

BRT CONCEPTS

**Submitted to the Service Improvement Subcommittee of the
Ad Hoc Long-Range Transit Commission**

Ideal BRT characteristics

- High-frequency, all-day service
- Bus-dedicated, segregated right-of-way
- Signal Pre-emption
- Vehicles with Tram-like characteristics
- Off-bus fare collection
- Level boarding through multiple doors

Below are three concepts of how BRT might be approached in Madison, from the more ideal form in a dedicated corridor to express service in traffic conditions. A BRT system should be similar to rail systems under consideration insofar as being complementary to the current bus system and having independent financing.

Bus-Dedicated Corridors

- Madison has corridors where traffic-segregated busways could be considered. Both the east rail corridor and the southwest bike path have right-of-ways of 65 feet or greater, enough space to fit a busway. These corridors offer tremendous opportunities for unimpeded express service from transfer points to downtown, with impressive time savings that could exceed commuter rail and even auto. For travel within the core area of the city, these corridors would greatly reduce cross-town travel times.
- Buses from the East Transfer Point could access the East rail corridor at Williamson & Thornton or Dickenson and provide express service to Blair, where campus routes could follow John Nolen similar to former Routes 10 and 11 while downtown routes would follow Wilson. Where the corridor crosses streets, buses could be given priority by having a higher elevation of several feet (similar to a speed table) and stop signs for vehicular traffic.
- Buses from the greater west/southwest side and West Transfer Point could access the Southwest rail corridor from the Beltline, Odana Rd., Commonwealth and other locations for rapid service to Breese Terrace/campus. With this corridor's potential to greatly speed up travel to downtown, very high passenger volumes could be expected at the West Transfer Point. Staff recognizes the considerable engineering and political difficulties with adding a bus lane in this corridor.

Diamond Lanes/Traffic Signal Priority (Bus Advocate Plan)

- Diamond lanes and traffic signal priority offer low-cost, incremental improvements in bus speed in conjunction with more widely spaced stops. Opportunities exist along major corridors in Madison with parking and diamond lanes e.g. East Washington west of Hwy. 30, University Avenue, Whitney Way, Mineral Point Road, Park Street. Systems of this type are found in many cities around the country. An interesting evaluation¹ of the Las Vegas MAX found that traffic signal priority had to be disabled in sections of corridor with heavy recurring traffic and inadequate intersection capacity. The consultants also found that higher MAX speeds are more related to longer bus stop spacing, and reduced station dwell time

¹ 2006 Evaluation of the Las Vegas Metropolitan Area Express Bus Rapid Transit Project, A & E Services, December 1, 2006.

because of multiple entry doors and external fare transactions. Buses can also bypass stations w/o passenger activity.

- With longer distances between bus stops, ridership collection points (park and ride lots, transfer points) are needed to generate high ridership levels, similar to the current Transport 2020 plan which relies on Metro lines “feeding” the rail line and park and ride lots.

Express Route Overlay

- A more easily implementable approach from the standpoint of requiring minimal facility construction would be express and limited-stop services between transfer points. Ideally, buses would operate between transfer points in 30 minutes in order to coordinate with pulse schedules at the transfer points. This, however, may not be achievable even with limited stops through the downtown area and buses bypassing the Square, given levels of traffic congestion. Other models could be developed.