

## **HOOS DRIVING: UVa's Transportation Demand Management Initiative**

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## **Abstract**

*The University of Virginia has experienced tremendous growth in both scale and scope that has inspired innovations in parking and transportation. Transportation Demand Management (TDM) represents the University's efforts to reduce the demand for single occupant vehicle use through improving the attractiveness and efficiency of transit services, enhancing commuting options, and creating bicycle networks to reduce the demand for vehicles. Recent improvements to transit service include the implementation of a real time Global Positioning System (GPS) bus locator system, a subsidy paid for the University community to access the Charlottesville Transit System (CTS) bus service, and partnerships and incentive programs to facilitate van and car pools. In addition, the 2007 Bicycle Master Plan seeks to develop a comprehensive system of routes, storage, and signage to enhance safe and convenient bicycle use.*

*In keeping with the University's campus plan to preserve and develop an academic environment that will enhance the University's mission, the Department of Parking and Transportation seeks to provide safe, reliable, and convenient transportation that is sustainable and environmentally responsible. The University of Virginia has chosen to implement transportation demand management before it becomes a necessity, and the immediate and long-term benefits of a successful TDM plan are not difficult to recognize.*

## **Introduction of the Organization**

The University of Virginia, located in historic Charlottesville, Virginia, has the distinction among institutions of higher education of being founded by the nation's third President, Thomas Jefferson, in 1819. The University is a public institution with an operating budget of \$2.1 billion. Thanks in part to its devoted alumni and strong investment returns, the University maintains an endowment in excess of \$4.5 billion. It has maintained either the top or second spot among public higher education institutions since *U.S. News & World Report* began ranking public universities. Among all universities, public and private, the University of Virginia is ranked in the top 25.

The University offers fifty-one bachelor's degrees in forty-seven fields, eighty-three master's degrees in sixty-four fields, six educational specialist degrees, two first-professional degrees (law and medicine), and fifty-nine doctoral degrees in fifty-eight fields. During the 2006-2007 academic year, the University awarded 5,898 academic degrees: Bachelor's (3,367), Master's (1,634), Post-Masters(45), Doctorate (348), Law (365), and Medicine (139).

Additionally, the University of Virginia Health System is a nationally renowned academic medical center, committed to providing outstanding patient care, educating tomorrow's health care leaders, and discovering new and better ways to treat diseases. The Medical Center has consistently been named one of the nation's Top 100 Hospitals, according to a study of 5,000 hospitals. The University's resources also include seventeen school and department libraries, with a circulation of nearly 5.1 million books, plus a wide range of computing services available to students and faculty. In athletics, the University competes as an NCAA Division I school, with 25 intercollegiate varsity sports, more than 50 club sports, and an extensive intramural sports program.

## **Statement (restatement) of the Problem/Initiative**

Nearly two centuries ago, the University of Virginia occupied 196 acres, serving several hundred students with eight faculty and a handful of staff. Today's University covers 1,135 acres and has just over 20,000 students, 2,000 instructional faculty, and over 10,000 staff. This growth has brought tremendous demands on parking and transportation, which have had a significant impact on the physical development of the University. Plans for future growth focus on the development of the central campus rather than suburbanized expansion. Transportation planning has become an integral piece of the University's Office of the Architect (OAU) in developing the University's campus master plan. Similarly, Transportation Demand Management (TDM), the influencing of travel behavior for the purpose of reducing the demand for single occupant vehicle use, has become an essential part of the Department of Parking and Transportation's mission.

UVa's Department of Parking and Transportation (P&T) provides 60,000 hours of high quality fare-free fixed route bus and shuttle service annually, including extensive service to and from University parking lots, housing areas, and densely populated student neighborhoods, providing students, employees, visitors, and local residents with an easy alternative to single occupant vehicle travel. Thirty-three transit buses provide service from 6:00 a.m. to 12:30 a.m. daily, with extended late night service until 3:00 a.m. on Friday and Saturday nights. Charter services are available to accommodate the special transportation needs of various academic groups and University affiliates.

## **Design**

Key components of Transportation Demand Management include improving the attractiveness and efficiency of transit services, enhancing commuting options, and creating bicycle networks to reduce the demand for vehicles. Recent improvements to transit service include the implementation of a real time Global Positioning System (GPS) bus locator system which allows passengers to find out when the next bus is arriving by using the Internet, a wireless mobile device, a regular or cellular telephone, or a keypad “bus finder” at 20 major stops. The system features a web site with an enhanced interactive route map, a 15 second information refresh, and dispatcher monitoring and management. This project coincides with the Charlottesville Transit System’s implementation of the same GPS system.

## **Implementation**

Commuting options have seen significant growth, including a free downtown shuttle instituted in fall, 2000, and access to free Charlottesville Transit System (CTS) bus service for all students and employees with UVa IDs that began in spring, 2007. The University pays CTS a subsidy to allow free ridership for all faculty, staff and students, and P&T has partnered with the area’s RideShare program to facilitate van and car pools. A car pooling incentive program (“CavPool”) featuring preferential parking pricing and location and occasional parker passes was implemented in summer, 2008. Van and car pool participants are eligible for the Guaranteed Ride Home program offered as a part of the Thomas Jefferson Planning District Commission (TJPDC) RideShare program. An occasional parker program was introduced in 2005 and expanded in 2008, enabling commuters to purchase a permit that allows parking (for up to 24 hours) in specified lots and garages for 10 or 20 times for a one-time charge. A robust P&T web

site brings information on seven alternative transportation resources together for students and employees.

The use of bicycles at the University is a significant mode of transportation, reflected in the updated 2007 Bicycle Master Plan which seeks to develop a comprehensive system of routes, storage, and signage to enhance safe and convenient bicycle use. P&T co-sponsored a Smart Transportation map with the Green Grounds student organization and OAU that identifies bicycle routes, lanes, racks, caution and dismount areas coordinated with the UTS/CTS routes. Bicycle racks are on all CTS buses and are being installed on all University buses, and some covered bicycle storage is available.

One of the keys to a successful TDM program, and one of the UVa program's innovative features, is its support of the larger university and community visions and policies. The integration of efforts and resources among University groups, the Department of Parking and Transportation, the Office of the Architect, and local city and county organizations is significant. Students and faculty are represented on the Transportation and Parking planning committee. P&T, city, and county staff participate in the University's Master Planning Council, and the University is represented on the City and County Planning Commissions and the Metropolitan Planning Organization.

The University is fortunate to have a variety of transportation alternatives in the surrounding area. To create an effective TDM program, P&T has devoted resources in the form of web development, technology enhancements, and direct funding to increase awareness of existing commute alternatives. P&T funding has been provided for program initiatives such as professional studies and the GPS system. Continued funding of the TDM initiative is planned from P&T's operating budget, with the expectation that investing in smarter choices about

transportation options now will minimize the need for the construction of additional parking structure spaces which now cost approximately \$32,000 each.

### **Benefits**

The University's subsidy paid to Charlottesville Transit System has added 189,000 new CTS passengers in the first year and increased ridership by 11%. The Charlottesville-Richmond van pool now offers an alternative to the 250 employees making the 130-mile round trip commute, and 106 employees have taken advantage of the CavPool incentive program in just the first few months of the program.

In keeping with the University's campus plan to preserve and develop an academic environment that will enhance the University's mission, the Department of Parking and Transportation seeks to provide safe, reliable, and convenient transportation that is sustainable and environmentally responsible. The University of Virginia has chosen to implement transportation demand management before it becomes a necessity, and the immediate and long-term benefits of a successful TDM plan are not difficult to recognize.