

## CIRCULATION SYSTEMS

*This Plan's recommendation for increased transit-oriented development generally balances land use and transportation capacity, although it recognizes that in an active urban area, some congestion is inevitable.*

## VISION

Silver Spring's location and transportation options make it a convenient place to live and work. Public and private development should create an integrated system of pedestrian, bike, vehicular, bus, and rail travel.

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### *Objective:*

- Create a connected system of transportation options that provides travel choice and supports downtown redevelopment by balancing car and pedestrian traffic.

### *Summary Recommendations:*

- Combine regional and local transportation services at the Transit Center, creating a transportation hub.
  - Expand Silver Spring's existing Transportation Demand Management program.
  - Create a connected system of trails and bike routes.
  - Implement streetscape to create a safe and pleasant pedestrian environment.
  - Assess, and where appropriate, reuse public parking facilities.
  - Make circulation improvements to local roads and reserve rights-of-way where needed.
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The Silver Spring CBD is served by a superior multimodal transportation system, resulting from both the CBD's location in the Washington region and investments in local transportation facilities. Silver Spring lies at the northeast edge of the capital city and is formed around the intersection of two commuter routes: Georgia Avenue and Colesville Road. Silver Spring's easy access to the Beltway, Metrorail and MARC train stations, and extensive bike routes make it a strategic location in the regional transportation system (Map 30).

Silver Spring's location within the regional transportation network has enhanced the CBD as a transportation hub and accelerated its development as an urban community. Environmental concerns, Smart Growth legislation, and increased suburban congestion have turned investment interest to redeveloping older inside-the-Beltway downtowns. In Montgomery County, Bethesda and Friendship Heights have also redeveloped around their Metro stations.

Silver Spring has continued potential for redevelopment. The land use recommendations in this Plan focus density around the Transit Center to create an active community that will be well-served by transit, bikeways, sidewalks, and supporting facilities.

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### ***Circulation System Overview***

- Travel demand changes will be affected by both CBD and regional growth.
  - Accessible transit is essential in managing travel demand.
  - Transportation demand management, improved traffic signalization, and road improvements will enable CBD intersections to operate at acceptable levels of service.
  - Analysis of forecasted land use and travel demand indicates that land use proposals are generally in balance with transportation capacity.
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This more efficient and economical development pattern is supported by Maryland's Smart Growth initiative, which provides financial support for development that creates livable and varied communities using existing transportation infrastructure.

This Plan's transportation recommendations are intended to integrate Silver Spring's many travel options into the regional transportation network while retaining community convenience and aesthetics. Combined with the land use recommendations, the transportation recommendations will maximize the potential for transit use, taking full advantage of the extensive public investment in this infrastructure.

## **EXISTING RESOURCES**

### **Public Transportation**

As the hub for local and regional bus and rail service, Silver Spring is well-served by transit. Public transportation is also well used in the CBD, with 57,000 bus and rail boardings and alightings daily. About 37 percent of CBD office workers use transit to travel to work.

While recent COG studies show an overall reduction in regional transit use, the percentage of CBD employees using transit has been increasing steadily during the past decade. That the Silver Spring CBD is bucking the regional trend is testimony to the success of recent land use and transportation planning decisions. The desire to maintain the high levels of CBD transit use, despite regional trends, is the basis behind this Plan's recommendations to further improve transit accessibility.

### **Transportation Demand Management**

Transportation Demand Management (TDM) strategies are intended to help reduce the percentage of peak hour (or peak period) travel by motorists driving alone. Localized strategies, such as ridesharing, reduced transportation costs (subsidies or reduced parking costs for car and van pools), transit use subsidies, better transit accessibility (shelters, sidewalks, trails, bike racks at transit stations), and pedestrian-friendly design of buildings all contribute to meeting regional vehicle trip reduction goals and to the Plan's revitalization goals.

The Silver Spring Transportation Management District (TMD) is a county-administered organization that disseminates information on alternative commuting modes, maintains match lists for potential ridesharing participants, and monitors travel patterns within the CBD. The TMD uses both field data and employee surveys to monitor performance measures described in the Annual Growth Policy (AGP). The primary measure of TMD activities in the Silver Spring CBD is the extent to which office workers in the CBD use means of travel other than driving an automobile to commute. Consistent with the goals in the AGP, the goal of this Sector Plan is to achieve a combination of transit use, ridesharing, bicycling, and walking so that no more than 50 percent of CBD employees in new development drive to work. (Additional goals are contained in the AGP.) As described in the TMD Annual Report for Fiscal Year 1997, about 60 percent of CBD employees currently drive to work.

### **Bikeways and Trails**

Silver Spring will be served by a network of bikeways and trails. Some bikeways and trails have been completed, others are identified in the 1978 Master Plan of Bikeways, as amended, and in the Countywide Park Trails Plan. This mix of on- and off-street bikeways making local and regional connections provides a transportation alternative and an increasingly popular commuting and recreation facility through and within the CBD.

The 1994 COG household travel survey noted an increase in bicycle commuting, the Washington Area Bicyclists Association has noted that area trails are becoming more crowded, and the Park and Planning Department has counted upwards of 300 users per hour on completed sections of the Capital Crescent Trail, which serves as a commuter route and as a popular recreational trail.

Analysis of travel into and within the CBD indicates that pedestrians and bicyclists comprise 5 percent of home-to-work trips. Improved local and regional connections (routes and trails intersecting with other routes and trails) and accessibility (pedestrian-bicyclist friendly design, storage, showers, etc.) will increase this percentage or, at the very least, help it remain constant in the growing travel demand anticipated by revitalization development.

### **Pedestrian Circulation**

While the CBD is well-served by sidewalks, crossing many streets can be challenging. High traffic volumes, permitted right turns on red lights at some intersections, and the lack of medians or other refuge areas all create pedestrian impediments. Crosswalk improvements are needed in the CBD to improve direct pedestrian connections throughout the downtown.

### **Parking**

The CBD is well-served by public and private parking lots and garages. The existing 11,200 public parking spaces are located in 13 garages and lots around the CBD. Surveys by the County's Transportation Management District indicate that average mid-day occupancy of long-term, off-street spaces was 50 percent during 1998. The most heavily-used parking facilities are in the Core and Ripley Districts.

Through the county's AGP, the County Council capped the number of parking spaces at 90 percent of estimated need, tying demand to development and encouraging use of transit. (Currently there is a parking constraint of 17,500 public and private long-term, non-residential spaces in the AGP.) Development projects are proposed on some parking lots in the CBD, and other development projects will generate traffic. The development recommended in this Plan can be supported within AGP restrictions. Parking demand will be re-evaluated after these development projects are completed.

On-street, off-peak parking should be considered, where there are no safety conflicts, along major arteries in the CBD to encourage convenient stops at area businesses and to buffer pedestrians along busy thoroughfares.

### **Neighborhood Protection**

The CBD is surrounded by residential neighborhoods with lightly traveled streets, many without sidewalks, some with curbside parking. Increased congestion along major routes into and out of the CBD encourages many motorists to find alternate routes, often through these residential neighborhoods. To combat commuter traffic on local streets, the County Executive has instituted a policy to reduce operating speeds by installing speed humps, traffic circles, all-way stop signs, and other impediments to discourage cut-through commuter traffic. This Plan supports continuing those efforts.

### **Roads**

The Silver Spring CBD circulation plan emphasizes incentives to maximize transit use and thereby reduce the reliance on auto travel. Even when this objective is achieved, more than half of the commuters to CBD offices will drive a car to work. Maintaining an efficient roadway network to serve auto and bus travel is therefore critical to the success of the CBD.

This Plan recognizes, however, that greater traffic congestion will occur in the CBD than in the suburban areas of Montgomery County. The approved Annual Growth Policy defines an acceptable level of service (LOS) for the CBD as one that reflects greater traffic volumes than in the surrounding areas, largely because the extensive public transportation in the CBD offers drivers an alternative to the use of their cars. Based on this standard, most of the intersections in the CBD operate at an acceptable LOS. Furthermore, these intersections will continue to operate at an acceptable LOS given projected development activity in the CBD.

To accommodate both local and regional vehicular traffic, the Plan recommends a road system that balances land use and transportation needs. The Plan relies on the roadway classification system used by County and State highway officials to define roadway standards and the ultimate number of lanes. The road classifications include: Major Highway, Arterial, and Primary Residential roadways. The Master Plan designates rights-of-way to reserve land needed for road improvements.

The roadway network serving the Silver Spring CBD has three components: circulation within the CBD, portals at its boundary, and the arterial roadway network in adjacent master plan areas which connects the CBD to regional highways such as the Capital Beltway. All three of these components must function together and the Plan includes recommended improvements to the first two types of roadway systems. Improvements which might be considered in adjacent master plan areas are addressed in the plans for those areas.

## Effect of Planned Development

The objective of the Circulation System plan is to accommodate the level of travel activity generated by Sector Plan development. Figure 1 compares the current levels of housing units and jobs in the CBD with forecast levels from the 1993 Sector Plan and from the current Sector Plan. The current Sector Plan envisions approximately 2,000 additional housing units and 8,000 additional jobs in the CBD. The CBD circulation system needs to be improved to accommodate these anticipated levels of development.

The transportation system needs generated by planned CBD development were evaluated using a travel demand forecasting process. The process and its results are described in detail in the Silver Spring/Takoma Park Transportation and Circulation Report, contained in Appendix B, provided as background material. In summary, the forecasting process found that the transportation impacts of this Plan's proposed land uses are consistent with those proposed in the 1993 Sector Plan, and that the 1993 Plan's land use and transportation demand are generally in balance. As a result, many of the 1993 Plan's recommendations still apply.

Table 1

### COMPARISON OF LAND USE SCENARIOS 1993 CBD PLAN WITH PROPOSED CBD FORECAST

Land Use Activity	Unit	CBD Existing	1993 CBD Plan	Evaluated CBD Plan
Households	Dwellings	6070*	1,100	8,100
Office Employment	Jobs		33,000	35,600
Retail Employment	Jobs		7,000	6,400
Industrial Employment	Jobs		2,300	470
Other Employment	Jobs		1,400	3,260
<b>TOTAL EMPLOYMENT</b>	Jobs	37,800*	43,700	45,730

\* Includes 766 dwellings and 3,207 jobs in the pipeline as of April 1999.

This Plan's travel forecasting analysis assumed the future completion of the Georgetown Branch as a light-rail facility, and recommended that any improvements made to Colesville Road (US 29) not preclude transit in that corridor.

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### **Through-traffic in the CBD**

A cordon line (boundary) analysis of traffic patterns approaching and departing the CBD shows that approximately one-third of peak-hour trips are “through” trips, or those vehicle trips which do not have any origin or destination with the CBD. The Plan’s recommended land uses play no role in generating this traffic.

### **Regional Road Improvements**

Regional road improvements being examined by the on-going Capital Beltway Major Investment Study (CBMIS) could also affect Silver Spring. The Study considers various light and heavy rail options, including above- and below-ground routes to extend transit service as alternatives to widening the Beltway. This Sector Plan’s proposed land uses and transportation network do not preclude any of the transit modes or alignment proposed in the CBMIS. (The CBMIS is in a very preliminary stage. No land use, public facility, or transportation network decisions have been made based on any of its analyses.)

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## **RECOMMENDATIONS**

The following recommendations are intended to develop a user-friendly, interconnected transportation system that offers travel options, supports downtown redevelopment, and serves local businesses and residents.

These recommendations will be undertaken using a variety of funding sources and through public and private efforts. The County’s zoning code, and the mandatory referral, development review, and capital improvements processes will also present opportunities for implementation.

The following paragraphs describe the intent of each circulation system component and the primary facilities and services recommended.

### **Public Transportation**

Develop an enhanced, inter-modal public transportation system to serve both CBD residents and workers as well as those transferring between transit services.

The Silver Spring Transit Center will serve as a focus for public transportation services in the CBD, linking regional rail, local rail, local bus, intercity bus, taxi, pedestrian, and bicycle options. The Transit Center should be a downtown landmark and a gateway to Silver Spring, particularly the surrounding development in the Urban Renewal area, including the Silver Triangle and Ripley District.

- Design and construct the Transit Center as a pedestrian-friendly, landmark facility connecting riders with MARC, Metrorail, Metrobus, Ride-On bus, inter-city bus, future Georgetown Branch service, taxi, bicycle, and pedestrian options. Ensure that the early design stages include citizen input and resolve potential conflicts between alternative modes of travel.
- Improve accessibility to transit and bikeways via sidewalk connections, bus shelters, bike racks, and similar facilities.

- Provide for a fixed-guideway transit service along the Georgetown Branch and Metropolitan Branch rights-of-way between Silver Spring and Bethesda.

The Capital Beltway Corridor Transportation Study being conducted by the Maryland Department of Transportation (MDOT) is reviewing the feasibility of fixed-guideway transit and high-occupancy vehicle (HOV) facilities to serve the regional circumferential travel through areas of Montgomery and Prince George's Counties served by the Capital Beltway. The MDOT study will include a sketch-level review of several alternative routes for a new circumferential light rail or Metrorail transit route, commonly described in the aggregate as the "Purple Line." Some of the alternatives incorporate the Georgetown Branch Trolley/Trail alignment between the Bethesda and Silver Spring central business districts, include the Silver Spring Transit Center Station, and continue north or east towards Four Corners or Takoma Park.

The Sector Plan fully supports the implementation of transit service along the Georgetown Branch alignment between Bethesda and Silver Spring. The feasibility assessment of other fixed-guideway transit connections within the CBD has not yet been established. This Plan does not preclude the concept of continuing circumferential rail transit from the Silver Spring Transit Center north or east, should the MDOT study determine that such service would be both desirable and feasible from a regional perspective. In that case however, this Sector Plan should be revisited to consider any changes to right-of-way or easement acquisition, land use, design, and zoning recommendations.

### **Transportation Demand Management**

Support ways to expand Silver Spring's existing Transportation Demand Management program.

### **Trails and Bikeways**

Create a high quality system of direct and continuous trails and bikeways for the CBD.

Silver Spring will be served by a network of local and regional bikeways and trails that provide for both transportation and recreation. Trails are combined bike and pedestrian facilities. The Plan recommendations seek to create a high quality system of direct and continuous trails and bikeways for the CBD, with the understanding that while some can be constructed in the near term, others are long term projects. In creating this connected system, safety and a good experience are paramount design goals. This Sector Plan places a strong emphasis on providing continuous separation of pedestrians and bicyclists on the regional trails. Support facilities such as bike racks/lockers and rental services should also be provided.

A major regional trail, the Capital Crescent/Metropolitan Branch Trail will run through the Silver Spring CBD along an active rail line. In the future, this trail will be a loop connecting the downtowns of Bethesda and Silver Spring with Washington DC (Map 31).

There will also be an important regional connector trail, the park-like Silver Spring Green Trail. It will link two regional park trails: Sligo Creek Park and Rock Creek Park. Two key destinations on this connector are the Transit Center and the Capital Crescent/Metropolitan Branch Trail. Another such trail will connect Montgomery College and the City of Takoma Park with Rock Creek Park.

### **Capital Crescent/Metropolitan Branch Trail Guidance**

- The Capital Crescent/Metropolitan Branch Trail should be a direct and continuous off-road trail for pedestrians and bicyclists parallel to the proposed Georgetown Branch Transitway and the Metro Red Line in the CBD. Additional rights-of-way or easements are necessary to complete the trail. Several issues concerning exact trail alignment where there are site constraints will be addressed during facility planning.
- Design of the Capital Crescent/Metropolitan Branch Trail should consider aesthetics, comfort, visibility, compatibility, safety, and accessibility. Opportunities to understand the community's setting could be achieved through the use of vistas and signs to inform trail users about areas of interest along the way.
- The trail and transitway should be adequately separated. The trail design should provide for adequate space between the trail and the Georgetown Branch Transitway, landscaping, attractive fences and walls, and rest areas (Figure 11). The recommended right-of-way/easement is 35 feet to accommodate both cyclists and pedestrians. This right-of-way may be reduced to 20 feet in constrained locations where the pedestrians follow a slightly different alignment and only cyclists are accommodated.
- The trail should cross Colesville Road on a bridge and go through the Transit Center, preferably separated from conflicting pedestrian movements. A bike stop should be provided in the Transit Center with lockers, bike rental services, and amenities for trail and transit users. Provision must be made for those trail users who are destined for the Transit Center and those who are passing through it.
- The Capital Crescent/Metropolitan Branch Trail should connect safely to the Silver Spring Green Trail and to nearby regional trails. It should also connect to local bikeways and other destinations of interest.
- A future concept study of the Ripley District, or a trail facility plan, should include specific recommendations for the trail route and bikeway connections which address Progress Place, possible combinations with future open spaces, and options for locating the Trail along streets generally parallel to the rail line rather than right next to it. While the continuation of the Metropolitan Branch Trail through the CSX site is desirable, site constraints may necessitate a different configuration. However, good connections must be provided at each end to ensure continuity of the bikeway.



- The trail recommendations for the Capital Crescent/Metropolitan Branch Trail made in the Georgetown Branch Master Plan are confirmed by this Plan. Any interim trail installed before the Georgetown Branch Transitway should not compromise the future combined transitway/trail.
- Safe trail crossings of roads and railways should be provided. Recommended grade-separated trail crossings are shown in Map 32.

### **The Silver Spring Green Trail Guidance**

- This Plan recommends a park-like trail with a tree next to the curb, a two-way bike path, a sidewalk, and additional landscaping, including a second row of trees (Figure 11). The trail design should also include safe bike and pedestrians crossings of all intersections, including consideration for special paving and raised crosswalks.
- Safe access to the Transit Center must be provided.
- The intersection of Colesville Road and Wayne Avenue should be studied for safe, efficient and convenient crossings—including consideration of a bridge over Wayne Avenue—that links pedestrians and bicyclists to destinations while providing for an attractive and vibrant urban environment.

### **Local Trails and Bikeways Guidance**

- High quality local trails and bikeways should be provided for bicycle circulation within the CBD for work, school, and recreation with good connections to surrounding neighborhoods and regional destinations such as the Transit Center and Capital Crescent/Metropolitan Branch Trail and other portions of the network.
- On-road routes should be provided on designated neighborhood streets with little traffic. To establish a bike/pedestrian emphasis, use special features, such as low speed limit, landscaping, and traffic calming. Where road width permits, striped bikeway lanes (Class II) should be provided for added safety.

### **Pedestrian Circulation—Streetscape Concepts**

Implement a pedestrian scaled streetscape throughout Silver Spring’s CBD.

The Plan recommends development of sidewalk and streetscaping treatments that emphasize the hierarchy of the circulation system. The streetscaping treatments envisioned for the CBD are presented graphically in Figures 1-10 and are described below.

The two main thoroughfares in the CBD, Georgia Avenue and Colesville Road, should be considered as urban boulevards. These are the only streets in the CBD with more than two travel lanes in each direction. They have wide sidewalks and crosswalks creating pedestrian scale proportional to the vehicular scale.

Portions of Second Avenue, Wayne Avenue, and East West Highway should be considered as promenades, focusing on pedestrian and bicycle movements to and from the Transit Center. Other CBD streets should be considered as green streets and mixed streets to emphasize pedestrian amenities where consistent with adjacent land uses.

- Provide streetscape, crosswalks, and other design features throughout the CBD that emphasize the pedestrian domain, while still moving auto traffic at a reasonable pace.
- Include pedestrian connections.
- Consider operational improvements at signalized intersections, such as right-turn-on-red prohibitions and exclusive pedestrian signal phasing to encourage pedestrian activity.
- Revise the Silver Spring Streetscaping Plan.

## **Roads**

Make local road improvements to improve circulation in and around the CBD.

- Encourage through traffic to travel around the CBD via 16<sup>th</sup> Street, supporting the use of Georgia Avenue and Colesville Road for CBD traffic.
- Examine the need for, and developing conceptual designs for intersection improvements at: Georgia and Wayne Avenues, Wayne Avenue and Cedar Street, Wayne Avenue and Fenton Street.
- Coordinate Fenton Street's realignment with improvements at Montgomery College.
- Coordinate possible improvements at Georgia and Burlington Avenues with improvements at Montgomery College.
- Construct a median for pedestrian refuge on East West Highway between Colesville Road and the entrance to the Blair Shopping Center.
- Construct Dixon Avenue to provide a continuous four-lane undivided roadway within an 80-foot right-of-way between Wayne Avenue and Silver Spring Avenue.
- Extend lane (between Colesville Road and Blair Mill Road) as a proposed new public street with a 60-foot right-of-way. Construction of this improvement as a private street may be considered during the plan approval process if the proposed design would provide greater public benefit.

**Table 2**

**BIKEWAYS: LOCATIONS AND TYPES**

<b>ROUTE &amp; MAP KEY</b>	<b>STREET NAME</b>	<b>LOCATION</b>	<b>TYPE</b>
1 Capital Crescent/ Metropolitan Branch(CC/MB) Trail	N/A	Spring St. to King St.	off-road/Class I
	King St.	Rail line to Fenton St.	off-road/Class I
	Fenton St.	King St. to CBD Boundary	off-road/Class I
2 Silver Spring Green Trail Regional Connector	Second Ave./Wayne Ave.	Fenwick Lane to CBD Boundary	off-road/Class I
Silver Spring Green Trail: Ellsworth Link	New Street, Ellsworth Dr., and Cedar	Wayne Ave. at St. Michaels to CBD Boundary (and Sligo Creek Trail)	off-road/Class I
3 Local	Second Ave.	CBD Boundary to Fenwick Lane	on-road
4 Local	Dixon Ave.	Wayne Ave. to Silver Spring Ave.	off-road/Class I
5 Local	East-West Highway	16th St. to Georgia Ave.	off-road/Class I
6 Regional Connector	Colesville Road	Wayne Ave. to CBD Boundary (16 <sup>th</sup> St.)	off-road/Class I
7 Local	13 <sup>th</sup> St. Burlington Ave.	Eastern Ave. to Fenton St.	off-road/Class I
8 Local	Jesup Blair Park	CC/MB Trail to Georgia Ave.	off-road/Class I
9 Local	Cameron St. Apple mixed St.	CC/MB Trail to Spring St.	on-road
10 Local	Spring St./Cedar St.	Wayne Ave. to 16 <sup>th</sup> St.	on-road
11 Local	Fenwick Lane	Second Ave. to CC/MB Trail	on-road
12 Local	Bonifant St.	Cedar St. to CC/MB	on-road
13 Local	Silver Spring Ave.	Georgia Ave. to Grove St.	on-road
14 Local	Draper Lane extended and Blair Mill Road	Colesville Road to East West Highway	on-road
15 Local	Fenton St./Fenton St. extended	Lee Block to Spring St.	on-road

## **Parking**

Work with the County Parking Authority to complete a comprehensive assessment of parking needs in the CBD that includes (Map 33):

- Re-evaluating parking demand after the Urban Renewal Area is 75 percent redeveloped. Parking should be located to conveniently serve businesses and residences, and to encourage transit use.
- Reaffirming the Annual Growth Policy of limiting the number of long-term spaces to help meet the goals of the Transportation Management District. Consider adaptive reuse of parking lots and garages that are no longer needed.

Install on-street, off-peak parking along CBD arteries, to allow convenience shopping stops and to buffer pedestrians. Provisions for parking should be included in conjunction with streetscape improvements.

## **Public Rights-of-Way**

Implement public rights-of-way recommendations.

The width of a road right-of-way helps define its character and ultimate number of lanes. Designating rights-of-way in the Plan reserves land needed for road improvements to accommodate future development. This Plan also provides for the limited relocation, abandonment, and closure of selected public rights-of-way to enhance pedestrian and vehicular circulation and to improve public space (Map 34).