

Section 4 Bailey's Crossroads



Baileys Crossroads

The Bailey's Crossroads activity center consists of the area designated in Fairfax County planning documents as Bailey's Crossroads (Leesburg and Columbia Pikes), and includes the Skyline City residential, office, and retail complex.

Located in Fairfax, Virginia, Bailey's Crossroads/Skyline City is a mixed-use activity center characterized by high-density residential and office development around a shopping mall at the east end, medium-density residential at the west end, and a variety of retail, light industrial, and office development in between. Figure 4-1 shows typical land use for the area. Much of Leesburg Pike and Columbia Pike is typical strip development along congested arterials. Long signal spacing helps keep traffic moving. Along Columbia Pike West of Leesburg Pike, streetscape reconstruction is underway. Streetscape upgrades were recently made along the section of Columbia Pike at Leesburg Pike, which are reflected in the look and character of the bus stops. According to the 2000 census as analyzed by the Metropolitan Washington Council of Government, there were 5,800 households in the study area and 16,400 jobs. COG predicts a small increase in households to 8,500 in 2025, and a slight increase in jobs to 17,500.

Both Fairfax and Arlington Counties have undertaken extensive planning efforts in the Bailey's Crossroads area, including a specific sub-area planning effort to improve the streetscape and pedestrian amenities and a transit initiative plan. The Fairfax County Comprehensive Plan, 2003 Edition, for the Bailey's Planning District includes a major objective to improve the appearance and function of the Bailey's Crossroads and Seven Corners Community Business Centers through coordination of land uses, unified signage, consolidation of curb cuts, landscaping treatment, and provision of pedestrian-oriented amenities as well as to encourage pedestrian activities to and from the retail areas. The plan notes that these objectives, and the level of development intensity desired, can only be achieved through the provision of mass-transit linkages and substantial transportation improvements. These objectives can be addressed with transit service.

Summary characteristics of the center:

- Significant concentration of jobs and households, with a job density second only to Tysons Corner in the immediate area.
- Dense residential with nearly 6,000 households.
- Significant numbers of low-income residents and a sizable transit-reliant population.
- Poor pedestrian connections.

Mode share data for the Bailey's crossroads area shows that driving alone captures the major percentage for both home and work end. Given its suburban location, auto-oriented land use, and limited transit options, this is not surprising.

**Table 4-1
Bailey's Crossroads Mode Share**

	Home End			Work End		
	Transit	Drive Alone	Walk/Bike	Transit	Drive Alone	Walk/Bike
Bailey's Crossroads	10%	58%	0%	5%	75%	5%

Source: 2000 Census Transportation Planning Package

Figure 4-1 Bailey's Crossroads Land Use



Transportation System Characteristics

Leesburg Pike and Columbia Pike are both high-volume arterials with extensive curb cuts to accommodate the strip development throughout the corridor. The intersection of the two roads is grade separated. Traffic congestion along Leesburg Pike is heavy during morning and evening peak hours. A moderate portion of the eastbound traffic volume filters out to Columbia Pike, with volumes lowering somewhat after Leesburg Pike crosses Columbia Pike. Although traffic continues to filter out from Leesburg Pike to George Mason Drive at the southern end of the Activity Center area, the bulk of traffic is moving toward I-395. Westbound traffic on Leesburg Pike tends to back up around S. Jefferson Street in the afternoon peak period, due to shopping center and bus traffic.

Pedestrian Environment

There is a high amount of pedestrian activity in the center, despite the limited pedestrian signals and incomplete and insufficiently wide sidewalk network. Pedestrians attempting to walk through retail and residential complexes must weave between travel lanes and parking spaces, and across landscape buffers (berms and medians). Currently the pedestrian facilities along Columbia Pike are being upgraded: widening of sidewalks, bulb-outs to shorten the pedestrian crossing, wider medians for pedestrian refuge.

Pedestrian facilities in Bailey's Crossroads are of particular concern, due to the high number of pedestrian accidents at various center intersections. The accidents listed below were recorded during the period between 1995 and 2001 by the Fairfax County Police Department.

Leesburg Pike/Glen Carlyn Road	11
Leesburg Pike/S. Jefferson Street	8
Leesburg Pike/Carlin Springs Road	7
Columbia Pike/Carlin Springs Road	5

Source: Fairfax County Department of Transportation



Transit Facilities and Operations

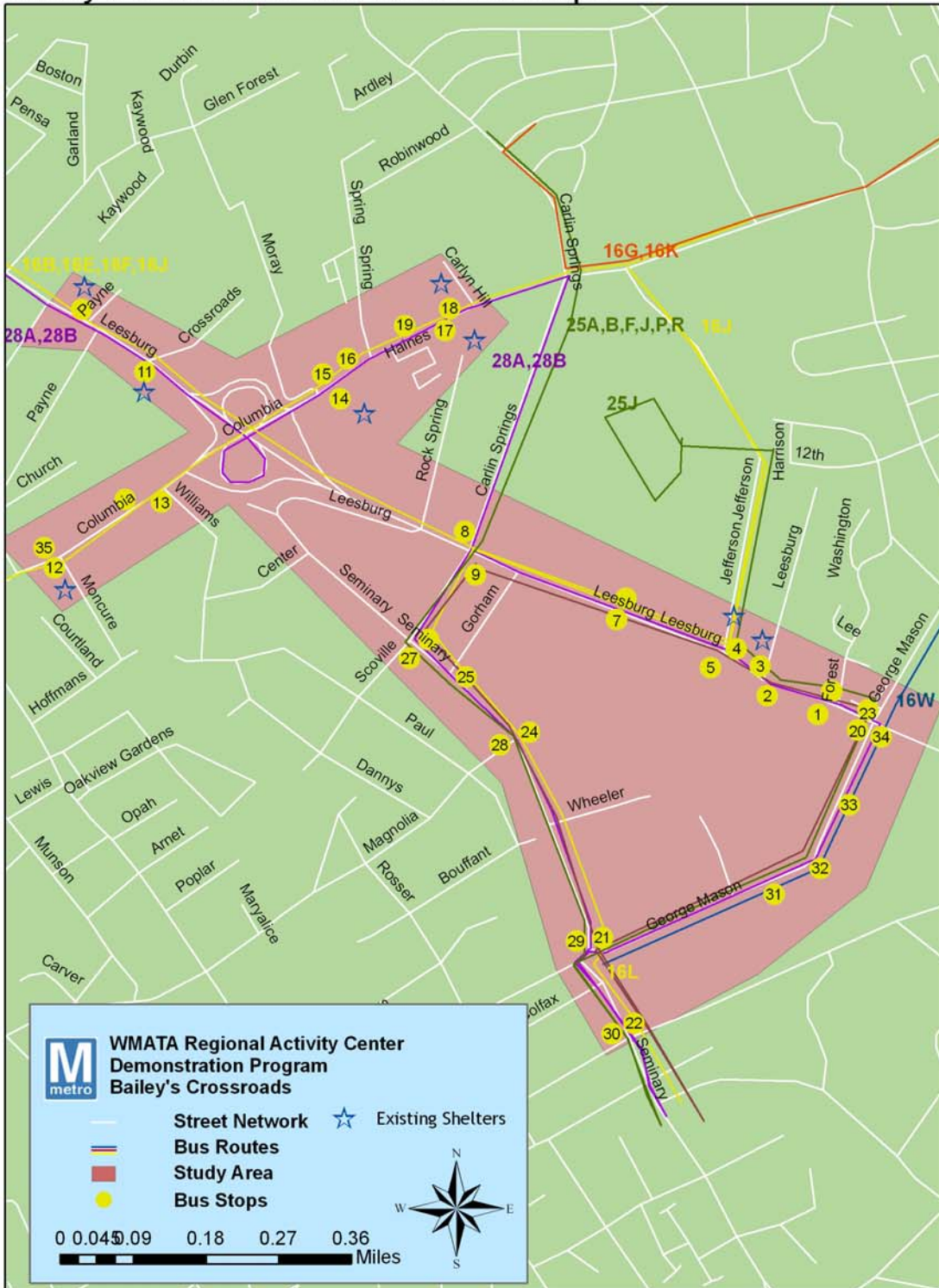
The primary streets (typically analogous to arterial roadways) within the study area contain 36 bus stops, as shown in Figure 4-2. Of those, nine stops have shelters. Transit services consist of four Metrobus lines with multiple routings. Columbia Pike is also served by the bus lines, Metrobus 16 and ART 73, 74, & 75, that make up the "Pike Ride" service, introduced by WMATA and Arlington Transit in September 2003. This service is more heavily concentrated in Arlington County, but does provide service to the Bailey's Crossroads activity center. Bus lines and routings within the study area are shown in Table 4-2 and Figure 4-2. The county is an active participant in transit service in the area, and georeferenced all of the county bus stops. Although there are four transportation management associations that operate in the county, none covers the Bailey's Crossroads area.

The nearest Metrorail stations to Skyline City, in the relative center of the study area, are Ballston, on the Orange Line, a 17-minute bus ride, and Pentagon, on the Yellow and Blue Lines, a 13-minute bus ride.

**Table 4-2
Existing Bus Service within Bailey's Crossroad Study Area**

<u>WMATA</u>	<u>Headway</u>	
	<u>Peak</u>	<u>Off-Peak</u>
Line 4 - Pershing Dr. - Arlington Blvd. Line		
Line 4A - Culmore/Court House Metro	30	30
Line 16 - Columbia Pike Line		
Line 16A/D - Columbia Pike/Pentagon Metro	30	30
Line 16B/F - Glen Carlyn/Columbia Pike/Pentagon Metro	6	n/a
Line 16J - Glen Carlyn/Skyline City/Col. Pike/Pentagon Metro	30	30
Line 16L - Annandale/Skyline City/Pentagon Metro (via Shirley Hwy)	30	n/a
Line 16W - Skyline Plaza/Pentagon City Metro	30	n/a
Line 25B - Landmark-Ballston Line		
Van Dorn Metro/NVCC/Seminary-Skyline/Ballston Metro	30	60
Line 25A/F/J/P - Ballston-Bradlee-Pentagon Line		
Ballston Metro/Skyline City/NVCC/Pentagon Metro	30	30
Line 28A/B - Alexandria-Tysons Corner Line		
King Street Metro/NVCC/Skyline City/Tysons Corner	30	30
Line 28F/G - Skyline City Line (via Shirley Highway)		
Skyline City/Pentagon Metro	20	n/a

Figure 4-2
Bailey's Crossroads Bus Routes & Stops



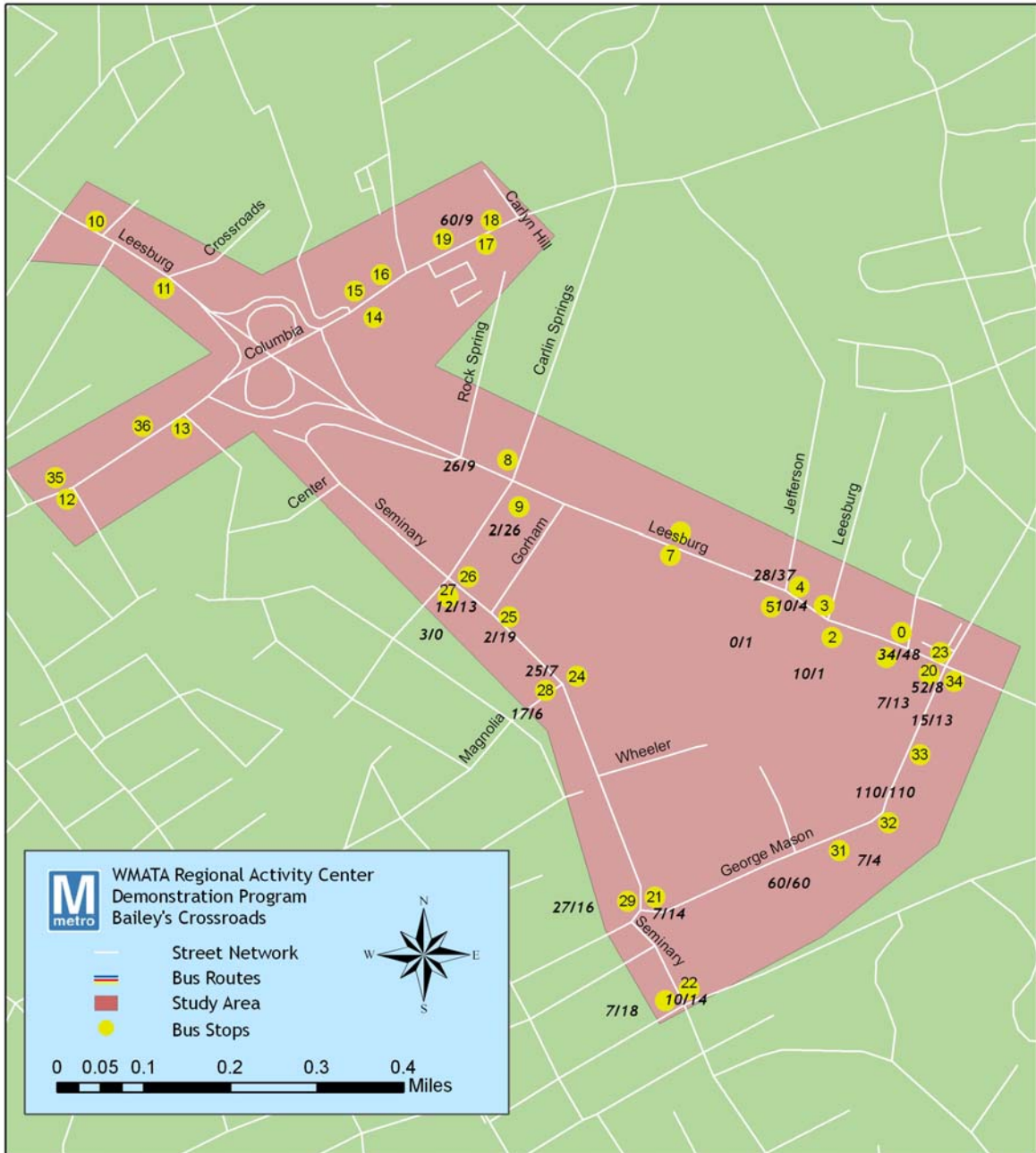
Transit Ridership

Some of the heaviest passenger volumes in the study area occur on Columbia Pike at Carlyn Hill Drive and on Leesburg Pike at Skyline City, with 60 and 50 daily boardings respectively. Overall, transit ridership is surprisingly low around the Skyline City area. The highest-volume stops are along Columbia Pike. While daily WMATA boardings at the five residential buildings of Southern Towers in the Mark Center/Beauregard Street study area are above 800, daily boardings from the eight residential buildings in Skyline City are only a fraction of that. Transit service to Skyline City is not nearly as frequent as that provided to the Southern Towers and probably explains the difference in ridership. Figure 4-3 shows daily weekday ridership at several of the stops based on available data. Table 4-3 shows bus ridership by route within the Bailey's Crossroads study area.

Table 4-3
Bus Ridership by Route within Bailey's Crossroad Study Area

Route	Total Weekday Ridership	AM Peak Riders 5:30 AM - 9:29 AM	PM Peak Riders 3:00 PM - 6:59 PM	Percentage of Daily Riders During Peak	Check Date
16L Eastbound	124	124	NA	100.0%	Jan-02
16L Westbound	66	NA	66	100.0%	Jan-02
16A,B,D,E,F,J	5,800				
16G,H,K,W	3,300				
25B Northbound	771	299	220	67.3%	Mar-02
25B Southbound	690	157	322	69.4%	Mar-02
25A,F,J,P,R Eastbound	833	419	219	76.6%	Feb-00
25A,F,J,P,R Westbound	725	169	366	73.8%	Feb-00
28A,B Eastbound	2,148	363	757	52.1%	Mar-00
28A,B Westbound	2,139	892	419	61.3%	Mar-00
28F,G Northbound	288	225	63	100.0%	Mar-00
28F,G Southbound	221	80	141	100.0%	Mar-00

Figure 4-3
 Bailey's Crossroads
 Boardings & Alightings by Stop



Needs and Opportunities

While many of the operational improvements suggested for the Bailey's Crossroads area were developed in the regional bus study, fieldwork carried out for the demonstration program determined other needs and suggested some opportunities for improving transit service with small scale capital improvements. The following significant needs and opportunities were identified in the field review and stakeholder interviews.

Capital Improvement Issues

As would be expected in an area with a relatively high amount of transit service and ridership, the majority of the high-volume stops have shelters, except Stop #2 on Leesburg Pike at Skyline City. In addition, the majority of the stops on Leesburg Pike have schedules at least for some of the routes, but the majority of stops on Columbia Pike are without any information. One particular need that was observed was the irregular maintenance and trash removal at area shelters.



Other capital improvement issues center around sidewalk continuity and safer pedestrian facilities in the study area. Many of these are being addressed as part of the Bailey's Crossroads streetscape project, upgrading pedestrian facilities in various parts of the study area. Sidewalk networks within the shopping plazas along the corridor would significantly enhance and improve the pedestrian environment.

Transit Operational Issues

There are few operational issues along these segments of Leesburg Pike and Columbia Pike that warrant improvements. More detailed traffic analyses might show that certain intersections would benefit from a bus queue-jump lane or changes in signal phasing to clear the right lane for faster bus travel times.



Pedestrian Safety Issues

There is a reasonably high volume of pedestrian activity in the area but a lack of pedestrian safety amenities and insufficiently long crossing times. The distance between signals encourages some jaywalking. Fairfax County data shows that several intersections within the study area were ranked within the top 20 for highest number of pedestrian crashes in Fairfax County, specifically:

- Leesburg Pike/Glen Carlyn Road;
- Leesburg Pike/S. Jefferson Street;
- Leesburg Pike/Carlin Springs Road; and
- Columbia Pike/Carlin Springs Road.

Recommended Actions

The specific needs and opportunities uncovered for Bailey's Crossroads during fieldwork indicated that service improvements to the routes through the study area could contribute to improved levels of ridership. In particular, at locations such as Skyline Center, the intent of the recommended actions is to significantly improve ridership through the provision of more frequent service and capital improvements. Other recommendations focus on improving the safety and quality of the transit experience for existing riders and attracting new riders through improved marketing and information distribution.

Proposed Bus Service and Capital Enhancements

Service

- **Bailey's Crossroads Circulator**

The Bailey's Crossroads Circulator is one component of a package of service improvements in the Columbia Pike Corridor proposed in the Regional Bus Study. The component most relevant to study area mobility is a neighborhood circulator in the Bailey's Crossroads area to replace multiple branches that exist today. The circulator would run at 10-minute headways during peak, 15-minutes in the off peak. Saturday service would run at 15-minute intervals and Sunday at 30-minute intervals all day.

- **Fairlington-Shirlington-NVCC Circulator**

This proposed circulator would be implemented in conjunction with the reconfiguration of Metrobus route 25 as proposed in the Regional Bus Study. The focus of this service change is to remove the diversion of Metrobus 25 into Skyline City and provide a neighborhood circulator that would run between NVCC/Skyline City and Shirlington via Fairlington and Park Fairfax. The circulator would provide service at 20-minute headways.

- **Route 28**

The reconfiguration and enhanced service of route 28 to serve Bailey's Crossroads, as identified in the Needs Assessment, and as addressed in the Regional Bus Study has been incorporated into the existing Metrobus service plan.

Capital

The demonstration program small scale capital improvements can enhance and improve the transit service. To that end, it was proposed that shelters be provided at stops with more than 50 daily boardings. Many transit systems use 100 daily boardings as a threshold for shelters, but a more aggressive figure was selected as a way to demonstrate the positive result of providing stop amenities.

- Stop #2 EB Leesburg Pike at Skyline City
- Columbia Pike & Blair Road

Summary

The proposed bus service improvements to serve the Bailey's Crossroads activity center consist of increased frequencies of existing service and creating more direct trunk line bus service with complementing circulators. The annual operating cost of the proposed enhancements is about \$5 million with an additional 51,000 annual vehicle revenue hours. The net increase in fleet size amounts to 9 additional buses representing a capital investment of about \$3.2 million. The service improvements to Metrobus route 16L appear to be the most effective in the Bailey's Crossroads activity center, generating 28 additional passengers per additional vehicle revenue hour.

The service improvements operations matrix is shown on the next page. Costs shown are in 2005 dollars. Service and capital improvements are shown on Figure 4-4.

Bailey's Crossroads Operating Plan Matrix

Proposed Service Enhancements		Additional Annual Vehicle Revenue Hours (VRH)	Additional Daily Peak Vehicles	Additional Annual Operating Cost	Additional Annual Operating Cost/VRH	Annual Ridership Change	Additional Capital Cost - Buses	Service Effectiveness: Ridership/Revenue hours
Metrobus 16 W: <i>Only peak hours, peak direction service proposed</i>	Proposed service	2,000	1	\$160,000	\$80		\$363,400	0
Metrobus 16 L: <i>Only peak hours, peak direction service proposed</i>	Proposed service	2,000	2	\$160,000	\$80	159,900	\$726,700	28
Bailey's Crossroads Circulator: <i>Columbia Pike Corridor Package</i>	Regional Bus Study Enhancements	42,700	5	\$4,315,500*	\$101	313,300	\$1,898,400	1
Fairlington-Shirlington-NVCC Circulator: <i>Rationalize Metrobus 25, add circulator package</i>	Regional Bus Study Enhancements	4,300	1	\$305,800	\$71	26,500	\$265,100	6
Center Total		46,000	6	\$4,621,300*	\$83	109,800	\$3,253,600	2

*estimated total. The Bailey's Crossroads circulator will run in a large corridor, the cost of service in the immediate study area is not currently determined.

Supportive policies to promote transit use

The difficulty with a center like Bailey's Crossroads lies in determining which major undertaking - land use changes or transit service - should happen first and, ideally, positively affect the other. As the intent of the demonstration program was to suggest low-cost improvements and policies that could support them, that debate is left to the hands of other planning and project development efforts underway.

In a mixed-use center such as Bailey's Crossroads with the variety of trips throughout the center, a package of supportive policies that enhance the capital and service improvements discussed above, should assist in promoting transit use in the center.

- Update and regularly maintain information at all area stops. Having accurate information in the hands of transit users, or at least located at the places where potential and regular transit patrons use the system, is consistently cited as one of the most effective ways to improve transit ridership. Additionally, WMATA should consider providing information in both English and Spanish.
- Regularize maintenance and trash collection at bus stop facilities.
- Create a multimodal access guide that lists area destinations and provides precise direction on how to access them via transit. New residents, accessed through area homeowners associations or the building managers at Skyline City, would find a guide directing them as to how to access the wide range of retail outlets in the vicinity particularly valuable. The guide could be created with the cooperation of area business.
- Begin outreach to and transit incentive programs for residential communities.
- Form a transportation management association or continue working closely with the existing revitalization corporation on transportation issues.
- Install traffic calming measures at specific stops to improve pedestrian safety and access to stops and surrounding development
- Prioritize ITS at high-volume stops and for the routes that service Bailey's Crossroads.

Phasing and Timing of Activities

Service improvements in the corridor should be the first priority. Pairing service improvements with the information and marketing activities should improve the response to the service changes. As these are being implemented, continued coordination with the Bailey's Crossroads business association and Fairfax County Planning and Public Works groups to ensure that pedestrian and traffic calming measures and projects are carried out should follow. Finally, as

transit ridership in the corridor increases, and potential new service is warranted, an ITS system that enhances rider information should be implemented.

Short-Term Actions

2006	Implement service improvements in next round of operations adjustments
2006-2007	Implement shelter improvement with the next round of capital improvements
2006	Provide updated route maps and schedules at all area bus stops
2006	Resolve maintenance issue at bus stops
2007	Develop and execute an outreach campaign to educate area residents about transit use, specifically target the outreach programs to the high-density residential areas within center
2007	Help form new transportation management association and/or work with BCRC to engage more in transportation issues
2007	Create and distribute access guide
2006-2009	Develop regular meeting schedule with Fairfax County DPW & Planning departments to develop and implement traffic calming measures and upgrading pedestrian facility
2007	Prioritize Bailey's Crossroads routes among those that will be considered for ITS systems

Long-Term Actions

The relationship established with Arlington and Fairfax Counties can also provide the conduit through which the maintenance issues as area bus stops reach resolution.

Potential Costs and Jurisdictional Responsibilities

The service improvements listed above should result in costs in the range of 3-4 million dollars.

Table 4-4 Potential Costs

Improvements	unit	Unit cost	Estimated Dollar Amount	WMATA	Fairfax County	Private
Capital						
Vehicles	9 buses	260,000	\$ 2,340,000	x		
New Shelters	2 shelters	10,000	\$ 20,000	x		
Maps & signs at bus stops	31 stops	500	\$ 15,500	x		
ITS Displays	10 displays	25,000	\$ 250,000	x		
Crosswalk painting	6 crosswalks	120	\$ 720		x	
Traffic calming	4 neck downs	240	\$ 960		x	
Transit guides for area employees & new residents	10,000 guides	2	\$ 20,000	x		
total			\$ 2,647,180	\$ 2,645,500	\$ 1,680	
Maintenance -- annual						
Shelters	2	200	\$ 400			x
Information	31	100	\$ 3,100	x		
crosswalks & traffic calming	10	120	\$ 1,200		x	
total			\$ 4,700	3,100	1,200	400
TOTAL			\$ 2,651,880	\$ 2,648,600	\$ 2,880	\$ 400

Measuring Performance

Establish base level ridership for each stop.

- Do counts after improved information and signage are carried out.

Determine base level participation in the Metrocheck program.

- Recount after information campaign and metrocheck outreach to employers in the area.

Determine base usage of smartrip cards by area residents.

- Recount after outreach and incentive program to residential communities.

Conclusion

Bailey's Crossroads, like many places in the region, developed over the past few decades as a low-density, automobile-oriented corridor. As regional development patterns shift, and as policy and development pressure transform these types of centers into more concentrated and dense areas, transit service will play a key role in ensuring that new land use patterns achieve the desired mobility and new and existing residents and employees enjoy quality transit service and accessibility. Given the geometric constraints of the existing roadway, saturating the corridor with transit could improve ridership, but would obtain better results with dedicated lanes and a bus rapid transit or light rail service. That level of expense would be too high to meet the objectives of this demonstration. Instead, given the reality of Bailey's Crossroads over the next few years, the particular opportunities for WMATA consist of playing a lead role in the development of new transit modes and services in the corridor as land use changes and of improving the headways and patron amenities for high-density developments, such as Skyline Center.

