



Sustainable transit facilities

Transit facilities, passenger service centers and mass transit waiting areas in the suburban market have historically been composed of small bus shelters, undesirable remnant land for Park and Ride sites with a general lack of identity, safety and security. The Burnsville Transit

Station (Minnesota, USA) has changed this stereotype and brought vitality, passenger comfort and convenience, and an economic stability to the suburban mass transit marketplace

James B. Lasber & Merne C. McCarron, LSA Design, USA

The Minnesota Valley Transit Authority (MVTA), a suburban transit authority providing express commuter and local transit service for six Minneapolis/St. Paul suburban communities, has recently opened the Burnsville Transit Station as a state-of-the-art transit facility 15 miles south of the city of

Minneapolis, Minnesota. Some two years in the master planning and design process, the Burnsville Transit Station seeks to create a strong and stable image for bus transit, something that has been sorely lacking with this old and cumbersome vehicle.

Planning

The MVTA commissioned LSA Design Inc., as landscape architecture, architecture, and planning consultant in 1993 to provide planning and design services for a fully integrated mixed-use transit facility; the first of its kind in the state. By utilizing the land surrounding the station for transit-compatible private development, revenues from retail/commercial/housing land sales as well as shared parking leases can be used to operate and maintain the transit facility. This revenue stream will then allow the already short operations funds to be used to increase transit service instead of maintaining public facilities.

LSA Design developed the conceptual site plan and designed the transit facility building to exemplify the US Federal

Transit Administration's 'Livable Communities' concept by:

- enhancing community linkages through transit and pedestrian projects;
- blending compatible land uses with transit to reduce dependence on automobile and generate revenues to sustain the facility;
- developing mixed-use neighborhoods;
- enhancing safety and security at transit facilities;
- managing parking to conserve space requirements;
- promoting full community participation in the development and decision-making processes.

The MVTA has been experiencing 10 to 15 per cent growth in its yearly transit ridership. The ridership profile is generally office/professional-based with employment in city center areas. Suburban commuter transit is a viable alternative to driving due primarily to congested freeways and high costs of parking in the downtown area. The construction of High Occupancy Vehicle (HOV) lanes and bus by-pass lanes throughout this metro



The recently opened Burnsville Transit station (above) interior and exterior

area has given buses an added benefit of shorter travel times. The convenience of reduced commuting time coupled with the mixed-use transit station development plan has struck a positive cord with passengers.

As part of the overall analysis, MVTA conducted a passenger survey to further test the hypothesis of a mixed-use/transit development. As anticipated, passengers were very interested in the development of a transit facility which offered opportunities for such conveniences as fast food, car fuel and maintenance, grocery markets, child care facilities, housing/rental units, movie theaters, video rental, hair care, and other daily retail requirements. Through understanding of passenger needs and analysis of the problems of the suburban transit system, an opportunity was presented to the MVTA to create a facility that attained the following objectives:

- attract new ridership;
- provide conveniences for passengers such as child care facilities, convenience retail (cleaners, video shops, beauty/hair care, fast food/coffee), movie theaters, restaurants and auto service center;
- promote a mixed-use site development concept with a 150 to 200 unit housing project;
- generate revenues to cover all operations and maintenance costs for the site;
- reduce single occupant vehicle trips and traffic congestion.

The integration of commercial businesses into the transit station requires a delicate blending of use and parking

demands. Successful planning must account for peak parking demand analysis for each business so they do not conflict with the transit operations or Park and Ride. The businesses must have enough parking adjacent to their stores to allow for midday use, when commuter traffic is at its lowest demand and Park and Ride spaces are full.

Additionally, the location of businesses should not promote people driving around on site using various businesses. Pedestrian circulation should allow for a controlled and comfortable access to all businesses. The housing portion of the site is strategically removed from active transit/retail uses. However, primary vehicular circulation allows residents to enter the site moving past the retail development together with the opportunity to use integrated paths throughout the site.

Financing

Situated on 16 acres of developable land, the station site selection process hinged on finding the most suitable location for transit to be effective and attract



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new ridership. Initially, the primary goals of the MVTA was first and foremost to meet the needs of the passenger.

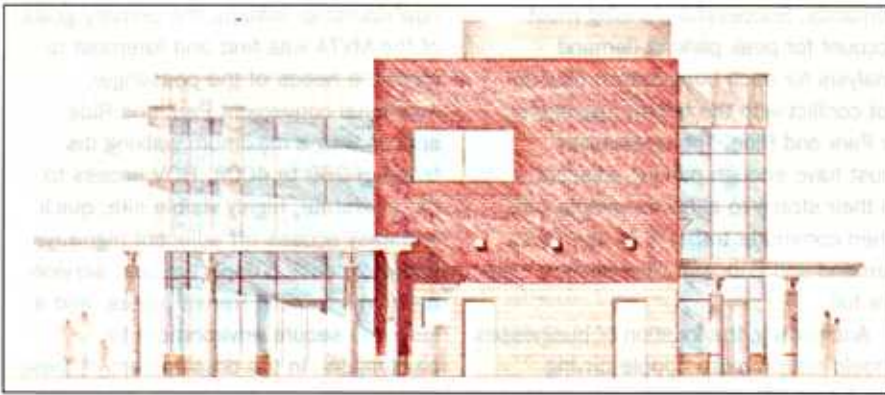
Additional convenient Park and Ride spaces with a maximum walking distance of 250 to 400ft, HOV access to the Interstate, highly visible site, quick and easy access off adjacent highways, future expansion opportunities, serviceable from existing transit routes, and a safe and secure environment for passengers. In the development of these primary site selection goals, it became apparent that land requirements for effective transit needs were very similar to requirements for commercial/housing development needs. Thus, the concept for blending commercial/retail conveniences and housing with transit developed and the formation of a true mixed-use community evolved.

Upon completion of Phase I of the facility, land values made a sizable gain due to increased pedestrian traffic, large amounts of available off-peak parking (used for movie theatres, restaurants and other evening/weekend-type uses), integrated covered walkways for comfort and safety, and excellent levels of highway visibility. The ability of the MVTA to capture and use these increases in valuation provides for the long-term viability of the station.

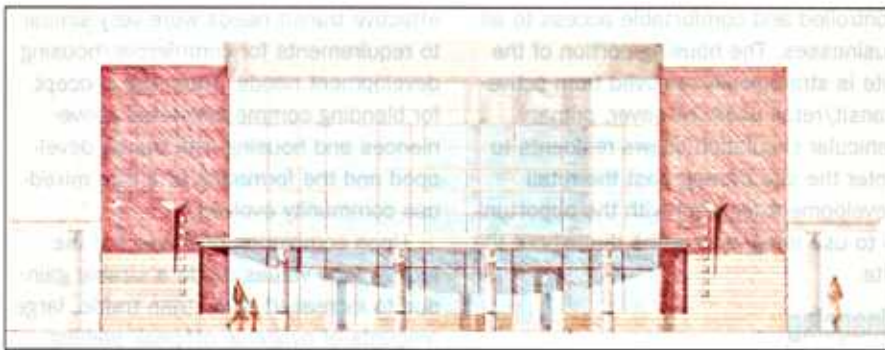
The MVTA received Phase I funding for land acquisition and construction through the Metropolitan Council; the regional agency responsible for capital and operations funding for transit in the seven county Minneapolis/St. Paul metropolitan area.

Funding for Phase II, which includes a parking structure and HOV access lane with direct access to the interstate, will be provided through the Inter-modal Surface Transportation Efficiency Act (ISTEA). A grant application completed for the MVTA by LSA Design was given final authorization for funding in July 1995. A second ISTEA Grant was awarded to the MVTA through the 'ISTEA Enhancement Projects Fund' for the purpose of constructing a six-mile bicycle and pedestrian connection from the transit facility site to adjacent multi-family housing, the local high school and population centers via state, local, and county trails. Through agreement, all revenue generated from the mixed-use development will be used for operations, maintenance and capital improvements.





(above and below) Architect's designs of the Burnsville Transit hub



Design

The primary design concept for the station was to present an inviting image of transit to the community. Transit, to be effective, must present itself as highly accessible and visible to potential riders. Excellent accessibility onto the site from adjacent roadway systems is vital to give Park and Ride users a travel-time advantage. Visibility, along with a feeling of safety and security, provides transit users with a sense of comfort and safety of their person and their parked vehicle. Historically, suburban passenger stations and Park and Ride facilities have been afterthoughts in major highway projects, located on remote, remnant real estate with few opportunities to share facilities.

This station is located to allow for logical and direct circulation from Park and Ride parking spaces through the transit/retail area to the bus boarding bays. This passenger flow allows the retail users to capture walk-by traffic as well as keeping passengers from crossing bus traffic for boarding.

Buses access the site in a separated roadway system to insure minimum conflicts between cars and pedestrians. As the bus leaves the site, a pressure-sensitive pavement detector system initiates a light signal change and allows the bus to leave on its own lane and proceed directly onto the interstate. This continued separation of buses and cars has proven

(below) A fully integrated design for a mixed-use transit facility incorporating retail, commercial and housing



invaluable in the few months the facility has been in operation.

Material selection for roadway surfaces included rejection of standard poured-in-place concrete for concrete unit pavers. A harder and more durable product, the 3.18" thick pavers were used within the 'bus loop' area to insure low maintenance costs and ease of repair as well as their aesthetic appeal.

Passenger comfort

The fully climate-controlled environment for passengers adds a great sense of stability for the transit rider, increased levels of safety and security and additional opportunities to provide improved passenger information such as available car and van pools, ride-sharing and revised scheduling.

The Burnsville Transit Station is a 5,600ft², two-story glass and masonry building designed to accommodate pas-

sengers and provide route and scheduling information, arrange ride-share partnerships, van and car-pool coordination, and postings for community information and events. MVTA staff offices are located on the second level, which allows excellent interface opportunities between passengers and staff. Additionally, MVTA has made the facility available for use by community groups for meetings and small events.

The project architect at LSA Design created a spacious, well-lit safe waiting space for riders by integrating a two-story glass curtain wall looking out toward the bus area. The facility was designed to ensure passengers' comfort by heating or air conditioning all spaces through which they pass. The Burnsville passenger terminal will service the greatest volume of passengers per day within the MVTA system, approximately 2800 of the current 5000 daily trips.

The nature of the Minnesota climate dictates various levels of weather protection. The entry vestibule buffers the main waiting area from cold winter winds. Both the vestibule and main waiting area will have adequate cooling in the summer. Canopy systems will connect the transit facility to retail/commercial uses to provide weather protection to those who wish to shop throughout the site.

Another form of weather protection is a steel canopy that extends from the main interior waiting area in two directions – toward the parking area and the bus loading and unloading zone. On cool summer mornings and temperate winter mornings, passengers can wait in the sun next to the canopy before boarding the bus. The sun screens located on the south building facade shade the entire waiting space in the summer months and allow sunlight to warm the space in the winter months.

On the basis of its ridership projections, the MVTA expects to see upwards of a 20 per cent increase in ridership within the next year from this station. The MVTA Board has recently sold all residual property for development at the station and ground breaking for six retail/commercial buildings and the 150 unit three-story housing site is scheduled for November 1995.

Not only is a sustainable transit facility reassuring to the future success of the MVTA, but it is also quite promising to the private enterprises who want to ride along with their success. ○