

III. BUS SERVICE AND FACILITY NEEDS

GOALS FOR THE CORRIDOR

The objectives for this study called for recommendations regarding new transit services, modifications of existing services, and new or modified transit facilities in the corridor. Regarding services, the project should recommend the optimal services that would be required for adequate service coverage by type: fixed route, express, feed bus, etc., and seamless transit coverage between the two counties. Among the facilities to be considered are: customer amenities such as bus shelters, bike racks, sidewalks, bicycle paths and ITS facilities and equipment.

Through a process of interviews and focus groups with key interests in the study corridor to discuss transit service and facilities, a broader set of goals for transit in the corridor emerged. These broader goals link transit service and facilities with the surrounding environment. These are described below:

- Provide connections for transit dependent and special needs populations in the corridor to needed services and jobs
- Support corridor economic development with an emphasis on redevelopment, a mix of land uses, higher densities at designated nodes, and higher property values
- Improve pedestrian accessibility and safety in the Route 1 corridor associated with transit services and facilities
- Promote/improve modal connections between bus services, VRE commuter rail and Metrorail
- Provide sufficient transit coverage to serve all major corridor activity centers and fill in remaining service gaps such as between Lorton and Woodbridge
- Provide viable transit options to driving for residents and workers traveling in the Route 1 Corridor
- Support good land use planning and urban design practices in the corridor

COMMUNITY ISSUES AND CONCERNS

The project team conducted 13 key stakeholder meetings and focus groups to identify transit service and facility issues, and broader demographic, employment and development issues or trends that should be recognized in developing the recommended plan. These meetings and focus groups included local elected officials, staff from County agencies, staff from transit agencies, representatives of the two military bases in the corridor, and selected business and resident interests. Over 50 people participated in this initial round of interviews and focus groups. A list of meetings, dates, and attendees is provided in Appendix A. Comments organized by type and by county are provided below.

Several consistent themes emerged in this interview and focus group process. First, there was general acknowledgment that transit service in portions of the corridor was extensive. The focus of all discussions centered around perceived service gaps. In Fairfax County, improved service to the Lorton area was considered a top priority. In Prince William County, the focus was on developing a transit link to Fort Belvoir and on preserving and expanding the park and ride program along the Route 1 Corridor. In both counties, there was an expressed desire to provide east-west transit service, connecting Route 1 with activity centers to the west.

Second, pedestrian safety and accessibility was a major concern of local elected officials and community interests in both counties with a particular emphasis on the Hybla Valley area in Fairfax County and the Woodbridge area in Prince William County. Both areas have racially and economically diverse populations that use transit. Concerns included the provision of safe pedestrian crossing of Route 1, the importance of continuous pedestrian sidewalks along both sides of Route 1 and the need for safer pedestrian linkages across existing parking lots to major destinations, including shopping centers, movie complexes, apartments, etc.

A third theme that emerged through the interviews was the desire of both counties to tie Route 1 back into the mainstream of economic activity in the counties. In Fairfax County, making stronger transit connections to the core and to both the Huntington and Springfield Metro stations, while also physically upgrading Route 1 were viewed as essential to supporting redevelopment. In Prince William County, more emphasis was placed on making physical east-west road connections between riverfront lands, VRE, Route 1, I-95 and points west. In both counties, the discussion focused on redevelopment of existing low-density shopping centers with higher density mixed use development. In Fairfax County, several nodes were identified. In Prince William County, the redevelopment focus was on Woodbridge near the Route 123 interchange.

The following list is a summary of comments from the interviews and focus groups organized by subject and county. These are intended to provide an overview of the interests of key stakeholders but should not be interpreted as a prioritized list of recommended actions.

Table 16
Service Issues Cited in Stakeholder Meetings

Shared Issues:
Need to provide cross-jurisdiction service on Route 1 (between Prince William and Fairfax County)
Fairfax County
Improved mid-day bus service connecting Lorton to the north portion of the Route 1 Corridor
Increased frequency of all mid-day service – should be 20 to 30 minute headways
Need for increased off-peak bus service (diversifying work commute patterns, long shopping center hours)
Need for better transit connections between the Route 1 Corridor and areas to Springfield/Newington
Need to serve the planned Fairfax County Government Service Center
Need more frequent service to Lorton residential developments
Provide enhanced bus connection between the Lorton VRE station and Fort Belvoir
Consider providing direct bus connections (diverting from Route 1) to key shopping centers in corridor – Beacon Hill Mall, Hybla Valley Mall
Provide bus service along Fordson Road (parallel to Route 1 on the west side)
Consider express bus service serving key activity centers and park & rides in the Fairfax County portion of the Route 1 Corridor
Prince William County
Need service from Prince William County park & rides to Fort Belvoir using PRTC OmniRide
Terminate OmniLink service to Quantico at the train station (to be renovated)
Provide limited schedule OmniLink service on Saturdays to Quantico
Provide OmniLink service to Prince William County high schools
Need for transit service connecting the Route 1 Corridor to Manassas via Route 234

Table 17
Facility Issues Cited in Stakeholder Meetings

<p><i>Shared Issues:</i></p> <p>Desire for curb-side peak hour transit lane on Route 1</p> <p>Need for higher quality shelters with signage and lighting, provision of shelters</p> <p>Need for sidewalk connections between Route 1 bus stops and major destinations such as shopping centers (often separated by large parking lots and service roads)</p> <p>Need for continuous sidewalks along both sides of Route 1 with landscape buffer strip providing separation from the moving traffic lanes</p> <p>Need for clearly marked crosswalks at signalized intersections (striping, color change, texture change) to improve pedestrian safety</p>
<p><i>Fairfax County</i></p> <p>Designate and sign a high pedestrian traffic zone from Lockheed Boulevard through Ladson Lane</p> <p>Improved shelter maintenance</p>
<p><i>Prince William County</i></p> <p>Need to provide a replacement for the Route 234 park and ride lot which will be displaced by road construction (this lot is already oversubscribed)</p> <p>Provide more park & ride lots along the Route 1 Corridor, including a lot near Ferlazzo Center (Neabsco Road)</p>

Table 18
Demographic, Employment and Development Issues or Concerns
Cited in Stakeholder Meetings

<p><i>Shared</i></p> <p>There are transit dependent and special needs populations in both the Fairfax County and Prince William County portions of the Route 1 Corridor that are dependent on transit to provide access to services and jobs</p> <p>The Corridor's population is becoming increasingly multi-cultural – may need to look at transit signage in several languages or the use of international symbols</p>
<p><i>Fairfax County</i></p> <p>The population in the Corridor is aging, particularly in Mount Vernon and will need services</p> <p>Need to address planned growth in Fort Belvoir's workforce, from 21,000 today up to 36,000 in the future. 6,000 additional employees are projected in the 1st phase of expansion over the next 10 years</p> <p>Plan for the potential of an Army Museum that could be located at Pierce Gate along Route 1 (one of two sites under consideration)</p> <p>Increasing medium and high density residential infill in the Corridor</p>
<p><i>Prince William County</i></p> <p>Focus higher density development and redevelopment in Woodbridge around the planned 123 interchange with Route 1</p> <p>Incorporate plans for high density mixed use development at Belmont (adjacent to the Woodbridge Transportation Center)</p> <p>Incorporate plans for the funded Marine Heritage Center to be located at Fuller Road and Route 1 (up to 1 million visitors per year)</p> <p>Plan for the potential of up to 3,600 housing units and other development on the Cherry Hill peninsula north of Dumfries (largest undeveloped parcel in the Route 1 Corridor study area)</p>

SERVICE GUIDELINES

Transit agencies must constantly make decisions about services to be operated, including whether a route should be operated and, if service is to be operated, the type of service, the frequency of service and the span of service. Agencies also must make decisions about the facilities to be provided when services are operated. To help in making such decisions, agencies develop and apply service guidelines. These guidelines reflect both historic experience (where have different types of service been effective) and the operating practices of the agencies. The operating practices reflect agency policies related to facilities appropriate for passenger comfort, convenience and safety.

While this study of bus services in the Route 1 corridor was underway, a broader study of the bus services throughout the entire metropolitan area was being conducted for the Washington Metropolitan Area Transit Authority. To aid in that effort, a series of Route Evaluation Measures were prepared. Those measures, in many ways similar to service guidelines, served as the starting point for guidelines applicable to the Route 1 corridor.

The proposed Metrobus study measures were modified for application to the Route 1 corridor, augmented to cover other topics, and reviewed the project committee and the affected operating agencies.

The guidelines have been used in developing the Route 1 Bus Service Plan.

Service Type

<i>Population Density Persons/Square Mile</i>	<i>Households Per Gross Acre</i>	<i>Fixed Route</i>	<i>Demand Response</i>
Less than 3,000	<2	To park-ride lots only	As needed
3,000 - 6,000	2-4	Peak periods	60 minute frequency
6,000 - 12,000	4-8	30 minutes peak/ 60 minutes off-peak	ADA only
Over 12,000	8+	15 minutes peak/ 30 minutes off-peak or better	ADA only

Fixed Route Stop Spacing: 500 to 1,400 feet

Express Service

Express service is appropriate when:

- There is sufficient demand (3/4 of boarding passengers exiting at or near a single destination).
- A time savings of ten minutes end-to-end, compared to local service can be achieved.
- There is sufficient demand at stops in the express service segment to support continuation of a separate local service at an appropriate frequency.

Bus Stop Turnouts

Turnouts at bus stops permit buses to leave the travel lanes while stopping to discharge or pickup passengers. The preferred design for a turnout will include a tapered transition from the travel lane, a deceleration area, stop area, and an acceleration area so that the bus can gain speed before reentering the travel lane and a tapered entry transition. For a roadway operating speed of 45 mph, the desirable length of a turnout for an articulated bus is 1,550 feet.¹ If the acceleration and deceleration are accommodated in the travel lane, the length can be reduced to just under 500 feet.

In higher use areas, such as those found on many portions of Route 1, bus stops are generally spaced between 700 and 1,200 feet apart. With such close spacing, even the minimum turnout design would require most of the distance between two stops. The suggested guidelines for use of turnouts are:

- Turnouts preferred in areas where stops are widely spaced and traffic is light.
- In-lane stops preferred in areas with more closely spaced stops and higher traffic volumes

Bus Stop Location

Near-side or far-side location to be determined based on proximity to trip generators, site uses and other site specific factors. When bus stop turnouts are used, far-side stop locations are preferred.

Bus Stop Features

- All stops shall meet the requirements and guidance of regulations implemented in the Americans with Disabilities Act.
- All stops shall have a hard surface with adequate drainage.
- A bench will be provided at stops expected to have 25 or more boardings per day.
- A shelter will be provided at stops expected to have 50 or more boardings per day.
- Timetable information for all routes serving the stop will be displayed at each stop.
- Lighting will be provided at each stop. A minimum illumination of 1 foot-candle at ground level shall be achieved, either from roadway lighting or special fixtures.
- A signalized pedestrian crossing shall be available within 250 feet of all bus stops.

¹Texas Transportation Institute, "Guidelines for the Location and Design of Bus Stops," Transit Cooperative Research Program Report 19, Transportation Research Board, Washington, DC, 1996, pp. 28-29.