city allows on the majority of streets around the Smith College campus. Driveways that fit this profile include the driveway to Admissions, which exits onto Elm Street next to Park House, and the driveway located between Haven House and Hopkins House.
5.3 Loading Areas

There are approximately 20 designated loading areas throughout the Smith College campus. The majority of these areas are for food services at specific residential buildings, where kitchens are located. Loading docks are also located at several major academic and administrative buildings, such as the Campus Center and Fine Arts Center. About a quarter of these areas are accessible only by internal roadways through the campus.
6.0 PARKING PLAN RECOMMENDATIONS

Smith College has held several discussions with members of the local community to discuss issues related to parking and the Parking Master Plan. In-person and emailed comments by neighbors to Smith College were carefully considered in developing the recommendations presented in this report. Primary concerns revolve around parking by Smith students on residential streets and potential locations for additional parking that are close to residential neighborhoods.

6.1 Increase Spaces in Parking Areas

Table 5 shows a comparison of existing parking spaces and the suggested parking spaces based on the recommended college parking rates noted above. Figure 5 shows the location of potential additional on-campus parking spaces.

<table>
<thead>
<tr>
<th>User Group</th>
<th>Existing Marked Parking Spaces</th>
<th>Recommended Parking Spaces</th>
<th>Parking Surplus (Deficit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Students</td>
<td>81</td>
<td>136</td>
<td>(55)</td>
</tr>
<tr>
<td>Residential Students**</td>
<td>303</td>
<td>562</td>
<td>(259)</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>989</td>
<td>1041</td>
<td>(52)***</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>1373</strong></td>
<td><strong>1739</strong></td>
<td><strong>(366)</strong></td>
</tr>
<tr>
<td>Visitors</td>
<td>29</td>
<td>40</td>
<td>(11)</td>
</tr>
<tr>
<td>Car-Pool</td>
<td>5</td>
<td>*</td>
<td>5</td>
</tr>
<tr>
<td>Accessible</td>
<td>55</td>
<td>*</td>
<td>55</td>
</tr>
<tr>
<td>Service</td>
<td>61</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>Rental Spaces</td>
<td>37</td>
<td>37</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>187</strong></td>
<td><strong>138</strong></td>
<td><strong>49</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1560</strong></td>
<td><strong>1877</strong></td>
<td><strong>(317)</strong></td>
</tr>
</tbody>
</table>

* Included under Recommended Parking Supply spaces for students, faculty & staff.
** Includes parking spaces reserved for Conway House (Ada Comstock Students)
*** Does not account for replacement of 5 curbside spaces on Belmont Avenue following construction of Engineering and Sciences Building

Due to its location near downtown, Smith College does not have substantial space (i.e. open space) that can be readily altered to serve as additional parking. In addition, Smith, like similar historic New England college campuses, is committed to the preservation of green space. Thus, in determining potential locations for new parking areas, the focus was placed on finding one or two larger areas that could then be supplemented by reconfiguring and adding to existing lots. Current standards for “Green” parking areas should be considered for the construction of future parking areas. Construction of new parking areas provides Smith the opportunity to be at the forefront of technology, by implementing green parking areas in an effort to limit impervious space and associated environmental impacts. Green parking techniques include the use of pervious pavements (gravel, pervious asphalt, pavers, etc.) and expanded use of islands and rain gardens that provide additional storage and infiltration area. The following have been
identified as some potential locations for consideration where a significant number of spaces could be located:

- **Field Opposite Stables Area** - This is an open field area off West Street, where a large number of parking spaces could be located. Approximately 150 spaces could be accommodated in this area. This area falls under certain conservation restrictions and is adjacent to a location for outdoor winter activities. If any of this field area were to be used, it would be in that section closest to the tennis court access road. Because this area is under an Open Space Restriction, use of a portion of this area for Smith parking will require further study and permitting by the Northampton Conservation Commission.

- **Tennis Court Access Road** - This area is also located off West Street opposite the stables area. The road was recently paved following construction of a residential development located on the east side of the access road. Approximately 50 spaces could be located along the west side of the access road. This area falls under certain conservation restrictions as noted above.

- **Ainsworth Lot** - This area along Lower College Lane can be reconfigured to gain additional parking. The island that separates the lot and College Lane can be reconfigured to allow head-in parking along College Lane. Through reconfiguration, Smith College can gain approximately 20 parking spaces.

- **Mandelle Road** - This area is currently striped as parallel parking. By relocating the existing curb line and re-stripping this area as head-in, angle parking, the College can gain approximately 10 spaces.

- **Comstock Green and Paradise Road** - This is a large area located on the west side of Paradise Road in one of the primary student residential areas. The majority of the green is sloped towards Paradise Road. A small lot (approximately 10 spaces or less) could be located on a flat area in the southwest portion of the lawn, immediately adjacent to the building. Longer-term improvements could provide a larger number of spaces in this area. Smith should also further evaluate the possibility of installing angled parking in a few areas along Paradise Road.

- **Davis Center Area** - This is a large, flat area located west of Prospect Street. A single line of head-in parking could be located along Prospect Street or along the south side of the lawn as an extension to the Ziskind Lot. This would provide approximately 20
spaces. This area is used as a playing field for the campus school, and accordingly, special design considerations would be necessary.

**Visitor Parking** – Visitor parking at Smith College is currently located across the campus with several small groups of spaces. It is recommended that visitor spaces be moved to two or three central locations in order to better serve visitors to the campus. In order to improve access to the central campus for visitors, it is recommended that the parking lot located next to 8 College Lane, be designated as a visitor lot. From this location, several key buildings will be served including Admissions and the Campus Center. This will also serve to remove existing visitor parking from the Admissions driveway, which is the primary pedestrian route to and from the Quad area. It is also critical that guide signage be placed in strategic locations, which will serve to guide campus visitors to parking areas and other common destinations, such as Admissions and the parking garage.

**Parking for General Public** – Smith College currently allows the public to utilize non-student parking spaces on weekdays between 5PM and 7AM (5PM to 1AM in the garage) and all day on weekends. In an effort to eliminate confusion concerning this policy, it is recommended that signs be installed at campus lots stating the hours that parking is available to the public. Signs should also provide a statement regarding Smith’s snow emergency policy. Locations where signage should be considered include the parking garage and Dickinson Lot, which is located on the north side of Green Street.

Students at Smith who have vehicles should also be informed of the option to purchase a parking permit for the use of the City’s Parking Garage. Monthly parking passes are available on a first-come, first-serve basis. The cost is $75 per month, and the maximum period is six months. There are approximately 10 Smith Students who currently have long term permits to park in the garage.

**Event Parking** – Events, such as sports activities and conferences, which draw large numbers of visitors, are common on college campuses including Smith. When these events occur, Smith must find parking for the attendees. This could be problematic if the event were to occur during daytime school hours, when employees are still on campus. It is recommended that Smith investigate the feasibility of assigning special (large) event parking in off-campus lots and running a shuttle/van between the campus and the lots.

**Snow Lots** – Smith College requires all vehicles to park in designated lots in the event a snow emergency is declared by the college. The snow lots are located in the stables area off West Street. Existing snow lots may become unavailable as a result of recommendations made above. It is recommended that Smith College investigate the feasibility of using existing off-campus parking areas for use as snow lots in the event of a snow emergency. Such an area might be in the Hospital Hill – Burts Pit Rd. area, such as the soccer field parking area. The college would need to run a shuttle between campus and the snow lot for a set period of time before the parking ban went into effect and after it was lifted.
6.2 Transportation Demand Management Considerations

Transportation Demand Management (TDM) is made up of a set of measures determined by an employer that are aimed at reducing single occupancy vehicle (SOV) trips by employees and users of their facilities and promoting alternative modes of transportation. In the case of colleges and universities, these measures are typically aimed at employees, although some measures may apply to students as well. TDM measures are essential to reducing the demand for parking on and around the Smith College campus.

The majority of TDM measures are most effective for large employers or those that are located in a large urban area that typically has available alternative modes of travel to and from the facility. Employees of Smith College, one of the largest employers in Northampton, have multiple choices on how to travel to and from work, especially for those that live within the City. The Pioneer Valley Transit Authority (PVTA) provides transit service throughout Northampton and the bordering communities. Smith College should implement TDM measures that will target those students and employees that live along transit routes, and within Northampton or a bordering town. Table 6 indicates the TDM Actions that were considered.

<table>
<thead>
<tr>
<th>TABLE 6</th>
<th>TRANSPORTATION DEMAND MANAGEMENT CONSIDERATIONS FOR SMITH COLLEGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARKING MANAGEMENT</td>
<td>TRANSIT</td>
</tr>
<tr>
<td>Parking and Permits</td>
<td>Campus Shuttles</td>
</tr>
<tr>
<td>Park and Ride</td>
<td>Local Public Transit System Support</td>
</tr>
<tr>
<td>Residential Permit Parking</td>
<td>Free Transit Passes</td>
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<td></td>
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</tbody>
</table>

6.3 Actions to Reduce Parking Demand

An important strategy for reducing parking demand is to commit to Transportation Demand Management (TDM) actions. Smith College currently provides several programs aimed at reducing parking demand such as free transit service for students and employees through the PVTA and ride matching through MassRides. It is recommended that Smith expand its existing TDM program through the addition of new measures and improved advertising in the interest of reduced parking demand and maintaining a sustainable and pedestrian-friendly campus.
Specific measures to be considered are broken down into four categories as discussed below: Parking Management, Transit Utilization, Ridesharing, and Other Actions/Considerations.

6.3.1 Parking Management

Measures falling under this category are specifically aimed at improvements in managing and better utilization of the existing parking areas maintained by Smith College. With effective parking management, Smith College will be able to improve use of its existing parking, and be able to limit the construction of new spaces in the future.

**Pricing & Permitting** - Demand for parking is often directly tied to cost and location of said parking. Free or low-cost parking close to one's destination provides no incentive for employees or other users to utilize alternative transportation or perimeter parking areas. When alternative travel modes are readily available, significant parking costs (i.e. $1/ day or more) can reduce the total number of vehicle trips to a facility by 6.5% or more.¹

It is recommended that the cost of parking permits at Smith be adjusted. Costs should be aligned with those at colleges in small urban areas and relating them to parking area location to encourage the use of perimeter lots.

The goal of this pricing adjustment would be to reach a better balance of parking demand and on-campus parking supply, and encourage use of other means of transportation to and from the campus. Because the setting of the cost of parking permits is related to many operational, institutional, and other factors, it is recommended that Smith begin a trial of parking cost increases for one year, and evaluate the effect of such a program on the on-campus and adjacent city street parking demand during the academic year. A suggestion for an initial parking fee structure for consideration by Smith is shown in Table A-10 appended.

As indicated, the permit cost structure should be tiered according to parking lot location, with the central on-campus locations at the highest price. The parking garage would be priced in between the core-campus lots and the lowest priced peripheral lots areas. It is also recommended that faculty / staff parking be also tiered according to lot location.

Another goal of the tiered pricing system will be to provide balance between on-campus parking demand and parking location. The higher costs of the core parking areas, combined with other TDM measures, have the goal of shifting vehicles to peripheral lots as well as reducing the need for parking. 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.

Smith's parking policy is to not allow first year students to bring a car to campus. Not allowing second year students (i.e. Sophomores) to have vehicles has been considered as a way to further reduce the parking demand at Smith, but at this time is not a feasible option. Smith already limits its availability of parking to Sophomores (priority of a limited number of parking permits goes to Seniors first, then on a first-come, first-serve basis to the Junior class, then Sophomores). The existing parking permit system, with a limit to the number of parking permits allowed, already discourages Sophomores from having cars.
Recommended parking permit policy changes (tiered parking cost increases, more enforcement) will further discourage this parking.

Permits should be assigned to specific on-campus parking areas. All students and faculty/staff that have vehicles should have an assigned lot location, and parking permits should be required for all vehicles on campus. This will provide direction to individuals who bring vehicles on campus and should help limit vehicles circulating the campus in search of available parking.

In order to encourage other modes of transportation, such as carpools and public transit, a daily permit should be created such that individuals who primarily use alternative modes of travel for commuting can legally park on campus for a set number of days during a month/semester. This would equate to the Occasional Parking Permit program that is available for certain lots at the UMass-Amherst campus.

The use of peripheral parking lots for daily campus commuters (faculty, staff, and commuter students) will only be effective if it can be safely and efficiently connected to core campus destinations. That is, students and staff won’t want to use peripheral parking regularly unless they have a reasonably short walking distance to their destination and have a safe and well maintained (i.e. not snow/ice covered) walkway/sidewalk area. To improve usage of peripheral lots in the Stables area of West Street, consideration should be given to significantly improving the pathway along the west side of the Mill River. Currently, there is a large dirt pathway between the river crossing and the Tennis Court area. Consideration should be given to improving the lighting, path surface and landscaping in this area to improve the walking experience. Improved bicycle storage in this area could also greatly enhance the utilization of these peripheral parking areas.

To further improve utilization of peripheral lots, a shuttle van service should be provided on a regular scheduled basis that connects the peripheral parking areas with core-campus destinations. Smith should, in conjunction with adding any future peripheral parking areas more than 1500 feet from the campus center (say Neilson Library), provide a shuttle van service with consideration given to the following:

- Daily (weekday) service during staff working hours and class days;
- Frequent service (continual loop system) with a maximum of 10-minute headways (i.e. service to pick-up & drop-off areas every ten minutes) during primary commute times, such as 7 to 9:30 AM, 11 to 1 PM, and 3:30 to 5:30 PM (times subject to further review/modification);
- Scheduled, posted times of operation during weekends; and
- Use of vans of 8 to 10 passenger capacity so as not to require special licensing of drivers and to keep operating costs down (give consideration to work-study employment for student drivers).
It is also recommended that Smith end the use of the existing color-coding system in parking lots. The colored stripes painted on the pavement that are used to designate parking spaces are often difficult to see, especially during bad weather. Signage in the lots is a better delineator of parking space use and marking.

**Residential Permit Parking Program** - Residential permit parking programs require vehicles that park on designated streets to display a permit stating that they are a resident of that particular street or location. Programs such as these are intended to control parking spillover from a non-residential facility onto neighboring residential streets.

The surrounding neighborhoods, the City of Northampton and Smith should work together to further develop and implement a workable residential parking permit program. Implementation of a residential parking program will help enforce Smith College's parking policies. Without the implementation of a residential permit parking program, significant difficulties remain with regard to implementing a successful Transportation Demand Management Plan due to the presence of free on-street parking. Free on-street parking available to Smith students and employees will minimize the positive effects of TDM actions, such as increased pricing and a parking cash out program, which are recommended in this parking study.

The City of Northampton has an ordinance for establishment of neighborhood permit parking districts. See a copy of this Northampton Code, Article XIII, Neighborhood Permit Parking, which is in the Appendix. It is recommended that this ordinance be reviewed and implemented on a trial basis on certain neighborhood public streets within and adjacent to the Smith College Campus. These streets could include: Kensington Ave., Dryads Green, Crescent St. (from Elm St. to Bancroft Rd.), Belmont Ave., and Ahwaga Ave. This would be a beneficial parking management element for all stakeholders, including the local street residents, the City, and Smith College. It would need particular support by a majority of the local street residents, the City Parking Coordinator, and the Ward Councilor.

Certain items in that current ordinance are recommended for review and possible modification. Those items are highlighted in the Appendix.

**TDM Coordinator** - A Transportation Demand Management (TDM) Coordinator is responsible for providing information and managing the various measures which make up the overall TDM Program. Having a single individual responsible for developing and maintaining the program provides users of the program a direct contact for questions and information.

It is recommended that Smith College create a staff role for a designated Transportation Demand Management Coordinator, affiliated with the Public Safety office. The individual
who holds this position would be responsible for marketing the college’s TDM program, and monitoring the TDM program through planned activities and implementation of new measures. Duties associated with this position would also include on-campus parking management and coordination.

**Parking Monitoring, Coordination & Enforcement** - Consistent enforcement is a key to successful parking management. Parking areas need to be monitored on a daily basis with consistent enforcement of parking policies in order to deter illegal parking activities and support parking management initiatives. Adequate parking staff should be provided in order to effectively monitor on campus parking areas and enforce Smith parking policies. Parking fines need to be significant enough to deter illegal parking on (or off) the campus. It is recommended that Smith consider increasing the minimum fine for parking an unregistered vehicle on-campus to $50.

6.3.2 Transit Utilization

Measures falling under this category are specifically aimed at improving transit (i.e. bus) utilization concerning Smith College. By improving access to public transit, Smith College will be able to encourage its students, employees and visitors to use public transportation when traveling to and from the campus.

**Encourage Public Transit Use** - Public transit subsidies are an extremely effective means of increasing transit use and reducing single occupancy vehicle trips to a facility. The Pioneer Valley Transit Authority runs seven routes that either end or pass within walking distance of Smith College, including three that end in front of John M. Greene Hall on Elm Street. The Franklin Regional Transit Authority also has a route that passes the Smith College campus.

By working with the regional transit providers through a TDM Coordinator, Smith could improve service and/or ridership to the campus for employees and students. Currently the college provides free bus service through the PVTA to all students, faculty and staff members through the Five College bus service. Approximately 85% of Smith College employees live in towns that are serviced by bus routes that provide either direct or indirect access to the campus. The college should investigate providing additional subsidies to cover the cost of bus transfers for commuters that do not live locally.

A related strategy would be to work with the PVTA to improve express service between Smith and the other schools within the Five College alliance. For example, the need for more frequent express service between Smith and Mt. Holyoke during the weekday (say express service during the mid-day) should be evaluated further. This would help encourage
students of these other schools to use public transit rather than a personal vehicle when attending classes at Smith College.

Specific bus routes that should be targeted for promoting ridership for faculty/staff include the PVTA’s Northampton/Williamsburg Route (R42), Florence Heights Route (R44), and the Franklin Regional Transit Authority’s Valley Route.

Smith College should also evaluate the origins of visitors and depending on the volume consider reimbursing visitors, who come to the campus on weekdays and use public transportation. Reimbursement could be provided following the presentation of a receipt of travel provided by the PVTA.

It is estimated that additional transit subsidies could reduce parking demand equivalent to approximately 10 to 20 parking spaces.

**Park & Ride** – Park and ride lots help to intercept commuters prior to their arrival on campus. Use of these lots is often reinforced by its location near a public transit stop or through the use of a private shuttle. The cost to users of park and ride lots is made cheaper than parking at the final destination in an attempt to encourage its use. Park and ride lots also provided additional options for commuters that take part in other TDM programs such as a cash-out program.

It is recommended 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. This should be done in conjunction with the implementation of other TDM measures in order to provide commuters with additional transportation options. This could be especially helpful in the event of a major on-campus event (such as a sporting event), in that visitors could be parked at the park-and-ride lot and be shuttled to campus, thus minimizing the parking impact to the school and the surrounding neighborhoods.

It is understood that the City, in cooperation with MassHighway, is considering the construction of a new park and ride lot at the VA Medical Center on Route 9. Other potential candidate parking areas for further evaluation include the Three-County Fairgrounds area, the Look Park area, the Daily Hampshire Gazette building area, or the Atwood Drive/Clarion Hotel area. Smith should consider implementing such a park and ride lot or lots for an evaluation/demo period of at least one academic year. Smith should consider providing maintenance (e.g. snow plowing assistance) or contribute to maintenance costs for park and ride lots that lay on major routes to the campus, such as the new lot to be located at the VA Medical Center in Leeds.

6.3.3 Ridesharing

Measures falling under this category are specifically aimed at encouraging the creation of carpools and vanpools.

**Ride Share Incentive Programs** – Ride share incentive programs, provide various incentives to employees to use carpools or vanpools. Incentives offered typically include an employer offered ride-matching service, preferential parking locations for carpools or
vanpools, reduced costs for carpool parking and commuter rewards (i.e. drawings, gift certificates, etc.) for employees participating in carpools and vanpools. Employers that actively promote carpooling and provide a variety of incentives can expect up to a 20 percent increase in the number of employees participating in carpools.

Smith College currently maintains a partnership with MassRides, the ride-matching program operated by the Massachusetts Executive Office of Transportation. The availability of this service could be improved by providing direct links to MassRides from the Smith College website.

Emergency Ride Home Program – An ERH program provides security to employees who use alternative modes of transportation. The program guarantees an employee that they can receive transportation to their residence in the event of an emergency. Smith College currently offers an Emergency Ride Home program through MassRides. The MassRides Emergency Ride Home service provides compensation for a taxi up to four times a year for commuters who use alternative modes of transportation at least twice a week. Smith College should improve their advertising of this program by providing links to MassRides on the Smith College website.

6.3.4 Other Actions/Considerations

Other Transportation Demand Management (TDM) actions should be considered for development and implementation in order to further reduce parking demand on the campus. A brief description of these measures follows.

Car Share (Zipcars) Program – Car sharing programs provide participants with a vehicle when there is a necessity. Programs can be structured to work with other TDM measures, such as parking cash out and van pools, such that those who use alternative modes of travel to commute may use vehicles. Car sharing provides facility users an option to run errands or travel for work, in the event that they use alternative modes of travel to commute to the facility. Zipcar estimates that each shared vehicle available to a population removes 20 personal vehicles.

Smith College initiated a Zipcar program for the 2006-2007 academic year. There are currently two vehicles on campus. Smith expects this program to grow over the next ten years, and possibly sooner considering the initial success of the program, to where at least four vehicles would be stationed on the campus. At colleges and universities, Zipcars are often provided to reinforce policies discouraging students from bringing personal vehicles to campus. Zipcars, or other car sharing services, provide a safety net for students (as well as employees who use alternative modes of transportation for commuting). Vehicles are used for errands, traveling to meetings or extra-curricular activities. Making Zipcars available to students and employees will encourage individuals to leave personal vehicles at home. The college should monitor its Zipcar program and at the end of the academic year, evaluate the benefit/effectiveness of the program and determine if the program should be expanded. However, being the provider, Zipcar will ultimately make the decision as to when the Smith program will be expanded.
It is estimated that the continued growth of the Zipcar program (i.e. adding two (2) more vehicles for a total of four (4) zipcars by 2008) will result in a decrease in parking demand equivalent to approximately 80 parking spaces.

**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. This is one of the most successful TDM measures with case studies showing reductions of single-occupancy vehicle trips from 13 to 17 percent in one to three years following implementation. Studies have also shown that the percentage of employees participating in cash out programs generally grows the longer it is in place. A cash-out program may be operated on an annual or monthly basis with the employer providing a set amount of money in return for the employee not bringing a car to work. The payment may or may not be worth the cost of the parking space to the employer. The cash out payment may be subject to both payroll and personal income taxes. The tax impact can be offset by providing transit and vanpool subsidies.

In the case of a college or university, a cash-out program would be aimed at faculty and staff. Employees who select the cash out option would be required to find alternative modes of travel to commute to work. Cash out programs can be combined with other TDM measures such as transit subsidies, ride matching and car sharing, among others. In order to increase the success of a cash-out program, the price of available parking and the cash out amount that employees receive can be adjusted.

Smith College should implement an employee parking cash out program. In order to encourage use of the program, employees should be allowed to join and leave the program at any time. To further encourage involvement, daily-parking passes should be offered to members in the event that they have an appointment or cannot arrange for alternative transportation. When individual employees sign up for the program they should be given information on additional TDM programs such as ridesharing, park and ride lots, the existing Emergency Ride Home Program, and Zipcars to name a few. This will reinforce the availability of alternative modes of transportation and help to discourage program participants from using on-street parking in residential neighborhoods.

An example of an active cash-out program is the one implemented by Dartmouth College in 2002. The program put in place by Dartmouth College offers $180 per year to employees that live within three-quarters of a mile to the campus and do not purchase a parking decal. Those employees that live further from the campus can receive $360 per year.

It is estimated that implementation of a parking cash out program could result in a reduction in parking demand equivalent to 130 to 200 parking spaces. The effect of this program is dependent on other travel alternatives available to users, such as the Five-College bus service, regular PVTA bus runs, vanpool/ carpool use, walking and bike use.

**TDM Marketing** - By engaging in an extensive and consistent marketing campaign, employers can greatly enhance the effectiveness of a TDM program. Studies show that an effective marketing campaign can reduce automobile travel anywhere from 5-15% and improve the effectiveness of other TDM measures up to 3%. Marketing programs may
involve setting up a designated TDM website, sending employees flyers and emails discussing the positive aspects of various TDM measures or setting up activities based on alternative modes of travel.

Smith College currently offers a number of measures aimed at reducing single occupancy vehicle trips to the campus. Currently, the college offers extensive transit benefits, ride matching, an emergency ride home program and a Zipcar program (just initiated for the 2006-2007 academic year). The college should also consider expanding on the bike-to-work week activities promoted by the City of Northampton by promoting monthly activities within the campus community. By readily providing students and employees information on their various programs, Smith College can promote their actions to reduce single occupancy vehicles (SOV) trips to the campus.

**Bike Sharing Program** - Bike sharing (or loaning) programs promote the use of bicycles for trips originating from a facility. An employer provides a number of bikes, which may be used by employees to run errands or for work-related issues.

A student club, know as the “Bike Kitchen”, at Smith College currently operates a used bike-rental program. The Bike Kitchen provides minor repairs, information on how to repair bicycles and semester-long bicycle rentals. It is recommended that the college consider increasing subsidies to this program as well as providing marketing support.

**Bicycle Incentive Programs** - Incentives can be used by employers to encourage the use of bicycles among commuters. Potential incentives include short-term and long-term bicycle parking, covered bicycle racks that protect against weather, shower facilities and commuter rewards. An adequate number of bicycle parking racks need to be provided in highly visible areas in order to promote use.

Smith College should improve bicycle storage facilities on campus by providing covered bicycle parking in strategic areas. Areas where additional bicycle storage should be considered are around the Campus Center and the PVTA bus stop in front of J.M. Greene Hall. The college should also consider adding showers and storage lockers to administrative buildings (and particularly new construction) to encourage active commuting (walking and bicycling). Showers should be considered in buildings that have yet to be constructed or when buildings are renovated in order to limit construction costs. Smith College should also consider providing financial incentives to employees who commute via bicycling or walking. Incentives may come in the form of gift certificates to local bicycle or active-wear stores.

It is estimated that implementation of an incentive program for those who commute by walking or bicycle could result in a decrease in parking demand equivalent to approximately 30 to 40 parking spaces.

**Housing On or Near Campus** - Housing incentives can be used to draw employees closer to campus, reducing the need for vehicle trips. Incentives may include offering on-campus housing or other financial incentives.

Smith College’s Ada Comstock program provides on-campus housing for non-traditional students, such as women with children. These students would typically live off-campus and
commute to the campus. Smith has just completed a new on-campus apartment building, Conway House, designated for this program. The availability of on-campus housing helps to reduce the number of vehicle trips to and from the campus by members of this program. Smith also owns several rental properties on the streets surrounding the campus that are available to faculty and college administrators. These properties are within walking distance of the college and serve to further reduce the parking needs on campus.

6.4 Vehicular, Pedestrian and Bicycle Safety Improvements

Providing and maintaining safe pedestrian and bicycle facilities are critical to the success of a Transportation Demand Management Program and for a college campus in particular. Smith College strives to be a pedestrian-oriented campus, where personal vehicles for student use are not encouraged based on its walkable campus proximity to downtown and transit system. Pedestrian and bicycle safety could be improved with several small improvements in and around campus. Smith College should consider the following improvements in order to maximize pedestrian and bicycle safety:

- Improved Pedestrian Crossings – Due to the significant amount of pedestrian activity centered on and around a college campus, clearly defined pedestrian crossings are crucial to maintaining pedestrian visibility and safety. Smith College and the City of Northampton should consider crossing treatments, such as curb extensions or raised crosswalks, on Paradise Road, College Lane and Green Street at major pedestrian crossings, such as at the Admissions Office and Boat House on Upper College Lane. Raised crosswalks make pedestrians more visible to motorists, and can substantially reduce speeds on roads where they are installed. Special attention should be paid where there is on-street parking and where crosswalk approaches are below the grade of the road, such as at the intersection of Elm Street and Paradise Road. The pedestrian crossings of Elm Street at Round Hill Road and Henshaw Avenue and West Street at the garage should be enhanced in order to provide increased visibility at these crossing locations. Of particular concern is maintaining good early morning and nighttime visibility at these crossings. This may be accomplished through the implementation of automated flashers (on signs), which provide advance warning to motorists that a pedestrian is approaching the crosswalk.

Another area of concern is the pedestrian crossing at the intersection of Green Street and West Street. Pedestrians often exit the Hubbard House/Seelye Hall
Driveway and cross Green Street west of the existing crossing. This driveway is partially blocked from view by a hedgerow that is located next to the sidewalk and continues from Green Street onto West Street. Vehicles turning onto Green Street from West Street have difficulty locating pedestrians that exit this driveway. It is recommended that the hedgerow be lowered or removed in an effort to improve the sight distance for vehicles turning onto Green Street.

- Expanded Bicycle Facilities - There is often confusion when cyclists and motorists interact on roadways. When a bicycle is a primary vehicle rather than a secondary vehicle, the user may behave differently, riding with the flow of traffic rather than staying close to the curb or on the sidewalk, for example. As a result, motorists may have difficulty determining a cyclist’s intention. Bicycle lanes provide guidance and improved safety for both cyclists and motorists. Bicycle lanes are currently located on both sides of Elm Street between Bedford Terrace and Harrison Avenue. Consideration should be given, by the City and Smith College to extending the existing bicycle lanes, as well as providing additional lanes when the opportunity arises. Potential locations for additional bicycle lanes may include the section of Elm Street from Harrison Avenue west to the vicinity of Cooley Dickinson Hospital.

- Improve Safety of Curb Cuts - There are a total of 14 curb cuts (i.e. driveways) on the south side of Elm Street (Route 9) between West Street and Kensington Avenue. These are primarily used for deliveries, emergency access and handicapped access. Smith College should review the location of loading areas and delivery routes in an effort to eliminate unnecessary entrances off Elm Street. Where possible, deliveries should be made from an access point off a secondary road, such as College Lane or Green Street. Driveways of particular importance relative to possible modifications include:

  a) Driveway at King House – It is recommended that one curb cut of this driveway be closed off. Removing a curb cut in this location will improve pedestrian and bicycle safety along this segment of Elm Street.

  b) Driveway (exit) from Admissions lot, adjacent to Park House – It is recommended that the direction of travel on this driveway be reversed, such that vehicles would enter off Elm Street and exit onto College Lane. This will eliminate the problem of vehicles exiting onto Elm Street with inadequate sight distance.

  c) Driveway between Haven and Hopkins – It is recommended that this driveway be designated as a one-way entrance from Elm Street. All vehicles would be required to exit to College Lane via Chapin Drive. Smith College should also investigate the feasibility of closing this driveway and making all deliveries via College Lane and Chapin Drive. This will improve bicycle safety along Elm Street, as well as vehicular safety.

  d) Driveway between College Hall and Fine Arts – It is recommended that the college investigate the feasibility of
providing access for service and delivery vehicles off Green Street via the Hubbard House Driveway. If this is considered feasible, the college should make efforts to make the College Hall driveway exit-only. This could improve the safety of all users along this segment of Elm Street.

It is recommended that Smith re-evaluate its existing delivery routes and loading area locations. This should be done in an effort to reduce the impact of delivery and service vehicles on all modes of traffic, especially pedestrians. Where possible, delivery routes and pedestrian routes should be separated, in an effort to avoid conflicts. Special attention should be paid to delivery routes that affect the residential neighborhoods surrounding the campus including, but not limited to, Kensington Avenue.

A possible revision to the service area of Wilson House should be evaluated. This would involve providing service to this building via Mandelle Road instead of Kensington Avenue. It is recommended that a service truck pull-off be implemented on Mandelle Road, next to Wilson House. Deliveries to Wilson House would be made from this location. Delivery vehicles would enter via Paradise Road and then exit onto Kensington Avenue. This new delivery location would reduce the number of delivery vehicles stopping on Kensington Avenue.

It is recommended that Neilson Drive be accessible by authorized vehicles only. Authorized vehicles would include Smith service vehicles, delivery vehicles and vehicles registered as handicapped. Currently Neilson Drive, which is a major pedestrian route through the central campus, is open to all vehicles, primarily for access to the Neilson Library. It is recommended that the existing book drop-off spaces and handicapped spaces be relocated to the loading area on the south side of the library. These spaces would be accessible through the Dickinson parking lot on Green Street. This would reduce the number of vehicles on Neilson Drive and thus reduce the potential for conflicts between vehicles, pedestrians and bicycles.

Visibility at Driveways - Sight distance is often a problem at driveways in urban settings. On-street parking presents a safety hazard for turning vehicles by blocking approaching pedestrians, bicycles and vehicles from view. Hedgerows and other landscaping can also create poor sight distance when overgrown or located too close to a driveway or pedestrian crossing. The City of Northampton, working with the college, should take measures to improve sight distance at access driveways, pedestrian crossings and residential roadways located along major city streets. Focus should be placed on intersections along Elm Street and Green Street. Special attention should be paid to the access to Dickinson Lot on Green Street and the intersections of Elm Street with Paradise Road, College Lane and Kensington Avenue. It is recommended that Elm Street, between Prospect Street and Kensington Avenue, have minimum 15-foot clearances on each side of driveways, where parking is prohibited.

Another intersection of concern is that of Paradise Road and Dryad’s Green. Due to on-street parking and the road profile of Dryad’s Green there is reduced sight distance, especially for vehicles and pedestrians approaching Dryad’s Green from the south along Paradise Road. A 15-foot clearance zone should be implemented along Paradise Road, on each side of Dryad’s Green.
Emergency Call Boxes - Well-placed emergency call boxes provide an additional safety measure to encourage nighttime pedestrian activity. Call boxes should be placed along all major pedestrian routes between parking areas, transit stops and destination buildings. Currently, there are approximately 40 emergency call boxes spread throughout the Smith College campus. Several parking areas and major pedestrian paths do not have call boxes located at convenient locations, however. Generally, there is little coverage for pedestrians using facilities on the perimeter of the campus, such as along Elm Street. Smith College should conduct further review and study of the placement of emergency call boxes in order to improve pedestrian safety at night.

Locations that should be considered for placement of additional emergency call boxes include the following:

- Ainsworth/ Scott Gym Parking Lot to rear of Center for Performing Arts
- North side of Lamont House at entrance to Lamont parking lot
- Chapin Drive behind 8 College Lane
- Corner of Mandelle Road and Kensington Avenue
- Wilder House across from Dryad’s Green

6.5 Future Parking Needs with Transportation Demand Management Implementation

As discussed in Section 3.2, the anticipated parking demand is estimated at 1,907 spaces for the 10-year future at Smith. With implementation of the demand management actions as recommended in this master plan for Smith, it is expected that a reduction in parking demand in the order of 240 vehicles could be realized. This translates to a recommended on-campus parking supply of 1,667 spaces. Accordingly, this will require construction of about 107 more parking spaces on campus.

The reduction in demand of 240 spaces is primarily based on figures provided by Zipcar, the U.S. Department of Transportation (DOT) and the U.S. Environmental Protection Agency (EPA). A “Business Savings Calculator”, provided by the U.S. EPA was used to estimate the reduction in drive-alone trips made by those students and employees commuting to Smith College on a day-to-day basis. This calculator takes into account facility location, number of employees and the TDM incentives offered, among others. Additional information on the “Business Savings Calculator” can be found in Appendix D.

Table 7 summarizes the derivation of these parking numbers. A phased implementation of demand management actions is recommended.
### TABLE 7
RECOMMENDED PARKING SUPPLY
WITH TRANSPORTATION DEMAND MANAGEMENT

<table>
<thead>
<tr>
<th>User Group</th>
<th>Existing Marked Parking Spaces</th>
<th>Recommended 2016 Parking Supply (w/o TDM Measures)</th>
<th>Reduction Due to TDM Measures</th>
<th>Recommended 2016 Parking Supply</th>
<th>Parking Surplus (Deficit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Students</td>
<td>81</td>
<td>136</td>
<td>2</td>
<td>134</td>
<td>(53)</td>
</tr>
<tr>
<td>Residential Students</td>
<td>303</td>
<td>562</td>
<td>80</td>
<td>482</td>
<td>(179)</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>989</td>
<td>1078</td>
<td>158</td>
<td>920</td>
<td>69</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>1373</td>
<td>1776</td>
<td>240</td>
<td>1536</td>
<td>(163)</td>
</tr>
<tr>
<td>Visitors</td>
<td>29</td>
<td>40</td>
<td>0</td>
<td>40</td>
<td>(11)</td>
</tr>
<tr>
<td>Car-Pool</td>
<td>5</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>5</td>
</tr>
<tr>
<td>Accessible</td>
<td>55</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>55</td>
</tr>
<tr>
<td>Service</td>
<td>61</td>
<td>61</td>
<td>0</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>Rental Spaces</td>
<td>37</td>
<td>30</td>
<td>0</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>187</td>
<td>131</td>
<td>0</td>
<td>131</td>
<td>56</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1560</td>
<td>1907</td>
<td>240</td>
<td>1667</td>
<td>(107)**</td>
</tr>
</tbody>
</table>

* Included under Recommended Parking Supply spaces for students, faculty & staff.

** Does not account for spaces lost due to future construction activity.
7.0 SUMMARY

Parking Plan Recommendations

1. Maximize Utilization of On-Campus Parking Facilities

- Promote measures and parking regulations/policies that get campus parkers to maximize the use of existing on-campus parking facilities
  - Assign/designate all student and employee parking to on-campus or peripheral parking lots (i.e., all vehicles should have an assigned parking location), and increase enforcement of such assignments.
  - Parking permits should be required for all vehicles on campus (faculty/staff, visitors, students).

- Some additional parking spaces can be constructed in or adjacent to existing Smith College parking areas. Use of the area off West Street just south of the Smith Tennis Courts could result in providing approximately 150 to 200 additional parking spaces.

- Peripheral parking spaces need to be added as part of the parking plan. In order to provide accessibility, safety, and security to peripheral parking users, a shuttle van operation should be implemented that connects this parking area(s) with the core campus area.

2. Control Smith Student and Employee Parking on Adjacent Residential Streets

- Work with City Officials, City Parking Division, and Neighborhood representatives to adopt and implement measures to discourage long-term student and employee parking on adjacent residential streets, including Kensington Avenue as the priority; consider a residential permit parking program and apply it on a trial basis.

- Enforce the Smith policy that all cars on campus (staff, faculty, students, visitors) must be registered with the Public Safety Office and display a Smith ID tag.

3. Implement Specific Parking Strategies and Transportation Demand Management Actions That Will Reduce The Demand For Parking At Smith

- Develop, approve, implement, monitor specific Parking Management Strategies including: parking permit requirements for all vehicles; permit pricing level changes; improvements in parking monitoring, coordination, and enforcement; establishment of a Transportation Demand Management coordinator role

- Encourage public transit use by means of additional subsidies to transit users

- Conduct further study of the use of park and ride lots with a campus shuttle service (potential use and cost of operation)

- Promote rideshare incentive programs to expand use of carpools and vanpools; enhance carpool matching via Smith website

- Monitor utilization of and promote the car sharing program (Zipcars) for Smith employees and students
• Implement a parking cashout program whereby the employee is given a choice of driving or accepting a cash payout for not parking
• Establish and maintain an On-Campus Transportation Demand Management (TDM) marketing/education program in conjunction with a TDM coordinator role

4. Promote Alternative Travel Modes of Biking And Walking

• Bike sharing/bike loan program
• Improve bike facilities on campus (paths, lanes, shelters, bike racks, storage lockers)
• Financial incentives for employees to use alternative travel modes
• Improve pedestrian walkways and major street crosswalk areas
• Add/improve location of emergency call boxes along certain college pedestrian routes

5. Improve Traffic Safety/ Circulation Around Campus

• Reduce or control driveway curbcuts along Elm Street
• Improve visibility/sight distance at driveways
• Provide improved trailblazing (i.e. guide signs) for Smith College visitors, through better placement of guide signs on surrounding city street system.

Implementation Plan

The following are the priority actions recommended for implementation in this master plan:

1. Establish and support the role of a Transportation Demand Management Coordinator on the Smith campus, with responsibility for managing, promoting and implementing the campus parking and TDM programs.

2. Provide additional resources within the Department of Public Safety in order to provide increased duties with respect to on-campus parking monitoring, enforcement, and on-going parking management coordination.

3. Adopt a regulation that requires all vehicles that belong to students and faculty/staff to be registered with the Smith College Department of Public Safety; increase the minimum fine for parking an unregistered vehicle on campus.

4. Modify campus parking policies with respect to adjusting the parking fee structure for students and faculty/staff. An increase in parking fees should be implemented for the start of the ’07-’08 academic year, and the impact on parking be monitored, evaluated, and reported at the end of the Spring ’08 semester.

5. Modify the parking regulations to revise the parking permit assignment to specific on-campus parking areas. These geographic parking areas would conform to a tiered permit pricing system, with three areas: core-campus lots, the campus garage, and peripheral lots.
6. Institute a parking permit program (such as the Occasional Parking Permit program at UMass) that allows commuters who normally travel to and from campus via transit, carpools, or bike to have a parking pass for use of their personal vehicle on special occasions (i.e. for infrequent use).

7. Establish a parking cash-out program for Smith faculty and staff and implement the program for the start of the '07-'08 academic year.

8. Further evaluate the cost and schedule for a shuttle van pilot project that would serve the peripheral parking areas (i.e. tennis court and horse stable lots) and parking garage on a regular basis; based on available resources a trial period of operation for a minimum of one semester should be established and monitored.

9. Modify certain existing parking areas on campus in order to maximize (i.e. increase) the number of parking spaces available. Candidate areas are noted in Section 6.1 of this report.

10. Work with the City of Northampton and the adjacent residential neighborhoods to implement a residential parking permit program on a trial basis. The first target area should include Kensington Ave, part of Dryads Green (Smith campus to Harrison Ave), part of Crescent St. (Elm St. to Bancroft Rd), and Langworthy Rd. The program could be implemented and monitored for a trial period of one year.

Table 8 provides a summary of the primary action elements relative to a prioritization for implementation. This table will be refined based on review by Smith College staff.

Table 9 indicates the parking space reduction potential of implementing three recommended TDM actions. An implementation schedule is included, along with the expected results in parking space reduction of 240 spaces by the Spring of 2009.

**Measures of Effectiveness for TDM Actions**

Certain measures of the effectiveness of the respective actions that will be taken to implement the parking plan need to be established in order to determine whether the proposed parking strategies and management actions are having their desired impact. These measures of effectiveness or performance measures are related to actual parking counts, student and employee surveys, and comparison of the number and type of parking permits and registered vehicles as recorded by the Smith Department of Public Safety. The recommended procedures for measuring some of these Transportation Demand Management Actions are summarized in Appendix I of this report.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Responsible Party</th>
<th>Time Frame For Implementation</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TDM Coordinator Role</td>
<td>Establish and support a Coordinator to oversee the everyday management, promotion, and implementation of Campus TDM programs</td>
<td>Smith</td>
<td>July 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>2. ZIPCAR Monitoring/ Promotion</td>
<td>Continue to promote use of Zipcar program and add cars</td>
<td>Smith</td>
<td>On-going</td>
<td>N/A</td>
</tr>
<tr>
<td>3. Additional Parking Enforcement Program Resources</td>
<td>Add resources to Smith Department of Public Safety</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>4. Vehicle Registration Tags</td>
<td>Require all Smith students who have a vehicle (Sr., Jr., Soph.) but no parking permit to obtain an ID tag for the vehicle</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>5. Parking Permit Pricing Modifications</td>
<td>Increase parking permit fees on a tiered basis</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>6. Update Parking Policies/ Permitting/ Lot Assignments</td>
<td>Allocate all student and staff parking on basis of three lot categories: core-campus, garage, peripheral</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>7. Provide an Occasional Parking Permit</td>
<td>Allows a parking permit on an individual day basis for use of personal vehicle on special occasions</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>8. Establish Cash-Out Program for Employees</td>
<td>Employees can “cash-out” the value of parking by not parking and receive a cash value in return</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>$36,000/ yr</td>
</tr>
<tr>
<td>9. Shuttle Service to Peripheral Parking</td>
<td>Provide a shuttle van (pilot project) to serve peripheral parking areas on a regular schedule</td>
<td>Smith</td>
<td>January 1, 2008</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### TABLE 8
SMITH COLLEGE CAMPUS PARKING MASTER PLAN IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Responsible Party</th>
<th>Time Frame For Implementation</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Add On-Campus Parking Spaces By Location, Including More Peripheral Lot Spaces</td>
<td>Maximize parking spaces in existing lots</td>
<td>Smith</td>
<td>September 1, 2007</td>
<td>N/A</td>
</tr>
<tr>
<td>11. Work To Implement Residential Permit Parking Program</td>
<td>Establish trial period for residential permit parking in Smith neighborhood area(s)</td>
<td>City of Northampton</td>
<td>September 1, 2008</td>
<td>N/A</td>
</tr>
<tr>
<td>12. Transit Subsidies Study</td>
<td></td>
<td>Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Promote Use of Park and Ride Lot</td>
<td></td>
<td>Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Carpool Matching Program</td>
<td></td>
<td>Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. TDM Education/Marketing Program</td>
<td></td>
<td>Smith/City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Biking Promotion Programs/Facilities</td>
<td></td>
<td>Smith/City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Pedestrian Safety Improvements</td>
<td></td>
<td>Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Traffic Safety Improvements</td>
<td></td>
<td>Smith</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 9
TRANSPORTATION DEMAND MANAGEMENT
REDUCTION OF PARKING SPACES DUE TO IMPLEMENTATION OF NEW MEASURES

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Time Frame</th>
<th>Reduction in Parking Spaces</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) Car Sharing Program</td>
<td>Expand existing Zipcar program</td>
<td>Fall 2007 Spring 2008</td>
<td>2 Cars (Existing)</td>
<td>40 Spaces n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall 2008 Spring 2009</td>
<td>Add'tl 2 Cars (4 Total)</td>
<td>80 Spaces $36,000 ±</td>
</tr>
<tr>
<td>2.) Parking Cash-out Program</td>
<td>Offer a cash-out program to employees</td>
<td>Fall 2007 Spring 2008</td>
<td>$20 per employee per month</td>
<td>140 Spaces* $34,000±/year</td>
</tr>
<tr>
<td></td>
<td>Partner with the City and MassHighway in winter maintenance of new park &amp; ride lot at VA Medical Center in Leeds or provide financial assistance to shuttle bus service</td>
<td>Spring 2008</td>
<td>Snow Plowing or other financial assistance</td>
<td>20 Spaces $4,000±/year</td>
</tr>
</tbody>
</table>

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.

02/05/07
Citations


References

APPENDIX A

CAMPUS PARKING MASTER PLAN TABLES
# TABLE A-1
SMITH COLLEGE PARKING REQUIREMENTS
2006 EXISTING CONDITIONS

## Commuter Students

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Students</th>
<th>Rate</th>
<th>Req’d Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>194</td>
<td>0.40</td>
<td>78</td>
</tr>
<tr>
<td>Mid</td>
<td>194</td>
<td>0.70</td>
<td>136</td>
</tr>
<tr>
<td>High</td>
<td>194</td>
<td>1.00</td>
<td>194</td>
</tr>
<tr>
<td>Existing</td>
<td></td>
<td></td>
<td>81</td>
</tr>
</tbody>
</table>

## Residential Students

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Students</th>
<th>Rate</th>
<th>Req’d Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>2340</td>
<td>0.15</td>
<td>351</td>
</tr>
<tr>
<td>Mid</td>
<td>2340</td>
<td>0.24</td>
<td>562</td>
</tr>
<tr>
<td>High</td>
<td>2340</td>
<td>0.33</td>
<td>772</td>
</tr>
<tr>
<td>Existing</td>
<td></td>
<td></td>
<td>303</td>
</tr>
</tbody>
</table>

## Faculty/ Staff/ Visitors

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Fac/ Staff</th>
<th>Rate</th>
<th>Req’d Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1407</td>
<td>0.57</td>
<td>802</td>
</tr>
<tr>
<td>Mid</td>
<td>1407</td>
<td>0.74</td>
<td>1041</td>
</tr>
<tr>
<td>High</td>
<td>1407</td>
<td>0.90</td>
<td>1266</td>
</tr>
<tr>
<td>Existing</td>
<td></td>
<td></td>
<td>989</td>
</tr>
</tbody>
</table>

## Required Parking Space Range

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Req’d Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1231</td>
</tr>
<tr>
<td>Mid</td>
<td>1739</td>
</tr>
<tr>
<td>High</td>
<td>2232</td>
</tr>
<tr>
<td>Existing</td>
<td>1373</td>
</tr>
</tbody>
</table>

# TABLE A-2
RECOMMENDED PARKING REQUIREMENTS

<table>
<thead>
<tr>
<th>User Group</th>
<th>Population</th>
<th>Rate</th>
<th>Req’d Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Students</td>
<td>194</td>
<td>0.70</td>
<td>136</td>
</tr>
<tr>
<td>Residential Students</td>
<td>2340</td>
<td>0.24</td>
<td>562</td>
</tr>
<tr>
<td>Faculty/ Staff</td>
<td>1407</td>
<td>0.74</td>
<td>1041</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3941</strong></td>
<td></td>
<td><strong>1739</strong></td>
</tr>
</tbody>
</table>

*Does not include additional spaces for service vehicles, visitors or rental properties.

**Note:** Rate is parking space per unit of user category.
TABLE A-3
BACKGROUND DATA/INFORMATION ON PARKING RATES

<table>
<thead>
<tr>
<th>Category</th>
<th>Smith College (8)</th>
<th>Eno Foundation (1)</th>
<th>Urban Land Institute (2)</th>
<th>ITE Parking Generation (3)</th>
<th>Amherst College</th>
<th>Dartmouth College (4)</th>
<th>Mount Holyoke College</th>
<th>Wellesley College (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter</td>
<td>0.42 per student</td>
<td>0.15 to 0.45 per</td>
<td>0.10 to 0.50 per student</td>
<td>N/A</td>
<td>0.40 per student</td>
<td>1.00 per student</td>
<td>0.90 per student</td>
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</tr>
<tr>
<td>Residential</td>
<td>0.13 per student</td>
<td>0.15 to 0.40 per</td>
<td>0.14 to 0.38 per school</td>
<td>0.33 per student</td>
<td>0.15 per student</td>
<td>0.25 per student</td>
<td>0.33 per student</td>
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</tr>
<tr>
<td>Faculty/Staff</td>
<td>0.70 per employee</td>
<td>0.5 to 1.0 per</td>
<td>0.80 per FTE</td>
<td>0.73 per employee</td>
<td>0.57 per employee</td>
<td>0.80 per employee</td>
<td>0.90 per employee</td>
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</tbody>
</table>
| Notes: (1) Smith College:  
Commuter Students: 81 spaces / 194 off-campus students = 0.42  
Resident Students: 303 spaces / 2340 available beds = 0.13  
Faculty / Staff: 989 spaces / 1407 employees = 0.70  
Total School Population: 1560 spaces / 3941 = 0.40  
(2) Amherst College*  
Commuter Students: 0 spaces / 0 off-campus students = N/A  
Resident Students: 547 spaces / 1650 total resident students = 0.33  
Faculty / Staff: 550 spaces / 750 employees = 0.73  
Total School Population: 1097 spaces / 2400 = 0.46  
(3) Dartmouth College*  
Commuter Students: 518 spaces / 1,300 off-campus students = 0.40  
Resident Students: 635 spaces / 4500 total student population = 0.14  
Faculty / Staff: 2506 spaces / 4379 employees = 0.57  
Total School Population: 3659 spaces / 10179 = 0.36  
(4) Mount Holyoke College  
Commuter Students: 40 spaces / 40 off-campus students = 1.00  
Resident Students: 517 spaces / 2060 total student population = 0.25  
Faculty / Staff: 744 spaces / 933 employees = 0.80  
Total School Population: 1301 spaces / 3033 = 0.43  
(5) Wellesley College*  
Commuter Students: 1.00 (per parking study)  
Resident Students: 0.25 (per parking study)  
Faculty / Staff: 0.90 (per parking study)  
* Rates represent parking utilization as reported in the respective campus parking studies

TABLE A-3

Recommended Rates

<table>
<thead>
<tr>
<th>Category</th>
<th>0.10 to 0.50 per student</th>
<th>0.14 to 0.38 per school population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter</td>
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</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty/Staff</td>
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</table>

Notes:
(1) Parking, Eno Transportation Foundation, 1990 (Industry Standard)
(5) Wellesley College Transportation and Parking Study, 2001
(6) Based on Total School Population (i.e., employees & students)
(7) Accounts for visitor parking in the rate.
(8) Rates based on marked on-campus parking spaces provided.

Existing Parking Rate Background Information

(1) Smith College  
Commuter Students: 81 spaces / 194 off-campus students = 0.42  
Resident Students: 303 spaces / 2340 available beds = 0.13  
Faculty / Staff: 989 spaces / 1407 employees = 0.70  
Total School Population: 1560 spaces / 3941 = 0.40

(2) Amherst College*  
Commuter Students: 0 spaces / 0 off-campus students = N/A  
Resident Students: 547 spaces / 1650 total resident students = 0.33  
Faculty / Staff: 550 spaces / 750 employees = 0.73  
Total School Population: 1097 spaces / 2400 = 0.46

(3) Dartmouth College*  
Commuter Students: 518 spaces / 1,300 off-campus students = 0.40  
Resident Students: 635 spaces / 4500 total student population = 0.14  
Faculty / Staff: 2506 spaces / 4379 employees = 0.57  
Total School Population: 3659 spaces / 10179 = 0.36

(4) Mount Holyoke College  
Commuter Students: 40 spaces / 40 off-campus students = 1.00  
Resident Students: 517 spaces / 2060 total student population = 0.25  
Faculty / Staff: 744 spaces / 933 employees = 0.80  
Total School Population: 1301 spaces / 3033 = 0.43

(5) Wellesley College*  
Commuter Students: 1.00 (per parking study)  
Resident Students: 0.25 (per parking study)  
Faculty / Staff: 0.90 (per parking study)
# TABLE A-4
## PARKING OCCUPANCY COUNT
### WEEKDAY MORNING - CAMPUS PARKING LOTS

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Location</th>
<th>Available Spaces</th>
<th>Fac/Staff</th>
<th>Student</th>
<th>Commuter</th>
<th>Visitor</th>
<th>Car pool</th>
<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
<th>Alumni</th>
<th>Other</th>
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<th>Commuter</th>
<th>Visitor</th>
<th>Car Pool</th>
<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
<th>Alumni</th>
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**Note:** Available space total reflects conditions on March 29, 2006. Due to construction activities, the total number of spaces has been reduced to 1,560.

Counts Performed 10 to 11 AM, March 29, 2006.
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<th>Region #</th>
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<th>Student</th>
<th>Commuter</th>
<th>Visitor</th>
<th>Car pool</th>
<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
<th>Total</th>
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**TOTALS**

- FAC/ Staff: 998
- Student: 317
- Commuter: 77
- Visitor: 23
- Car pool: 5
- Rental: 31
- Accessible: 66
- Service: 49
- Total: 1,566

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<th>Visitor</th>
<th>Car pool</th>
<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
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<td>48, 52 (2)</td>
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<td>4</td>
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</table>

**TOTALS**

- FAC/ Staff: 625
- Student: 218
- Commuter: 35
- Visitor: 22
- Car pool: 5
- Rental: 10
- Accessible: 58
- Service: 144
- No Decal: 1118

**Regions:**
- A - Northwest Campus, bordered by Elm Street Paradise Road, Kensington & Dryad's Green
- B - Helen Hills Chapel, between Round Hill Road and Henshaw Avenue
- C - Ziskind House, between Henshaw Avenue and Prospect Avenue
- D - Northrup House, between Prospect Avenue and Bedford Terrace
- E - Alumnae House, between Bedford Terrace and State Street (does not include State Street Rental Lot #49)
- F - Main Campus, bordered by Elm Street, College Lane, Green Street & West Street (includes Admissions Driveway)
- G - South of Green Street, between West Street and College Lane (includes Parking Garage)
- H - Southwest Campus perimeter lots (Athletic Fields & Riding Stables)

**Note:** Available space total reflects conditions on March 29, 2006. Due to construction activities, the total number of spaces has been reduced to 1,560.
TABLE A-6
PARKING OCCUPANCY COUNT
WEEKDAY MORNING - ON-STREET PARKING

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Location</th>
<th>Available Spaces</th>
<th>Parked Vehicle count by designation</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fac/Staff</td>
<td>Student</td>
<td>Commuter</td>
</tr>
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<td>1</td>
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<td>1</td>
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<tr>
<td>2</td>
<td>Green Street**</td>
<td>34</td>
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<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Belmont Avenue - Upper***</td>
<td>22</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Belmont Avenue - Lower*</td>
<td>12</td>
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<tr>
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<td>Ahwaga Avenue*</td>
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</tr>
<tr>
<td>6</td>
<td>West Street**</td>
<td>24</td>
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</tr>
<tr>
<td>7</td>
<td>Elm Street - State to Prospect**</td>
<td>45</td>
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<tr>
<td>8</td>
<td>Elm Street - Prospect to Kensington*</td>
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<td>Bedford Terrace*</td>
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<tr>
<td>10</td>
<td>Prospect Street*</td>
<td>24</td>
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<td>Henshaw Avenue*</td>
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<tr>
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<td>Round Hill Road*</td>
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<td>Kensington Avenue*</td>
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<td>61</td>
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</table>

* Unmarked parking with no meters
** Metered parking
*** Combination of meters and unmarked spaces

Counts Performed 10 to 11 AM, March 29, 2006

Note: Available space total reflects conditions on March 29, 2006.
### TABLE A-7
**PARKING OCCUPANCY COUNT**
**WEEKDAY EVENING - CAMPUS PARKING LOTS**

<table>
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<th>Lot #</th>
<th>Location</th>
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<th>Student</th>
<th>Commuter</th>
<th>Visitor</th>
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<th>Service</th>
<th>Alumni</th>
<th>Other</th>
<th>Total</th>
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**TOTALS**

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<tr>
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<th>Fac/Staff</th>
<th>Student</th>
<th>Commuter</th>
<th>Visitor</th>
<th>Car pool</th>
<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
<th>Alumni</th>
<th>Other</th>
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*Note: Space total reflects conditions on March 29, 2006. Due to construction activities, the total number of spaces has been reduced to 1,560.*
## TABLE A-8
### REGIONAL PARKING DISTRIBUTION
#### WEEKDAY EVENING

<table>
<thead>
<tr>
<th>Region #</th>
<th>Available Lots</th>
<th>Available Spaces by Designation</th>
<th>Occupied Spaces by Designation</th>
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<td>Student</td>
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<td></td>
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</tr>
<tr>
<td>A</td>
<td>18, 29, 31, 34, 35, 43, 36, 51 (9)</td>
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<td>88</td>
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<tr>
<td>B</td>
<td>23, 39, 42, 53 (4)</td>
<td>38</td>
<td>47</td>
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<tr>
<td>C</td>
<td>5, 14, 15, 58 (4)</td>
<td>66</td>
<td>11</td>
</tr>
<tr>
<td>D</td>
<td>6, 22, 32, 33, 38, 55 (6)</td>
<td>110</td>
<td>17</td>
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<tr>
<td>E</td>
<td>4, 13, 60 (3)</td>
<td>59</td>
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<tr>
<td>F</td>
<td>1, 8, 9, 11, 12, 16, 17, 19, 20, 24, 25, 30, 37, 44, 46, 47, 54, 55 (19)</td>
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<td>97</td>
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<tr>
<td>H</td>
<td>48, 52 (2)</td>
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<th>Region #</th>
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<th>Available Spaces by Designation</th>
<th>Occupied Spaces by Designation</th>
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<td>Student</td>
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<td>B</td>
<td>23, 39, 42, 53 (4)</td>
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<td>C</td>
<td>5, 14, 15, 58 (4)</td>
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<tr>
<td>D</td>
<td>6, 22, 32, 33, 38, 55 (6)</td>
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<td>E</td>
<td>4, 13, 60 (3)</td>
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<td>1, 8, 9, 11, 12, 16, 17, 19, 20, 24, 25, 30, 37, 44, 46, 47, 54, 55 (19)</td>
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**Regions:**

A - Northwest Campus, bordered by Elm Street Paradise Road, Kensington & Dryad’s Green
B - Helen Hills Chapel, between Round Hill Road and Henshaw Avenue
C - Ziskind House, between Henshaw Avenue and Prospect Avenue
D - Northrup House, between Prospect Avenue and Bedford Terrace
E - Alumnae House, between Bedford Terrace and State Street (does not include State Street Rental Lot #49)
F - Main Campus, bordered by Elm Street, College Lane, Green Street & West Street (includes Admissions Driveway)
G - South of Green Street, between West Street and College Lane (includes Parking Garage)
H - Southwest Campus perimeter lots (Athletic Fields & Riding Stables)

**Note:** Available space total reflects conditions on March 29, 2006. Due to construction activities, the total number of spaces has been reduced to 1,560.
### TABLE A-9

**PARKING OCCUPANCY COUNT**

**WEekday evening - on-street parking**

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<th>Lot #</th>
<th>Location</th>
<th>Available Spaces</th>
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<th>Visitor</th>
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<th>Rental</th>
<th>Accessible</th>
<th>Service</th>
<th>Alumni</th>
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* Unmarked parking with no meters
** Metered parking
*** Combination of meters and unmarked spaces

Note: Available space total reflects conditions on March 29, 2006.

Count Performed 7 to 8 PM, March 29, 2006
### TABLE A-10

**Campus Parking Cost Considerations**

**Proposed Rates**

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</tr>
<tr>
<td>Seniors</td>
<td>$200</td>
<td>$125</td>
<td>$75</td>
</tr>
<tr>
<td>Juniors</td>
<td>$250</td>
<td>$175</td>
<td>$125</td>
</tr>
<tr>
<td>Sophomores</td>
<td>$300</td>
<td>$225</td>
<td>$175</td>
</tr>
<tr>
<td><strong>Commuter (Day) Students</strong></td>
<td>$50</td>
<td>$25</td>
<td></td>
</tr>
<tr>
<td><strong>Faculty &amp; Staff</strong></td>
<td>$75</td>
<td>$50</td>
<td>$25</td>
</tr>
<tr>
<td><strong>Carpool</strong></td>
<td>$10</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Five College Students</strong></td>
<td></td>
<td></td>
<td>$25</td>
</tr>
<tr>
<td><strong>Visitors</strong></td>
<td>Meter &amp; Permit</td>
<td>N/ C</td>
<td>N/ C</td>
</tr>
</tbody>
</table>

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

Costs are per year.
### TABLE A-11
Commuter Modal Split
Smith College

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>% of Commuter Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>85.4%</td>
</tr>
<tr>
<td>Walk</td>
<td>7.0%</td>
</tr>
<tr>
<td>Bike</td>
<td>3.0%</td>
</tr>
<tr>
<td>Transit</td>
<td>0.4%</td>
</tr>
<tr>
<td>Car Pool</td>
<td>3.7%</td>
</tr>
<tr>
<td>Van Pool</td>
<td>0.0%</td>
</tr>
<tr>
<td>Motorcycle/ Other</td>
<td>0.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

*Source: 2004 Rideshare Program Report*
APPENDIX B

CAMPUS PARKING MASTER PLAN
FIGURES

Figure 2 - Campus Parking Lots
Figure 3 - Parking Regions
Figure 4 - Parking Occupancy (Current Conditions)
Figure 5 - Potential Locations for Additional Parking
Figure 6 - Underutilized Parking Lots
APPENDIX C

CAMPUS PARKING MASTER PLAN
EXHIBITS
EXHIBIT 1
ITEMS TO CONSIDER MODIFYING

NORTHAMPTON CODE
ARTICLE XIII
NEIGHBORHOOD PERMIT PARKING

A review of the current ordinance has indicated that the City may want to review and update/modify certain parts. These items for consideration are listed below:

1. Section 20-215. g. Approval Process:
The city now has a Transportation & Parking Committee, so the City might consider referring proposed ordinance revisions to this Committee, then the City Council.

2. Section 20-218. c. Eligibility for Permits.
Should include an additional statement about Visitor Permits; something to effect that visitor permits should NOT be issued to anyone who resides in any building owned by a college or university or other educational institution and used for residential purposes by students and affiliates of any such college or educational institution.

3. Section 20-218. f. Fees
The fee schedule / structure should be reviewed and updated if necessary.

4. Section 20-221. Enforcement
This section should include the telephone contact numbers for the Parking Office and the Northampton Police Dept.
The fine (dollar amount) assessed on whoever violates the “Parking By Resident Permit Only” spaces needs to be determined and included in this Ordinance also.
APPENDIX D

SPACE REDUCTION CALCULATOR
Business Savings Calculator

About the Tool

The U.S. Environmental Protection Agency (EPA) has developed a Web-based Calculator that enables an employer considering Best Workplaces for Commuters® to estimate the financial, environmental, traffic-related, and other benefits of joining the program.

This tool has been developed in two formats:

- Fully Interactive
- Text-Only (accessible to those using assistive technology)

System Requirements

Best viewed with Internet Explorer 4.x or higher. Also viewable in Netscape 4.x with some aesthetic glitches. Does not work in Netscape 6 or 7.

What the Tool Can Do

Based on the information that employers enter into the calculator describing how their organizations will meet the National Standard of Excellence for commuter benefits, this fast and easy-to-use tool produces the following estimates:

- **Parking.** The number of parking spaces saved.

- **Parking cost savings.** The financial savings from the reduced parking demand (e.g., savings on construction of a new parking facility or enlargement of an existing one).

- **Employee recruiting and retention.** The estimated savings from reduced employee turnover.

- **Employer taxes.** The savings employers would realize in reduced payroll taxes if they select transit passes or vanpool benefits as a way of meeting the National Standard of Excellence.

- **Employee taxes.** The income tax savings employees would realize if they choose transit passes or vanpool benefits as a way of meeting the National Standard of Excellence.

- **Total financial benefits.** The total financial savings from parking facilities, taxes, and other financial impacts.

- **Employee productivity and stress.** The estimated improvement in employee productivity and reduction in employee stress (calculations that are based in part on a recent study in Southern California).
• **Traffic.** The reduction in traffic congestion.

• **Environmental Benefits.** The reduction in air pollution and global warming pollution, providing results that can be expressed in both layperson and scientific terms.

• **Safety.** The decrease in fatalities, injuries, and lost work time that results when the number of vehicle trips is reduced.

• **Energy security.** The reduction in demand for gasoline, a decrease that contributes to an improvement in U.S. energy security and energy independence.
Section 1: Input Employer Information

If your organization has multiple locations, you may select "Nationwide" for "Your Location." The calculator then uses national default values for tax rates, parking costs, and other factors to provide an estimate of the results for your entire organization. For more accuracy, you may also run the calculator separately for each work site location.

Please note that the calculations are estimates designed for internal use. Additionally, the information presented here does not constitute official tax guidance or a ruling by the U.S. government. Taxpayers are urged to consult with the Internal Revenue Service of the U.S. Department of Treasury or a tax professional for specific guidance related to the federal tax law.

Your Location

In which state are you located? Massachusetts
In which type of location? Other urban (high density)

Your Organization / Tax Information

What type of organization are you? Non-profit

Your Employees

How many employees do you have? 1429
What is the average salary? $60000
What percentage of your employees make less than $40,000? 75%

Average marginal FICA for the employer and employee 6%
Federal employee marginal income tax rate 30%
State employee marginal income tax rate 5.81%
Employee marginal income tax rate 35.0%

Travel Patterns

How many employees take transit or vanpools to work?
## Section 2: Select Benefits

Place a check in the box next to benefits you would like to examine using the calculator.

Note: In order to meet the National Standard of Excellence in commuter benefits and qualify as one of the nation's Best Workplaces for Commuters, you must select at least one primary benefit option and at least three supporting benefit options. You must also offer access to an Emergency Ride Home and ensure that 14% of your employees do not drive alone to work within 18 months of joining the program. To learn if you qualify, review the criteria for applying.

### Required Benefit to Meet National Standard of Excellence

- **Emergency Ride Home**

### Primary Benefit Options

- **Employer-Paid Transit/Vanpool Benefits**

  - **Parking Cash Out**
    - Enter how much monthly benefit - default is 75% of parking cost
    - $20

- **Telework**

### Employer-Defined Benefits Program

- **Ridesharing or Carpool Matching**

### Supporting Benefit Options

- **Employer-Paid Transit/Vanpool Benefits**
  - Enter how much monthly benefit
  - $2

- **Employee Pre-Tax Payroll Deduction for Transit/Vanpool Expenses**

**Parking Cash Out** SELECTED AS PRIMARY BENEFIT
Section 3: Estimate Participation

Based on information about your work site and the benefits you selected, we have estimated the following participation levels.

Because work sites vary widely and participation depends on site-specific considerations like access to transit, a range of results is provided. You may change the estimated participation levels based on the range and personal assessment of your organization.

<table>
<thead>
<tr>
<th>Transit / Vanpool Users</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing number prior to benefits</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Increase due to benefits (range: 92 to 120)</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Total after benefits</td>
<td>122</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bicyclists / Pedestrians</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing number prior to benefits</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Increase due to benefits (range: 20 to 33)</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Total after benefits</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teleworkers (due to implementing program)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing number prior to benefits</td>
<td>0</td>
</tr>
<tr>
<td>Increase due to benefits</td>
<td></td>
</tr>
<tr>
<td>Total after benefits</td>
<td></td>
</tr>
</tbody>
</table>

| Reduction in Number of People Driving to Work (range: 120 to 140) | 140 |
# Overview of Total Annual Costs and Benefits

<table>
<thead>
<tr>
<th>Employer Costs and Savings</th>
<th>Employee Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer Costs (annualized)</td>
<td>$8,900</td>
</tr>
<tr>
<td>Direct Employer Savings</td>
<td>$0</td>
</tr>
<tr>
<td>Potential Facility Cost Savings</td>
<td>$0</td>
</tr>
<tr>
<td>Recruitment &amp; Productivity Benefits</td>
<td>$57,200</td>
</tr>
</tbody>
</table>
| Net Employer Cost (Savings) | $(48,300)         | Direct Benefit to Employees: $240,000

This benefit package could result in a net savings for you, as an employer, while providing substantial benefits to your employees.

## Direct Costs and Savings

### EMPLOYER COSTS AND BENEFITS

<table>
<thead>
<tr>
<th>Incentive Costs</th>
<th>EMPLOYEE BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of transit/vanpool benefits ($/year)</td>
<td>Value of Incentives to Employees</td>
</tr>
<tr>
<td>Cost of Parking Cash Out ($/year)</td>
<td>$2,200</td>
</tr>
<tr>
<td>Administrative Costs</td>
<td>$3,800</td>
</tr>
<tr>
<td>Program administration time (hours per month)</td>
<td>$4,100</td>
</tr>
<tr>
<td>Annual program administration cost</td>
<td></td>
</tr>
<tr>
<td>$2,600</td>
<td></td>
</tr>
</tbody>
</table>

### Equipment Costs

| Value of Cash Out benefit ($/year) | $2,600 |

### Direct Savings

| Reduction in employee driving expenses / month | $140 |
| Reduction in employee driving expenses / year | $234,000 |

### Employee Parking Cost Savings

| Reduction in parking expenses per employee per month | $2 |
| Reduction in employee parking expenses per year | $3,400 |

### Potential Facility Savings

<table>
<thead>
<tr>
<th>Potential Parking Cost Savings ($/year)</th>
<th>Building Space Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of parking spaces reduced</td>
<td>Reduced Office Space (square feet)</td>
</tr>
<tr>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Recruitment and Productivity Benefits

<table>
<thead>
<tr>
<th>Recruitment Benefits</th>
<th>Increased Worker Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage reduction in employee turnover rate</td>
<td>Increased Productivity ($/year)</td>
</tr>
<tr>
<td>Recruitment/Training Cost Savings ($/year)</td>
<td>$0</td>
</tr>
<tr>
<td>$57,200</td>
<td></td>
</tr>
</tbody>
</table>

### Community Benefits

<table>
<thead>
<tr>
<th>Reduced Traffic</th>
<th>Reduced Urban Air Pollutant Emissions (lbs./year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced commute vehicle trips</td>
<td>Reduced CO (carbon monoxide)</td>
</tr>
<tr>
<td>67,200</td>
<td>21,300</td>
</tr>
</tbody>
</table>
Reduced commute vehicle mileage: 813,000
Reduced VOC (volatile organic compounds): 730
Reduced NOx (oxides of nitrogen): 1,400
Reduced Energy Consumption
Reduced gallons of motor fuel consumed: 41,100
Reduced barrels of crude oil used: 980
Reduced Greenhouse Gas Emissions (lbs./year): 797,000

SITE INFORMATION INPUTS

State located: Massachusetts
Type of location: Other urban (high density)
Type of organization: Non-profit
Number of employees: 1,400
Average salary: $60,000
Percentage of employees making less than $90,000: 75%
Average marginal FICA for the employer and employee: 6%
Federal employee marginal income tax rate: 30%
State employee marginal income tax rate: 5.85%
Employee marginal income tax rate: 35.85%
Number of employees taking transit or vanpools to work: 134
Number of employees biking or walking to work: 134
Type of parking provided for employees: No contribution to employee parking
Kind of parking employees use: Surface lot
Parking payments are NOT treated on a pre-tax basis.
Space cost: $2/space-month
Employee contribution to parking cost: $2/employee-month
Employer contribution to parking cost: $0/employee-month

PROGRAM SELECTION INPUTS

Required Benefit to Meet National Standard of Excellence
Guaranteed ride home selected!

Primary Benefit Options

Parking Cash Out

Monthly benefit: $20
<table>
<thead>
<tr>
<th>Supporting Benefit Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridesharing or carpool matching</td>
</tr>
<tr>
<td>SELECTED</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Employer-Paid Transit/Vanpool Benefits</td>
</tr>
<tr>
<td>Monthly benefit: <strong>$2</strong></td>
</tr>
</tbody>
</table>
APPENDIX E

NEIGHBORHOOD MEETING COMMENTS
Summary of Major Neighborhood Comments/Suggestions Received Via Email After Neighborhood Meeting at Smith Held on Nov. 9, 2006

Joel Russell – Resident, Kensington Avenue

1. “...a much more refined analysis and set of recommendations will be required to establish a successful TDM program that is sufficient for the City to justify granting a waiver of the zoning ordinance requirements for parking.”

2. “The report deals with pricing changes and resident permit parking only in connection with TDM. While these issues are highly relevant to TDM, they are also relevant to establishing base demand. It may be immaterial whether this issue is discussed in detail in the context of base demand or in the context of TDM, as long as it is made clear in the report that the base demand is skewed by the pricing system and the availability of free parking off-campus.”

3. “In addition to price, there is another factor that has not been considered adequately, which is distance and “willingness to walk” to parking spaces. The likely reason that the spaces in “Region G” are so underutilized is that they are further away from where most students live. Students would much prefer to park for free next to their dorms (or even pay for the privilege) rather than pay, even modestly, to park on the other side of campus.”

4. “The report properly emphasizes the importance of TDM, but it is short on concrete recommendations of exactly how to implement it.”

5. “As a result, its conclusions on the impact of a TDM program on parking demand are questionable, relying only on figures provided by Zipcar and EPA’s “Business Savings Calculator,” sources for which no citations are given.”

6. “The report contains a laundry list of many of the possible TDM measures, but does not describe any specific program or program alternatives, with estimated parking demand effects from implementing them.”

7. “Another simple TDM measure that is not mentioned is simply not allowing second-year students to have cars.”

8. “The report mentions bicycles as an alternative mode of travel and an element of TDM, but needs to have more specific recommendations on both bicycle parking facilities, support facilities (such as showers), and bicycle safety improvements.”

9. “In order for Smith to know that it is effectively reducing parking demand by implementing a TDM program (and for the City to have adequate reassurance that Smith is actually solving its parking problems), the TDM section of the report needs a much fuller treatment. That is, it needs a real plan that can be picked up and implemented step-by-step by Smith administrators.”

10. “Most importantly from our neighborhood’s standpoint, the circle showing a potential parking location between Wilder House and Kensington Avenue should be taken off of the “potential parking locations” map. Based on your study, my suggestion that it overestimates parking demand, the neighborhood’s vociferous objections, and the TDM policies of Smith and the City, there is no need to add any parking in that location. It would be a tremendously helpful “good neighbor” gesture to simply take that option off the table.”
11. “I am glad that the report calls this out as an important element of a TDM program and calls upon the City to implement a program. In light of the fact that the residents of Kensington Avenue and Dryads Green have put forth a specific proposal on this, it would be helpful for the report to consider this proposal and either endorse it or recommend modifications to it.”

James Lowenthal – Associate Professor, Smith College
1. “I think the study would benefit significantly from a detailed cost/benefit analysis of the various actions you are recommending.”

2. “A related point is that the expected results of the TDM measures you cite (Table 7) are not fully explained/justified -- it would be very helpful to see exactly how you reach the predicted reduction in parking demand.... Therefore, it seems logical that the TDM measures should be tried first and aggressively, wait a year or two or more, and then and only then consider expanding parking as needed.”

3. “...extending the bike lane on Elm St. down to the South St./State St. intersection (requires city cooperation)”

4. “…rather than taking down hedges at Green and West Streets, how about narrowing the over-wide West St. with curb extensions to slow traffic as it transitions from rural highway to urban campus.”

5. “…education is an important tool in improving bike/ped safety -- both for drivers and non-drivers. Since Smith students (and to a lesser degree its faculty and staff) are a captive audience, the setting is an excellent one for offering (mandatory?) bike-safety classes.....”

6. “One major element of that planning process that could be reflected in the parking study is an emphasis on environmental, social, and economic sustainability.”

Ellen Dibble – Resident, West Street Neighborhood
1. Smith College should provide a community liaison.

Margaret Sarkissian – Associate Professor, Smith College / Resident, Kensington Avenue
1. “What is a green parking area?”

2. “....you recommend that there be 15-foot clearances on Elm Street driveways.....Is there any way this recommendation can also apply to Kensington Avenue?”

3. “Is there any way that the dumpster in front of Wilson could be relocated inside the quad?”

4. “IF we institute some form of residents' only parking on Kensington (thus getting rid of student cars parking on this street) AND IF we change the stopping place of delivery trucks to Mandelle Road, then I don’t think there is any necessity for a road connecting Mandelle with Dryad's Green.”
Lois Dubin – Associate Professor, Smith College / Resident, Paradise Rd

1. "...creating ‘internal’ roads to Dryads Green and Paradise Road looks highly problematic for anyone living on Paradise Rd. or near the intersection of Paradise-Dryads Green or for Sunnyside....The grade of the Dryads Green road itself is a problem. There is a step decline which is especially treacherous in the winter when ice, sleet, etc. cover our roads."

Cornelia Pearsall – Associate Professor, Smith College / Resident, Kensington Avenue

1. "Part of the neighborhood’s concern has been the possibility of turning the green lawn between Wilder and Kensington Ave into a parking lot, and we are greatly reassured by the idea that this is not being recommended, but a ‘loop circulation road for service vehicles’ is, if anything, just as troubling a suggestion."
APPENDIX F

BACKGROUND TDM INFORMATION
The Business Case for Commuter Benefits At Colleges and Universities

You have a decision to make—you can either build or acquire more parking spaces to accommodate your growing population, or provide outstanding commuter benefits that can help ease the parking crunch.

The bottom line numbers make the decision simple to justify: constructing new parking spaces and maintaining them is often much more costly than providing outstanding commuter benefits for your employees. On average, constructing a parking space costs between $1,500 and $17,400 depending on whether it’s a surface lot or a garage. In addition, average annual maintenance and operating costs for each space runs from $420 to $740, while the average cost of a transit pass for a year is around $260 per employee (see Table 1).

Transportation and parking-related issues are common challenges for most colleges and universities. Campus vehicle traffic can cause serious strain between academic institutions and their surrounding towns, and the fact that parking capacity at many universities cannot meet parking demand simply compounds the problem. Too many cars competing for too few spaces can lead to increased school-community tension as students, employees, and visitors seek parking in surrounding neighborhoods. However, solving the problem by building more parking spaces is expensive, and increases congestion not only on campus, but also in the surrounding community. Many schools would rather invest in other priorities, such as new buildings or the preservation of campus green space. As a result, institutions across the country have found that establishing a comprehensive commuter benefits program results in a win-win situation—reducing demand for new parking spaces, and reserving funding for other priorities.

A Template for Success: Best Workplaces for Commuters™ Meet the Challenge

Many colleges and universities offer commuter benefits to encourage employees to get to work by ways other than driving alone. The U.S. Environmental Protection Agency (EPA) recognizes these innovative employers on its national list of Best Workplaces for Commuters™. Many universities are the largest employers in their communities, so reducing employee traffic significantly reduces congestion and increases availability of parking not only on campus, but in the surrounding area. Robert Hendry, transportation management association coordinator at the University of Massachusetts, Amherst explains, “Our buses are very popular not only with members of the university community, but also with other Amherst residents not affiliated with the school. The program has done wonders for reducing parking issues in the town.”

Commuter Benefits Make Good Business Sense:
Commuter Benefits = Reduced Parking Demand for Less Investment

Invest in new parking facilities, or spend money encouraging employees to use alternative transportation? When you are faced with this choice, the bottom line figure often bolsters the argument for commuter benefits. By providing employees a free or low cost transit pass instead of constructing new parking facilities, universities can save, on average, up to $17,400 in construction costs, $12,000 in land costs, and $740 in yearly maintenance and administration per parking spot.

The table below compares the cost of constructing parking to the cost of providing a year of transit transportation at various U.S. universities.

As the following figures show, the costs associated with constructing new parking facilities often far exceed the costs associated with offering commuter benefits. In fact, providing a single parking space in a garage can add up to more than $18,000 (excluding the cost of land), while annual maintenance for this type of parking space averages $740 per year. That’s enough to subsidize a year’s worth of transit service for more than 72 commuters!
Table 1: Parking Construction vs. Transit Costs

<table>
<thead>
<tr>
<th>College/University</th>
<th>Parking type(s)</th>
<th>Estimated construction cost per parking space (2005)</th>
<th>Estimated cost of annual transit service per commuter (2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average†</td>
<td>Surface lot, underground garage</td>
<td>$1,500 - $17,400</td>
<td>$260</td>
</tr>
<tr>
<td>Emory University† Atlanta, GA</td>
<td>Garage</td>
<td>$12,100 - $18,900</td>
<td>$297</td>
</tr>
<tr>
<td>University of Arizona‡ Tucson, AZ</td>
<td>Surface lot</td>
<td>$5,080</td>
<td>$112</td>
</tr>
<tr>
<td>University of Colorado, Boulder, CO</td>
<td>Garage</td>
<td>$11,064 - $20,000</td>
<td>$600‡</td>
</tr>
<tr>
<td>Cornell University⊥ Ithaca, NY</td>
<td>Surface lot, garage</td>
<td>$5,620 - $15,600</td>
<td>$132⊥</td>
</tr>
<tr>
<td>Washington State University⊥ Spokane, WA</td>
<td>Surface lot, underground garage</td>
<td>$3,600 - $33,980</td>
<td>$141</td>
</tr>
<tr>
<td>Clemson University‡ Clemson, SC</td>
<td>Gravel lot, garage</td>
<td>$1,850 - $9,800</td>
<td>$117⊥</td>
</tr>
</tbody>
</table>

Commuter benefits can also help you reduce parking demand and alleviate tensions with the community. Research shows that the majority of universities report "severe to critical" overflow of parking into the surrounding communities—an estimated 4 cars are driving to campus for each available on-campus parking space". Community residents often cite noise, safety concerns, pollution, and inconvenience finding residential parking as major problems in areas where this overflow parking occurs.

Providing a Benefit that Employees Value

Providing commuter benefits that help employees and job seekers save time and money can distinguish your college or university as an employer of choice. Your superior benefits package could help your school rise to the top for job seekers, and helping employees reduce their commuting time and save on vehicle and gas expenses will result in employees who experience greater job satisfaction.

Commuter benefits meeting the EPA's National Standard of Excellence can help keep money in your employees' wallets. In fact, according to the Bureau of Labor Statistics, housing and transportation are the two largest household expenses. In 2003, households spent an average of $7,781 on transportation-related expenses, or about 19 percent of total average household expenditures. Vehicle-related costs take a significant bite out of most employees' budgets. AAA estimates that, in 2005, it will cost an average of 56.1 cents per mile, or $8,410 per year, to own and operate a domestically-produced mid-sized vehicle. Of that total, full insurance coverage comprises approximately $1,288 per year, according to AAA's estimates.

Vehicle costs continue to increase at a fast clip. The average driver will pay about $1,285 per year, or 8.5 cents per mile, for fuel, according to AAA. Furthermore, in a survey conducted in 2005 by ComPsych Corp., 16 percent of employee respondents said they would change the way they commute if gas prices continue to rise, and 44 percent said they would prefer to, but cannot. Providing a strong commuter benefits package could help your employees save a lot of money.

And not all commuting costs are monetary. Employees who drive to work alone often experience more stress and time lost due to traffic. According to the Texas Transportation Institute, a single commuter spends about 47 hours stuck in traffic annually.
When we started our EcoPass program, only 350 employees used the Pass. Today, 1,200 (out of 2,200) regularly request the EcoPass. It’s a benefit that employees value.”

—Richard Bartell, Director of Human Resources, University of Denver

“The Mobility Program at University of Texas Health Science Center at Houston is well received by our employees as it provides a stress-free drive in to work with an added benefit of a savings to their pocketbook.”

—Diane Cupples, Mobility Program Coordinator, University of Texas Health Science Center at Houston

“We have been able to distinguish ourselves from the competition in recruiting because we can tell people that we provide a free ride to work – job seekers love it!”

—Celtwill Fisher Stoll, University of Texas Share Coordinator, University of Texas, Austin

### Demonstrate Your Environmental Leadership

Because the parking and transportation needs of colleges and universities can have a significant impact on the local community, it is also important to demonstrate environmental leadership by considering sustainable growth options. Commuter benefits are a cost-effective answer for solving such issues and help strengthen the relationship between the university and local community.

<table>
<thead>
<tr>
<th>University Size</th>
<th>Number of drive-alone commuters</th>
<th>Potential Yearly Reduction*</th>
<th>Vehicle Miles Traveled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>5,000</td>
<td>2,300</td>
<td>9</td>
</tr>
<tr>
<td>Medium</td>
<td>15,000</td>
<td>7,000</td>
<td>27</td>
</tr>
<tr>
<td>Large</td>
<td>30,000</td>
<td>14,000</td>
<td>54</td>
</tr>
</tbody>
</table>

*Based on EPA calculations

### Best Practices in Commuter Benefits

Funding commuter benefits programs can be easy, especially since funding can come from a variety of sources. Cornell University, in Ithaca, New York, divides the cost of its bus program evenly between the university, Tompkins County, and the City of Ithaca. Clemson University, in Clemson, South Carolina, receives federal and state grants to help fund its bus system. Other schools help pay for their programs by spreading the cost to the activities they are trying to reduce. The University of Arizona, in Tucson, Arizona, funds its commuter benefits with revenues from parking lot permits, metered spaces, special events activities, and citation fees.

“We are the largest employer in our community and want to be a good neighbor. We recognize our impact on road congestion and air quality, so we offer transit passes to help mitigate our ‘footprint’ on the local community.”

—Renee Callaway, TOM Program Manager, University of Wisconsin, Madison

### Become One of the Best Workplaces for Commuters!

By offering a commuter benefits package that meets the National Standard of Excellence, you can show the community and your employees you take transportation issues seriously. Becoming one of the Best Workplaces for Commuters makes good business sense, provides a benefit employees value, and demonstrates your environmental leadership. Apply today at [www.bwc.gov](http://www.bwc.gov).
Colleges and universities can be in urban, suburban, or rural areas, and certain commuter benefit options are more suitable for some institutions than others. Schools that receive the Best Workplaces for Commuters designation offer commuting options tailored to faculty and staff needs, as well as to location. Following are a few examples:

- **Subsidized transit passes** encourage employees to take transit rather than drive alone to work. The University of Michigan began offering free bus passes to faculty and staff in 1997, limiting the availability of the passes to those who did not purchase the $550 annual parking pass. Under this program, the University distributed approximately 3,000 passes each year. In 2004, the University expanded the program and negotiated an agreement with the Ann Arbor Transportation Authority (AATA) to provide free rides on the AATA city buses. Now all students and employees ride for free, regardless of whether they purchased a parking pass. As a result, ridership increased nearly 40 percent in the fall of 2004, translating into another 1,000 taking the bus every day.

- **Telework arrangements** allow faculty members to work from home. At Emory University, telework is a critical component of a comprehensive benefits package. By providing commute alternatives to more than 1,600 employees and students, the university was able to avoid building a new parking deck—a savings of more than $16 million.

- **Parking cash out** rewards employees for not using a parking space. At Dartmouth College, employees living within 0.5 mile of the college can receive $180 per year if they choose to give up that spot. Employees who live farther away can earn $380 per year.

- **Many universities offer free shuttle services** that allow faculty and staff to travel around campus quickly. However, Best Workplaces for Commuters like University of California, San Francisco go the extra step and link these shuttles to transit stations to make the commute easier for employees.

- **Housing subsidies** allow employees to live closer to work so they can walk or ride a bike to work. More than 500 employees at Yale University have taken advantage of financial incentives to purchase homes in the adjacent neighborhoods so they can either walk or take the shuttle to work.

- **Ridematching programs** enable employees to find other commuters who want to share a car on the way to work. Employees at Cornell University, in addition to saving money on gas, can earn rebates on their parking costs.

- **At some universities, vanpool programs** are popular. The University of Pittsburgh has offered vanpools for 20 years and recently joined a regional commission to have the vanpools centrally administered.

Calculate the savings associated with a commuter benefits package that gets your school on the list of Best Workplaces for Commuters:

EPA's Business Benefits Calculator allows employers to estimate the financial, environmental, traffic-related, and other business advantages of commuter benefits. By entering information regarding your location, parking situation, number of employees, and related information, you can learn the estimated costs and benefits of commuter benefits for your institution, your employees, and the community. Visit www.bwc.gov/resource/calc.htm to access the calculator.

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4 2004 Benchmarking the Parking Profession. International Parking Institute
   <http://www.epic.emory.edu/altran/spon/>
   Washington State University. [Online].
7 Will Toor, Spencer W. Havlick. (2004). pp. 75
   Cornell University.
   <http://www.crest.org/environment/renew_america/94mar941483.htm>
11 Calculated from $506,023 in transit payments for 1999 divided by 2,331,939/2 rides in 1999 x rate of inflation (16.07%) x $.50 per daily round trip per rider x 200 average commuting days per school year.
   <http://www.clemson.edu/~parks/42414115/Models/ templates/ParkingGarageFeasibility.pdf> pp. 13
   <http://www.budget.clemson.edu/Manuals/Budget02.pdf> pp. 9
15 International Parking Institute.
   <http://www.bls.gov/cex/consum03.pdf> pp. 3.
PARKING CASH-OUT PROGRAMS
Parking Cash Out: A Summary

Parking cash out is a commuter benefit in which an employer offers employees the option to accept taxable cash income instead of a free or subsidized parking space at work.

The idea behind parking cash out is simple: given a choice of cash or a parking space, many people would prefer to receive cash. Most employers in the U.S. provide free or subsidized parking to their employees. This practice encourages employees to drive to work alone, thereby increasing traffic congestion and air pollution. Given the option to take cash instead of the parking space, many employees will take the cash and choose to carpool, take transit, or walk or bike to work. The benefits are substantial: employees receive broader and more equitable commuter benefits, traffic and emissions decrease, and the employer may be able to reduce parking costs.

Also sometimes called a “pay me not to drive” program or a “cash instead of parking” program, parking cash out encourages alternatives to driving alone to work without taking away the existing parking benefit. It has long been recognized that free or subsidized employer-provided parking is a major incentive to drive to work alone, yet many companies are reluctant to eliminate the benefit. Under a parking cash out program, employees may keep their tax-free parking subsidy or accept additional income. Employees who elect to accept the cash income pay taxes on it, but can use the money as they choose. Some people use the cash for transit fares or vanpooling, while others save the money by carpooling or bicycling or walking to work. Employees who wish to continue driving to work still receive the original free or subsidized parking and do not pay any taxes on it.

Brief History

The idea of parking cash out originated with Professor Donald Shoup at the University of California, Los Angeles. In 1992, the state of California enacted legislation requiring many employers who subsidize their employee parking to offer a parking cash out option. The law was not enforced, however, because of conflicts with federal tax law.

Until 1998, federal tax law prohibited an employer from providing an option of cash income or a tax-exempt parking benefit. If an employer chose to give an employee the option of cash in lieu of a parking space, then all parking provided by the employer lost its tax exempt status—both the employer and employee would be required to pay taxes on the value of the parking subsidy.

The Taxpayer Relief Act of 1997 amended the federal tax code to allow employers the option to offer taxable cash instead of a tax-exempt parking space. Since the act went into effect in 1998, the option of parking cash out has been available to employers nationwide.

Employer Benefits

Offering parking cash out can benefit an employer in many ways.

Reduced Parking Costs and Better Parking Management

Parking spaces, particularly in urban areas, are costly. Employers provide an estimated 85 million free parking spaces for commuters—spaces with a net worth of nearly $31.5 billion. Employers can save a substantial amount of money by reducing the number of parking spaces required: one study estimates that annual per space costs vary between $360 and $2,000.

Parking cash out can:

▶ Reduce the need for employee parking and costs associated with leasing parking space.
▶ Reduce the maintenance costs of parking areas.
▶ Allow businesses to convert employee parking spaces to customer parking spots.
▶ Allow businesses to convert parking spaces into revenue-producing activities.
▶ Eliminate the need for new parking construction.

Parking cash out allows employers to save on the extensive cost of supplying parking to employees. For certain types of businesses, converting employee parking to customer parking can make businesses more accessible to paying customers.

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1 It is estimated that nearly three-fourths of all firms in the U.S. provide free parking for their employees, with employees providing 85 million free parking spaces for commuters nationwide. Free parking creates a major incentive to drive to work. About 95 percent of all commuters who drive to work receive free parking, and most auto commuters park free even in the central business districts of large cities. (Shoup and Br挑sholt, 1997).

2 California Health & Safety Code Section 4385

pure form of cash out (e.g., choice of free parking or extra income), for example, imposes no administrative burden in terms of distributing transit and vanpool vouchers.

**Added Payroll Costs and Payments to Non-Drivers**

There are two potential costs to the employer: additional payroll taxes, and cash out payments to employees who have not been driving to work. Because the parking cash out benefit paid to employees is considered additional salary, the employer's payroll taxes will increase. In order to offset this cost, the employer could lessen the cash payment by the amount of the increased payroll tax. For example, if the parking space is valued at $100, instead of paying the employee $100 and incurring an additional $10 in payroll tax, the employer could pay the employee $90 and put the remaining $10 toward tax payment.

The employer may also have additional costs associated with the cash that is paid to employees who were already commuting to work by alternative means. For most employers with free parking, this figure is small. A study of cash out programs implemented by firms in California found that the increase in employer costs was roughly equivalent to the reduction in parking costs. (Shoup, 1997a)

**Combining Parking Cash Out with Transit Benefits**

To offset the additional payroll taxes, employers may wish to implement a transit/vanpool benefits program along with parking cash out. For example, suppose an employer values parking spaces at $115 each. Under straight parking cash out, the employer would offer each employee $115 in return for not driving. The employer would have to pay payroll taxes on that $115 increment for every employee that takes the offer, and each of those employees would have to pay taxes on the $115.

However, the employer could offer each employee $105 in transit/vanpool benefits, and the remaining $10 in cash. In this case, the employer would pay payroll taxes only on the $10 increment, since transit/vanpool benefits are not taxable up to $105. Likewise, each employee would pay taxes only on the $10 increment. For more information, see the separate briefing papers on Transit/Vanpool Benefits and Commuter Tax Benefits.

**Percentage of Employees Likely to Participate**

According to case studies and research, parking cash out tends to reduce driving to work by 20 percent or more. An employer implementing parking cash out should probably expect to see a reduction in solo driving to work of 20 percent, and likely more over time. Absolute targets would depend on starting points. Among eight firms surveyed by Shoup, the solo-driver share fell from 76 percent to 63 percent after cashing out. The firms' 76 percent starting point mirrored the average national mode split for work trips in 1990, but that average hides wide variation; at many firms the drive-alone rate is either 100 percent or close to it.

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**Guide to Implementation**

To implement a parking cash out program, an organization will typically go through the following steps:

1) **Analyze Current Parking Conditions and Policies**

A first step for any employer will be to examine current parking conditions and parking benefit policies. Key questions to ask include:

- Does the employer currently provide free or subsidized parking to all of its employees or only at certain office locations? (For example, some companies provide free parking to employees at their suburban offices but not at downtown locations).
- What are current parking ownership/lease arrangements? Does the organization own all of its parking? Does it lease parking? Will it be able to reduce the number of parking spaces it leases without penalty?
- If the company owns the parking, does it have controlled entry points? Could it easily be converted to controlled entry?
- How tight is parking? And how expensive is it? Would it benefit the company to reduce the amount of parking it provides to employees?

Understanding current parking arrangements enables employers to develop the most appropriate options for their own circumstances. It helps in identifying the potential costs and cost savings of parking cash out and in selecting the commuter benefit program that is most beneficial to employees and the organization.

2) **Determine How to Structure a Commuter Benefits Program**

Human Resources staff may wish to meet with employees and management to discuss potential ways to structure the commuter benefits program. The program that is selected
usually depends on the unique circumstances of the company and its existing parking arrangements. Typical program options include:

► Provide employees with the option to accept the choice between taxable cash or a parking space at work (the arrangement typically associated with the term “parking cash out”). This option may be most amenable to employers in semi-urban or suburban locations where carpooling, transit, walking and bicycling are viable options and where parking is tight.

► Provide employees with the option to accept tax-free transit or vanpool benefits, taxable cash, or a combination of both, in lieu of parking at work. In locations with extensive transit or vanpooling, the employer may want to set up a program in which employees are given the option of a tax-free transit/vanpool benefit, taxable cash, or free parking. That way, employees who wish to use transit or vanpools can receive a tax-free benefit, and those who wish to carpool, bicycle, or walk to work can choose to accept taxable income. For example, the employer might provide the employee with the option of free parking, a tax-free $105 transit/vanpool benefit, or $105 in cash each month. Under such a situation, parking may still be subsidized more than other commute options; for example, if parking costs $150 per month, a solo driver receives a higher subsidy than a transit rider.

► Provide employees with a “commute allowance” that provides an equivalent commuter benefit for all employees. Under this option, the employer might provide all employees with a $100 commute allowance, which can be used toward parking, tax-free transit or vanpool benefits, or taken as taxable cash income.

In each case, the employer will need to determine program structure, such as:

► How much cash to offer in lieu of the parking space (e.g., the full value of parking or a lower amount)? If a commute allowance is offered, at what level should it be set?

► Will employees in all offices receive the same cash option or should different cash options be offered in different locations? (e.g., if parking is more expensive at certain offices, should the cash out offer reflect the higher parking costs?)

► Who will be eligible for the program: only employees who currently use parking or all employees?

► At what point will employees be able to change their elections? Monthly, quarterly, or on some other basis?

3) Obtain Senior Management Approval

Senior management will need to approve the policy change.

4) Work with Payroll to Set up Appropriate Payroll Codes

The payroll system will need to be set up to account for the fact that employees will have the option to elect to accept taxable cash (or a tax-free transit or vanpool benefit) in lieu of free parking. The specific actions that need to be made will depend on the type of cash out program implemented, the payroll system used, and whether payroll is outsourced.

5) Develop Process for Employees to Eject their Commuter Benefit

The Human Resources Department will need to set up a procedure for employees to elect their commuter benefit. Again, this will depend on the type of commuter benefit program that is implemented, as well as individual organizational considerations, such as the size of the company and number of offices. An organization might allow employees to select whether they want to cash out via a form submitted to the HR Department or via an election over an intranet. Employers may also want to provide written information about the benefit in an Employee Manual or Benefits Guide.

6) Publicize and Implement the Parking Cash Out Program

Once parking cash out procedures are in place, the program should be marketed to employees. Some ways to ensure that employees are aware of parking cash out include the following:

✓ Company orientation for new employees.
✓ Advertisements in places seen frequently by employees (cafeteria, garage, elevators, etc).
✓ Distribution of program brochures.
✓ Company newsletters.
✓ Voicemail or e-mail broadcast.
✓ Special promotional days.
✓ Awards or prize drawings to recognize employees using transit or carpools.
✓ Inserts to paychecks.
✓ Company Web site or Intranet.

Because parking cash out is not a well-known arrangement, many employers may have questions about it. Employers should ensure that employees have access to information to answer their questions. This could include written materials, as well as a benefits coordinator to whom employees can go with questions.
TRANSIT AND VANPOOL PROGRAMS
Transit and Vanpool Benefits: A Summary

Transit/vanpool benefits are qualified transportation fringe benefits that employers provide to their employees to help them commute to work using transit or vanpools. In most cases, the employer purchases a transit pass or a transit/vanpool voucher and gives it to the employee. In some cases, the employer may reimburse employees in cash for transit expenses. Although this paper uses the general term “transit pass,” a pass could be an unlimited ride pass, tokens, tickets, or farecards. Passes are generally issued by a single transit agency only for use on its services. On the other hand, a transit/vanpool voucher can be exchanged by the employee for a transit pass, tokens, or tickets on multiple transit services, or payment of vanpool charges. Vouchers cannot be exchanged for cash; they must be redeemed by designated transit agencies or vanpool operators.

Federal tax code allows employers to offer up to $100 per month ($1,200 per year) in transit/vanpool benefits tax free.

To qualify with the transit or vanpool benefit as a primary benefit, an employer must contribute at least $30.00 per month. If the monthly commuting expense for employees is less than $30.00 per month (e.g., $25/month), the employer is only required to contribute that amount per month ($25/month instead of $30.00). Some employers allow employees to purchase the transit or vanpool benefit using pre-tax dollars (frequently called a pre-tax transit or vanpool benefit). While this option does take advantage of some of the tax benefits of transit and vanpool benefits, it does not provide either the full value of transit or vanpool benefits to the employees or the employers. It is therefore not considered a “primary benefit” by the Best Workplaces for Commuters program.

Employer-provided transit/vanpool benefits make it less expensive and easier to use transit or vanpools to commute to work, and usually popular with employees. In recent years, programs encouraging distribution of transit passes by employers have become increasingly popular. Employers tend to view the programs as a low-cost way to provide employees with a very desirable benefit. Since transit/vanpool benefits are tax-free transportation fringes, employers can save money on payroll taxes when they offer these programs.

The employer is not limited to providing a transit/vanpool benefit of $100 per month. However, if, for any month, an employer provides an employee with a qualified transportation fringe benefit that exceeds the statutory tax-free limit, the excess value must be included in the employee’s gross income for income and employment tax purposes. A brief history of recent changes in tax legislation that have affected transit benefits is provided in Appendix C.

Employer Benefits

An employer can benefit in several ways by offering transit/vanpool benefits.

Transit/vanpool benefits can improve employee morale and make an organization a more desirable place to work, which in turn can:

- Reduce employee absenteeism and stress
- Reduce employee turnover
- Support recruiting and retention goals

A Department of Transportation (DOT) survey of employers offering TransitChek in the New York and Philadelphia areas found overwhelming positive response by employers and employees:

- Over 70% of the TransitChek users in the first two surveys said they developed more positive opinions of their employers because of TransitChek. Favorable comments from respondents included that the program gave transit a favorable image, increased their usage of transit, was simple and easy to use, and helped to defray transit costs and fare increases.

- When asked to characterize the relative importance of TransitChek as an employee benefit, 48 percent of employers viewed it as “very important,” 40 percent said it was “somewhat important,” 12 percent chose “of limited importance,” and only 1 percent said that it was “not important at all.”

- All of the organizations reported TransitChek was very popular among their employees, and the companies themselves viewed it positively, in general.

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1 For more information on vanpools, see the separate briefing paper on Vanpool Programs.
2 The employer may provide transit benefits through a cash reimbursement plan only if the voucher providers charge a fee that exceeds one percent of the cost of the voucher. See Implementation Issues and Costs section.
3 Although the IRS regulations include “voucher” within their definition of “transit pass,” because of the operational differences this briefing paper defines them separately.
CARPOOL INCENTIVE
PROGRAMS
Carpool Incentive Programs: A Summary

A carpool is a group of two or more persons who commute together in a privately owned vehicle. Employees can and do, of course, carpool without any involvement from their employer. The focus of this paper is carpool incentive programs, in which employers actively encourage carpooling by- and usually among-their employees.

Carpooling benefits both employer and employee, so many companies are interested in increasing carpooling. Companies can choose among numerous ways to encourage carpooling, including reduced cost or free carpool parking, preferred parking, rideshare matching (to identify persons leaving near each other), and financial incentives. Regional rideshare organizations can assist employees in locating potential carpool partners. This relieves the employer of having to match potential ridesharers.

Employer Benefits

Employers enjoy several benefits from offering carpool programs.

Reduced Need for Parking

Many employers offer carpool incentive programs to reduce parking demand. Carpooling helps get employees to work without a car, especially where transit is not available. Employers can save a substantial amount of money in reducing the number of parking spaces required; one study estimates that annual per-space costs vary between $360 and $2,000.1

Increased Productivity and Morale

Employees who carpool have less commute-related stress, and therefore improved morale and productivity. In regions with carpool lanes, carpoolers can avoid congestion, its delays, and the congestion-induced unpredictability that interferes with scheduling.

Tax Considerations

Tax provisions that allow carpool parking costs to be taken as a tax-free fringe benefit offer potential financial savings for both employers and employees.2

Parking benefits may be provided tax-free to employees up to $205 per month. Tax benefits accrue to businesses and employees whether the employer pays for the benefits or the employee pays for it through a pre-tax salary deduction. If parking costs are less than $205, parking benefits can only equal the actual cost of parking. However, any employee who drives to work is eligible for these benefits, not just carpoolers. For more detailed information on how pre-tax programs work see the briefing paper Commuter Tax Benefits.

Employee Benefits

Employees enjoy several benefits from carpooling:

► Reduced costs. Carpoolers save on gas, depreciation, and general wear and tear on their vehicles.

► Increased personal time. Carpool passengers can read, sleep, or converse with other carpoolers, instead of driving.

► In regions with carpool lanes, reduced commute time and costs. These lanes provide not only speed, but often more important, reliability, by bypassing congestion. Toll routes and bridges often give carpool discounts, and even when they do not, the cost is split.

► Decreased stress. Many drivers find solo commutes in heavy traffic stressful. Carpooling lets them arrive at work fresh and productive.

When Carpool Incentive Programs Make Sense

Although any employer can encourage carpooling, carpooling is more likely to be successful in certain cases. These include the following:

Regions with HOV Lanes

Some metropolitan regions have extensive carpool lane networks. Carpool lanes—commonly known as high-occupancy vehicle (HOV) lanes—are reserved for vehicles with more than one occupant. HOV lanes can save drivers substantial time over congested regular lanes. In some areas, where carpool lanes are used at toll areas, drivers and passengers enjoy not only timesavings but financial savings as well.

Carpool programs are likely to be more successful where car-

2 Employers should review with their tax advisor the tax implications for themselves and their employees.
APPENDIX G

EXISTING TDM PROGRAMS
Zipcar system receives positive reviews

Elizabeth Snyder

Posted: 12/7/06

Now in its fourth month on campus, Zipcar, a national car-rental service with two cars on campus, is becoming increasingly popular with students.

The Toyota Matrix and a Honda Civic placed on campus by Zipcar average four to five hours of use a day. Roughly 80 percent of car reservations are made by members of the Smith community, while the remaining rentals are made by area residents. Over 100 Smith students have registered with Zipcar.

Allison Tinney '07 has used Zipcar seven to eight times this year to travel to trainings in Boston for her job with Apple.

"It's great. I love it," said Tinney. "It saves me time to go to Boston, and it is convenient for me because I can get reimbursed. It is more convenient for short trips than for long trips, because then it gets a little expensive."

Customers must pay a one-time $25 application fee, and then a $50 annual fee. For individual trips, drivers can choose to pay either $7 per hour or $55 per day.

Kate Fox '07 has used Zipcar once to drive to Yale to do research for her project with the Kahn Institute.

"The driving itself was fine," said Fox. "I think I was a little disappointed in how much it cost. Zipcar pays for gas up to a certain point, but with driving to and from Yale, and having to pay $10 extra for gas, and having to pay for parking fees, it ended up being more than I wanted to pay. I'm hoping to find another way to get there next time."

Students cited convenience as a primary reason for using Zipcar.

"It was nice to leave when I wanted to leave rather than when the bus left, because then I would not have had enough time to do my research," said Fox.
The rental cars are also handy for students who do not have cars on campus.

"I'm registered with Zipcar, but I haven't used it yet," said Hannah Wineburg '08. "The reason I registered in the first place is I'm from North Carolina and I don't have a car up here. I plan on using it soon, when I travel to Boston or New York."

The Athletic Department is the first college department to have an account with Zipcar. So far it has been used by some soccer coaches to drive to a league meeting in Worcester.

Zipcar normally requires customers to be 21 or older, but has lowered the minimum age to 18 for Smith students. At the beginning of the year, the cars were parked on campus on Neilson Drive; now they are parked in the college parking garage on West Street.

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Emergency Ride Home Program

Commuters who rideshare or use transit have one common concern "what do I do in an emergency?" In the event of a personal or family emergency, or if required to work unscheduled overtime, commuters who use an alternative from of transportation (carpool, vanpool, bus, train, bicycling or walking) at least 2 or more times per week can get reimbursed for a taxi ride home up to four times per year. Contact MassRIDES today to receive more information about this program.

- ERH Overview for Employees
- ERH Overview for Employers

Partners who offer ERH

- AdCare Hospital (Worcester)
- Advanced Micro Devices
- Allegro Microsystems
- Ames Safety Envelope Co.
- Barry Controls
- Bay State Correctional Center
- Berkshire Medical Center
- Blue Cross/Blue Shield/Boston
- Blue Cross/Blue Shield/Quincy
- Blue Cross/Blue Shield/Rockland
- Blue Cross Blue Shield of MA
- Boston College
- Bridgewater Department of Corrections
- Bridgewater State Hospital
- Brooks Automation
- CAB Health & Recovery Services
- Cape Cod Commission
- Cape Cod Community College
- Cape Cod Hospital
- Cape Cod NS
- City of Beverly
- City of Somerville
- Commonwealth Of Massachusetts Department of Environmental Protection
- Curry College
- Delta Airlines
- Department of Corrections/Norfolk Industries Building
- Falmouth Hospital
- Flexcon
- Hanscom AFB
- Harvard Pilgrim / Wellesley site
- Harvard Pilgrim / Quincy site
- Intellicraft
- IBM
- IRS
- JetBlue Airways
- Jiminy Peak
- Julius Koch, USA
- Lahey Clinic
- Lesley University
- Lowell General Hospital
- M/A COM
- MA Water Resources Authority
- Marshall's Distribution Center
- Massachusetts Treatment Center
- MassMutual
- MCI Cedar Junction at Walpole
- MCI Norfolk
- Millipore Corporation
- Nantucket Regional Transit Authority
- National Fire Protection Association
- New Balance Athletic Shoes
- New Balance Athletic Shoes - 5 South Union Street, Lawrence, MA
- New England Coffee Co.
- Nortel
- Northeast Foundation for Children, Inc.
- Nuance
- Original Rangoon
- Pacific National/Bank of America
- Pioneer Valley Planning Commission
- Pondville Correctional Center
- Pricewaterhouse Coopers
- Quincy Medical Center
- Quinsigamond Community College
- Raytheon
- Raytheon IDS HQ
- Raytheon Maritime Mission Center
- Raytheon Missile Defense Center
- Smith College
- Suffolk University
- SUN Microsystems
- Teradyne, Inc.
- The MITRE Corporation
- The RETEC Group, Inc
- Town of Bedford
- Town/County of Nantucket
- Travelex
- Tufts Health Plan
- Tufts University
- UMass Medical School, 1 Innovation Drive, Worcester,
- UMass Medical School, 55 Lake Avenue, Worcester
- UMass Memorial
- UMASS President's Office
- Varian Semiconductor
- Vaupefl
- Vitale, Caturano & Co.
- Waters Corporation
- Wear Guard
- Westfield State College
- Willy’s World Wellness
EMERGENCY Ride Home

What Is the MassRIDES Emergency Ride Home Program?
It's our promise to any of your employees who use travel options such as transit, carpooling, vanpooling, bicycling or walking to work, that we'll pay for their ride home if they experience a qualified emergency. It's one of the many free services that MassRIDES provides to our partners. An ERH program provides that extra reassurance people need in order to choose an alternative to driving alone, and it's an added benefit for those who already use an alternate commute mode.

Who Can Use the ERH Program? Any employee who commutes to work by transit, carpool, vanpool, bicycle, or by walking at least twice a week and who enrolls in the program.

What is a Qualified Emergency?
Unexpected personal illness/emergency, unexpected family illness/emergency, unscheduled overtime at supervisor's request, carpool driver has emergency or unscheduled overtime. What is not covered? Personal errands, pre-planned medical appointments, business-related travel, working overtime without supervisor's approval, on-the-job injury, weather-related events, transportation system delays, utility system failure, building closings.

Where Can They Go? The ERH program provides flexibility to employees who experience a qualified emergency, and allows them to choose from a wide array of destinations that can best serve their needs. Qualified destinations include: home, their vehicle (if they are parked at a transit station or park and ride lot), their child's school or day care or to a medical facility.

How Can You Get There? By transit, taxi or rental car.

How Often Can You Use It? Up to four times per calendar year per employee.

An Employee has an Emergency: What Do They Do? They arrange for emergency transportation (transit, taxi, or rental car). They take the trip, pay for the emergency ride, and keep their receipt.

How Does the Employee Get Reimbursed? They bring their receipt to their ERH Coordinator. They and their ERH Coordinator complete and sign a Trip Summary. They submit the receipt and Trip Summary to MassRIDES within two weeks. MassRIDES will reimburse the employee for the cost of the trip. Taxi gratuity, rental car taxes, insurance, and fuel costs are the responsibility of the employee.

How Do We Administer the ERH Program? Confirm Trip Summaries and verify all emergency ride receipts (taxi, transit, or rental car) from eligible employees.

MassRIDES
1.888.COMMUTE • www.commute.com
A Service of the Executive Office of Transportation
Bus Information:

The University of Massachusetts Transit Service is one of the most unique public transportation contractors in the United States. Staffed by nearly 150 students and managed by transportation professionals, UMass Transit services the Five Colleges as well as the towns of Amherst, Belchertown, Deerfield, Granby, Hadley, Northampton, South Hadley, and Sunderland for the Pioneer Valley Transit Authority (PVT).

Our buses are fare-free for Five College Students, Faculty and Staff. For the general public, we run on a proof-of-payment "honor system". Passengers are expected to have either:

- a valid Five College student, faculty or staff ID cards or
- a valid fare ticket/pass for each ride (must be purchased before boarding buses from the locations listed below). For more information on the cost of boarding passes click here.

All tickets and passes may be purchased at: Amherst Council on Aging on Boltwood Ave (at Main St); the Big Y store on University Drive (monthly passes only). Riders may send ticket or pass requests with check payable to: PVTA, and mail to: PVTA Information Center, 1776 Main St., Springfield, MA 01103.
"Working To Provide Transportation Choices in the Pioneer Valley"

Mission

The Route 9 Transportation Management Association is a public/private partnership that works together to address important transportation issues along the Route 9 Corridor in the Pioneer Valley. The members are dedicated to providing a variety of commuter options for their employees, customers and the community. These commuter options include carpooling, vanpools, public transportation, bicycling, walking, and telecommuting. The goal of the Route 9 TMA is to reduce traffic congestion and improve the air quality of the region. Join the Route 9 TMA today.

The Route 9 area in Northampton, Hadley, and Amherst has seen an unprecedented amount of development over the last few decades. The formation of the Route 9 TMA is an outgrowth of the development and traffic conditions in the area. The TMA has been formed to serve employees on the Route 9 corridor by facilitating solutions to such important transportation issues as:

- Traffic congestion
- Road and bridge construction
- Accessibility of a regional workforce
- Development approvals
- Ability to provide transportation infrastructure

It is envisioned that the Route 9 TMA will grow into an organization which promotes accessibility options and address transportation issues for employers and commuters well into the future.

A public/private partnership between:

- University of Massachusetts
- Cooley Dickinson Hospital
- City of Northampton
- US Fish & Wildlife Service
- Town of Hadley
- Amherst Chamber of Commerce
- Smith College
- Amherst College

*Prepared in cooperation with Massachusetts Highway Department and U.S. Department of Transportation, Federal Highway Administration*
APPENDIX H

EXAMPLE PROGRAMS
Occasional Parker Program

This program was designed for those who normally walk, bike or ride the bus to UMass, but who must, on occasion, drive to campus. The current UMass parking system requires that employees and students purchase a year long, fully priced parking permit regardless of how often they drive to campus. The Occasional Parker Program will provide discounted books of one day parking passes for those who are already doing their part to reduce the use of single occupancy vehicles coming to campus. See reverse side for details or contact Parking Services for more information. Register for the Occasional Parker Program at Parking Services office.

$ Save money on your UMass permit! $

Occasional Parker Program Details

- Only UMass employees and off campus students are eligible.
- A book of passes is composed of 15 passes and participants are eligible for up to 3 books per year.
- The passes are valid for your current lot, or whichever lot is currently open for permit sales.
- Passes are non-transferable, non-refundable and valid from Sept. 1st thru Aug. 31st.
- Passes require the same registration as other UMass parking permits.
- Additional one-day passes may be purchased at market rates.
- Participation in the Occasional Parker Program is restricted to this program only. You may be an Occasional Parker OR possess an annual permit, but not be in both.
- If you choose to stop participation in the program, you will remain eligible to purchase a ‘regular’ UMass parking permit.
- If you already have a ‘regular’ permit, you can return it to Parking Services in exchange for the Occasional Parker passes. You will be given a pro-rated refund.

Dartmouth Recognized for Commuter Buy Out Plan

EPA and human resources association cite College policy among best practices

As Dartmouth employees know, finding parking in Hanover can be a challenge. Add to that the environmental costs of driving to work, and the College’s offer of a cash reward to employees who give up a parking space makes a lot of sense. Under the policy, employees living within three-quarters of a mile from the College can receive $180 in exchange for not using a parking space. Employees who live farther away are eligible to receive $360 per year. The *College and University Professional Association for Human Resources Journal*, in its Fall/Winter 2005 issue, lauded Dartmouth’s buy-out plan as part of its list of best practices for colleges and universities offering commuter benefit programs. The *Environmental Protection Agency* also recently included Dartmouth on its list of the 1,500 "Best Workplaces for Commuters."

Other commuter benefits touted by the magazine included subsidized transit passes, telecommuting, housing subsidies to allow employees to live closer to work, free shuttle services around campus and carpool matching services. Dartmouth employees, along with other Hanover-area residents and employees, have access to the free Advance Transit fixed route Bus system serving the region and campus shuttles. Many Dartmouth employees also rely on the *Upper Valley Rideshare program*, a free carpool matching service for anyone commuting in or out of the Upper Valley area of Vermont and New Hampshire.

Questions or comments about this article? We welcome your feedback.

Last Updated: 2/16/06
APPENDIX I

TDM IMPLEMENTATION
APPENDIX I
Measures of Effectiveness for Smith TDM Actions

1. ACTION: Car Sharing Program
DESCRIPTION: Expansion of Zipcar Program
MEASURE/TIME FRAME:
   a. Spring 2008
      Tabulate number of users of Zipcar from September 1, 2007 through May 31, 2008, according to Smith students and employees/staff. Compare to tabulation of Smith users from September 1, 2006 through May 31, 2007.
   b. Spring 2009
      Tabulate number of users of Zipcar from September 1, 2008 through May 31, 2009, according to Smith students and employees/staff. Compare to tabulation of Smith users from September 1, 2007 through May 31, 2008.

2. ACTION: Parking Cash-Out Program
DESCRIPTION: Offer cash-out program to employees of Smith
MEASURE/TIME FRAME:
   a. Spring 2008
      Tabulate number of employees signed onto the program. Follow-up interview of cash-out program users to confirm number of users, how often (i.e. days per week) they use alternative travel mode (non-solo driver), and what mode they use. Goal would be about 140 employees. Identify number of employees signed up for the carpool matching program, and emergency ride home program.

3. ACTION: Park & Ride Lot Partnership
DESCRIPTION: Partner with City of Northampton and MassHighway for contribution to funding of shuttle bus service to the proposed Park & Ride lot at the Leeds VA Medical Center.
MEASURE/TIME FRAME:
   a. Spring 2008
      (Dependent on time of construction & opening of this parking lot)
      User survey at parking lot of number of Smith students and employees using this lot on average weekday basis.
4. **ACTION:** Cumulative Impact of Parking Program Elements  
Combined - Resident Student Parking  
**DESCRIPTION:** Monitor measure of effectiveness of TDM actions  
**MEASURE/TIME FRAME:**
   a. Count of Student Parkers (Vehicles with Student Sticker) by means of field inventory in March 2008 (comparable to study count in March 2006)
   b. Separate data by 4 areas:
      i. On-Campus (Core) Lots
      ii. Parking garage
      iii. Peripheral Lots (stables, tennis area, other)
      iv. City On-Street Areas (same street sections as done in March 2006 study)
   c. Count of number of Student decals issued (by category: core, garage, peripheral) by year
   d. Survey (questionnaire) of Student parkers (what’s good, what’s bad, suggestions)
   e. Count of registered student cars by Department of Public Safety

5. **ACTION:** Cumulative Impact of Parking Program Elements  
Combined - Faculty/Staff Parking  
**DESCRIPTION:** Monitor measure of effectiveness of TDM actions  
**MEASURE/TIME FRAME:**
   a. Count of Faculty/Staff Parkers (Vehicles with Staff Sticker) by means of field inventory in March 2008
   b. Separate data by four areas (same as for Resident Student count)
   c. Count number of Faculty decals issued (by category)
   d. Survey (questionnaire) of Smith Faculty (what’s good, what’s a problem or concern, suggestions)