Intra-Campus Shuttle & Transportation

Summary of Findings, Recommendations, and the Implementation Program

Submitted by:

DESMAN ASSOCIATES

8614 Westwood Center Drive, Suite 300
Vienna, VA 22182
(703)-448-1190 Fax (703)-893-4967
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## Recommendations & Implementation

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1.0 INTRODUCTION

DESMAN was contracted by the University of Maryland College Park (UM) through its Department of Transportation Services (DOTS) to perform an assessment of the current transportation system and make recommendations for improvement of the system based on the following goals:

- Meet the access needs of a growing off-campus student population
- Improve circulation throughout the campus
- Improve the integration of on-campus transportation services with off-campus services (Metro line and rail)
- Reduce the utilization of personal vehicles for intra-campus circulation
- Reduce the pressure to develop additional on-campus parking facilities

The key to these goals and therefore the focus of this study was the evaluation and recommendation for an intra-campus shuttle system. Such a system would improve transit related circulation, reduce/discourage cross-campus automobile traffic, and improve the integration with existing/proposed off-campus transportation programs.

Campus communities have many of the same characteristics as traditional urban activity centers because they:

- Have a regional impact, and often impact several political jurisdictions such as a city, county, or state
- Have mixed uses including academic, research, recreation, special events, residential, and retail
- Influence the development patterns in the campus community
- Significantly impact roadways as a large trip generator
For those reasons, transit and other transportation modes have become a very important issue on campuses all over the United States. This is especially true when considering the issues of land use and growth. Though parking traditionally has been the one largest land use on many campuses, the best use of land on a campus is normally not parking. This is particularly true in the core of the campus. There are several other factors that impact the decision to move from a formula of building more parking in order to satisfy growth to developing a more transit oriented environment:

- Increased congestion due to more single occupant vehicle traffic
- The cost of building structured parking
- The desire to build more core business buildings (academic & research)
- The desire to enhance the aesthetic environment with additional green space
- The impact of traffic and parking spill over on surrounding communities (A campus is often one of the single largest traffic generators in a defined geographic area.)

2.0 STUDY METHODOLOGY

The study methodology used for this transportation and shuttle report is a descriptive analysis developed from available quantitative data, surveys, interviews and observations. DESMAN will be using external factors such as various population density data and internal factors such as service levels to complete the descriptive analysis. The following are the major phases of the study:

1. Data Collection and Assessment of Existing Conditions
2. Assessment of Future Conditions
3. Develop Shuttle & Transportation Route, Schedule, and Fleet Recommendations
4. System Cost Estimate and Preliminary Implementation & Monitoring Program

The first two phases of the study, assessment of existing and future conditions, presents background data necessary for the effective evaluation of alternatives routes, schedules, and fleet requirements. This information is included in a separate Technical Report.

The ideal study methodology for transit is represented in the following diagram:

**Transportation Study Methodology and Process**

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The scope for the University of Maryland study varies in that there will be no new ridership or travel patterns/attitudes surveys completed. Existing survey data that is available can be reviewed and assimilated in a manner consistent with the project schedule and may be included in the analysis.

In the final recommendations from this study, DESMAN, with critical input from University administrators, faculty, and students, will present an intra-campus circulator plan that can be implemented as prescribed and/or with minor adaptations and make some recommendations for improvement in the campus transit system. Part of this
evaluation/recommendation process is an evaluation of the University's current master plan and its related traffic, transportation, and access components.

3.0 EVALUATE CURRENT UNIVERSITY MASTER PLAN

Throughout history transportation and land development have been closely related. Decisions concerning transportation and land use should be made in context of each other. Unfortunately, historically this has not always been done.

Mass, or public transportation ridership reached its highest level just after World War II, and has been of the decline ever since. The increasing convenience of the automobile, and affordability to a larger percentage of the population has had a major impact and facilitated a supply side focus with more roadways and parking being built.

Large Universities such as University of Maryland now find themselves somewhat locked and needed to keep the supply side of transportation at its current level of possibly even decrease it. Therefore, it is essential that transportation inform the master planning process and vice versa. An ideal Land Use Development Pro-Active Approach would look like the following diagram:

Transportation Land Use Development — Proactive Approach

- Determine Goals and Objectives
- Implementation Process
- Land Use Transportation
- Adopt Preferred Alternative
3.1 The UM Master Plan

The following include a presentation of the transportation recommendations included in the Master Plan. DESMAN’s comments (both pro and con) regarding particular goals and objects referenced in the Plan are then noted.

The January 2002 version of the University of Maryland Facilities Master Plan appears to have encompassed transportation as an essential component. The Campus Master plan states the following four guiding principles:

1. Plan the built and natural environment in a way that preserves the beauty of the campus and protects the environment.
2. Reduce the number of automobiles on campus and eliminate vehicular congestion to the extent possible, while promoting unimpeded movement across the campus.
3. Reinforce the campus’s role as a good neighbor in the larger community by the careful development of sites in the campus periphery or in outlying area that link us to the community.
4. Preserve the architectural heritage of the campus and enhance it through open spaces, gathering places, vistas of green lawns and trees, and groupings of buildings that promote a sense of community.

While principal number two refers to the essence of the transportation component there is a more specific description on page 13 of the plan that addresses transportation:

** Plans for development will reduce presence of automobiles on campus and encourage and facilitate all modes of transportation – shuttle buses, new light rails or metro lines – that will minimize vehicular congestion, consistent with design and environmental stewardship. **
In the discipline of transportation the master plan also outline three goals, each with recommended actions to attain those goals:

**Goal 1: Maximize use of alternatives to driving to campus alone.**

**Recommended Actions:**
- Improve campus's integration into regional transit system network in the short term by increasing frequency of shuttle buses between campus and The University of Maryland Green Line Metro Station (This includes a proposal to reach further into the region and connect to a future parking garage to be built at the I95/I495 interchange).
- Build University of Maryland park-and-ride facilities with high quality transit.
- Support Purple Line stations on or adjacent to campus.
- Introduce pre-tax payroll deduction for transit pass/voucher (*this has recently been instituted*)
- Offer pre-tax benefit for parking at park-and-ride facilities.
- Coordinate centralized information through Commuter Services Office.
- Fine tune Shuttle-University of Maryland commuter routes/service.

**Goal 2: Create a more pedestrian – friendly central campus and significantly reduce number of automobiles.**

**Recommended Actions:**
- Allow only restricted automobile access to internal streets with high pedestrian volumes and conflicts (this includes proposing to restrict Campus Drive, Field House Drive, Valley Drive and Preinkert Drive).
- Establish a high quality internal campus loop shuttle throughout the center of the campus that will provide convenient intra-campus travel and reduce internal auto travel.
Organize campus growth around a series of new open spaces friendly to pedestrians and bicycles.

Goal 3: Minimize new parking on campus

Recommended Actions:

- Improve the environment for bicycles within and around campus.
- Replace surface lots with garages.

The two specific transportation proposals from the Facilities Master Plan are

1. Propose that the shuttle reach more into the region and connect to I95 and a future parking garage at the I95/1495 interchange.
2. An internal loop shuttle for intra-campus travel.

While the master plan uses good fundamental transportation concepts, there is little data to verify the transportation proposals and insufficient description of the transportation proposals to make a good evaluation. Roadway conditions were not evaluated, system-wide shuttle stop locations were not identified, shuttle travel runs were not conducted, and fleet/inventory evaluations were not completed. Subsequently, DESMAN conducted these surveys and gathered additional information as necessary. Furthermore, assumptions, goals, and recommendations related to intra-campus shuttle recommendations that were not documented in the Master Plan were researched and provided to DESMAN by the University Planning Department. The documented and undocumented Master Plan shuttle assumptions are as follows and include DESMAN’s evaluation (in italics):

- One route— for ease of use— no need to remember which route to get on