

RESEARCH PAYS OFF

Relieving Campus Congestion

Campus-Community Transportation System Finds a Way



Mobility and congestion are issues that affect nearly every community in America. University communities are no exception. The University of Illinois at Urbana-Champaign has experienced several factors that have combined to inhibit mobility and increase congestion. These factors have led to a general deterioration in the transportation environment on campus and in the community for students, faculty, and staff.

Problem

The University of Illinois has undertaken new development, including academic buildings and residential units, typically on the perimeter of the campus. These dispersed land-use patterns have encouraged dependence of students, faculty, and staff on the automobile for access to and around the campus, increasing traffic congestion and decreasing mobility. Compounding these problems on campus was the low cost of parking (campus meter parking costs 25 cents an hour) and the university policy to provide reserved low-cost (\$78 a year) parking for faculty and staff.

Solution

The Champaign-Urbana Mass Transit District (CUMTD), the transit provider to

the twin cities and the University of Illinois, believes that transit can play a pivotal role in providing a cost-effective solution to the growing campus parking, traffic, and mobility problem.

Preliminary research was conducted by CUMTD to determine how other university communities deal with similar problems of restricted mobility and congestion. A survey was conducted on the Big Ten and other major universities that provide campus bus service. The survey indicated highest ridership among universities that do not charge a fare at the time of boarding but recover the cost of providing the service through a mandatory student transportation fee or the university general fund.

Also examined in the preliminary research were such factors as fleet size, ridership trends, campus orientation of the bus service, existence and type of linkage to the community bus service, and recovery of operational costs. From this research, CUMTD developed a service concept that offered UI students unlimited access to existing community-wide service and new circulating high-frequency intracampus routes by the use of a low-cost mandatory fee. The integrated campus-community system was designed to intercept campus-destined trips at the point of origin, thus avoiding a potential automobile commute altogether. This was viewed as critical because research showed that

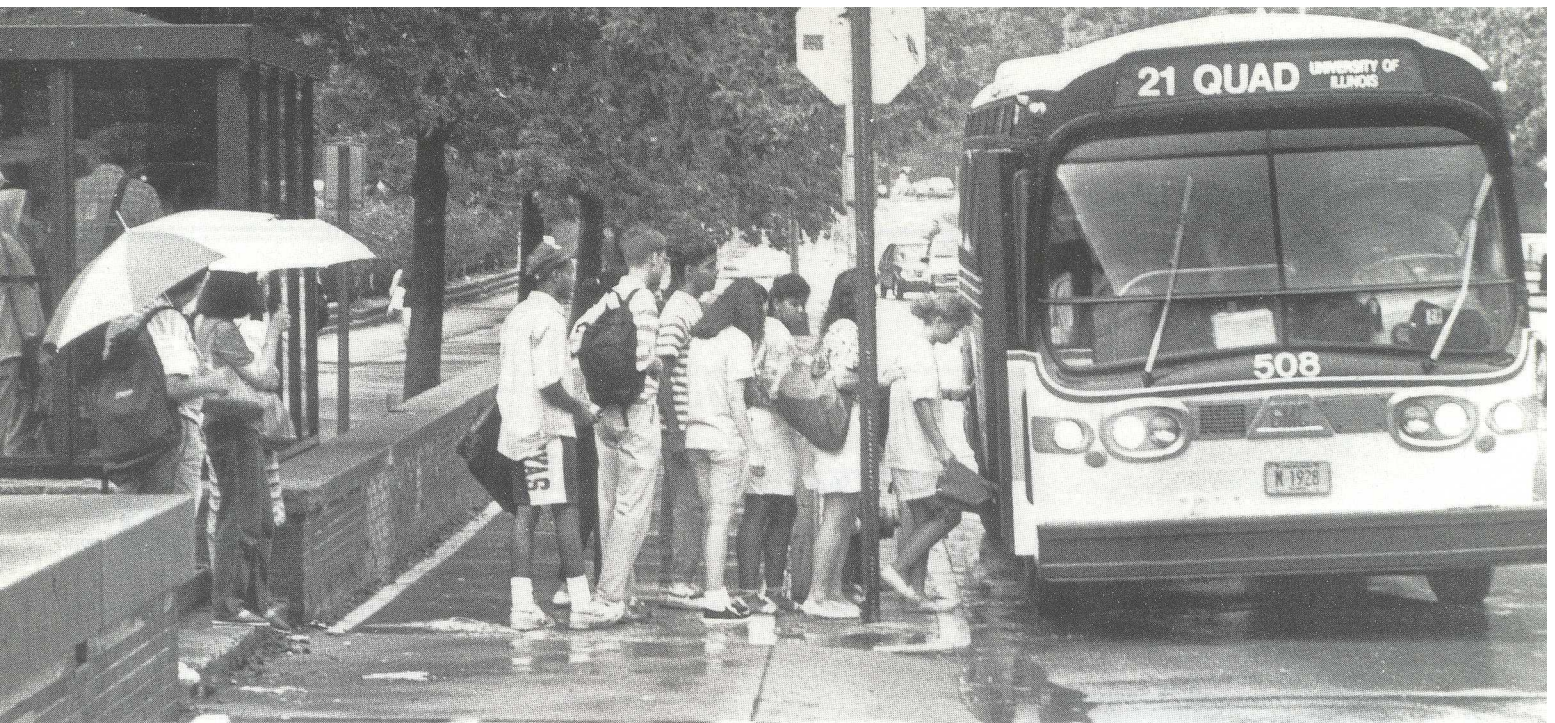
more than two-thirds of all UI students live off campus. In addition, high-frequency circulating intracampus routes would reduce the need to depend on the automobile to access dispersed university activity centers and provide increased mobility for students, thereby reducing the need for an automobile.

At the same time the university administration was shifting from the concept of additional parking as the solution for the campus transportation problem to one that was based more on reducing parking demand. Consequently, the university became an active participant with CUMTD in developing the campus-community transportation plan into a comprehensive multi-faceted mobility program.

Application

In August 1989, the new campus-community transportation program was implemented and included the following components:

1. Three new intracampus routes:
 - Quad circulator: 5-minute service (daytime),
 - East-west circulator: 15-minute service (until 2:00 a.m.),
 - Shuttle route: 5-minute service (daytime) to a remote commuter-



Ridership doubled after first year of operation of campus-community transportation plan.

CHAMPAIGN-URBANA MASS TRANSIT DISTRICT

storage lot. Cost to commuter, \$30 a year.

2. Unlimited access for full-time students to existing CUMTD community system and new campus routes. Cost, \$13 a semester (fall and spring).

3. Uni Pass: unlimited ride, annual pass subsidy program provided by the university for full-time faculty and staff who are willing to forfeit all parking, rental, and waiting list privileges. Cost to individual, \$30 a year, and the university, \$120 a year.

4. Car-pool and ride-share parking permits for full-time university faculty and staff members. Cost for a car-pool vehicle tag, \$30 a year.

5. The cost of on-campus parking increased to \$102 annually in July 1989, to \$126 in July 1990, and to \$186 in July 1991.

Benefits

The first-year response to the campus-community transportation plan was overwhelming: ridership doubled from 2.7 million rides in fiscal year 1989 to 5.4 million rides in fiscal year 1990; and ridership is projected to reach more than 7 million for fiscal year 1991. Additional statistics on benefits are indicated in Table 1. More than 750 Uni Passes have been sold annually to UI faculty and staff, and more than 600

permits have been sold in the commuter lot. Additionally, UI student automobile registration has dropped by more than 2,000. The success of the transit improvements and supportive measures have reduced demand for on-campus parking by more than 1,000 spaces, prompting the university to postpone plans for the construction of three 500-space faculty and staff parking structures.

These results demonstrate that effective demand management techniques, includ-

ing a comprehensive transit component, can play an effective and pivotal role in reducing traffic, congestion, and parking demand.

For further information, contact Robert E. Patton or William L. Volk, Champaign-Urbana Mass Transit District, 801 E. University Ave., Urbana, Illinois 61801 (telephone 217-384-8188). Joseph A. Moriarty, formerly with CUMTD, now with Cambridge Systematics, Inc., was also a major contributor to the project.

TABLE 1 IMPACTS OF CAMPUS-COMMUNITY TRANSPORTATION PLAN ON CHAMPAIGN-URBANA MASS TRANSIT DISTRICT OPERATING STATISTICS: 1989 vs 1990

	Fiscal Year 1989	Fiscal Year 1990	Percent Change
Operating revenues	\$1,245,336	\$1,925,125	54.6
Operating expenses	\$4,818,256	\$5,841,604	21.2
Operating cost-recovery ratio	25.8%	32.96%	27.5
Passenger revenue per revenue vehicle hour	\$8.64	\$12.10	40.0
Ridership (unlinked trips)	2,796,120	5,449,317	94.9
Unlinked passenger trips per revenue vehicle hour	24.71	40.71	64.8

Suggestions for "Research Pays Off" topics are welcome. Contact Crawford F. Jencks, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, D.C. 20418 (telephone 202-334-2379).