

## TRANSPORTATION

### INTRODUCTION

Fairfax County is served by an extensive transportation system comprised of roadways, bus and rail rapid transit, paratransit services and an international airport. In addition, an extensive sidewalk and trail system serves pedestrian and bicycle travel. The roadway and public transit system accommodates hundreds of thousands of trips every day. However, the provision of transportation facilities and services has not kept pace with the increasing travel demand in the County. This increased travel demand is fueled both by the growth within Fairfax County and by the growth in surrounding jurisdictions.

Over the past three decades, Fairfax County has been one of the most rapidly growing jurisdictions in the United States in terms of population growth – more than doubling the size of its population since 1970. Aided by the strong regional economy, growth in Fairfax County is projected to be significant in the future as well. While the rate of population growth is expected to decrease, overall population will continue to grow, with a 28% increase projected from 2005 to 2030. The number of households in Fairfax County is projected to grow from 378,000 in 2005 to 482,000 in 2030, an increase of 104,000 or 28%. Even more dramatic is the projected increase in jobs in Fairfax County from 600,500 in 2005 to 845,000 in 2030, an increase of 244,500 or 41%. That will make Fairfax County the second largest employment center in the Washington, DC metropolitan area, only slightly behind the District of Columbia.

In addition to experiencing growth, the demographic and socioeconomic characteristics of the population in Fairfax County have changed significantly and will continue to change in the future. Two examples are the cultural and ethnic diversification and the aging of the population. These demographic changes contain challenges for the provision of transportation facilities and services. For example, as the County's population ages, it becomes more important to provide transportation options and services geared to their needs.

One of the primary implications of the trends and forecasts for Fairfax County is that traffic conditions are likely to deteriorate further, even with extraordinary expenditures to improve the transportation infrastructure (including both roadways and transit). In addition, many forces outside the County, which generate increasing levels of traffic demand, are out of the County's direct control. Thus, it becomes imperative to explore possible options for reducing current and future demands on the transportation system.

The objectives and policies presented in this Transportation Section of the Comprehensive Plan provide the framework for the continued development of the County's transportation system, in the face of the continued growth in population and employment as well as the changing characteristics of the population. One of the options for bringing about long-term improvements to the transportation system is to exercise its ability to influence the pattern of land use in the County; specifically, to establish more efficient land use patterns with respect to transportation. Since it is apparent that roadway improvements cannot be relied upon to provide unlimited transportation capacity for the future, measures to bring about less demand for roadway capacity should be a focus of the County's Comprehensive Plan. It will be impossible to meet travel demand solely by

roadways. The objectives and policies presented in this section thus emphasize the need to maximize the efficient use of the existing and future Fairfax County transportation system by reducing reliance on automobile travel, and by coordinating land use decisions and transportation planning within Fairfax County and the region as a whole.

## INTRODUCTION

Fairfax County is served by an extensive transportation system comprised of highways, bus and rail rapid transit and an international airport. In addition, an extensive sidewalk and trail system serves pedestrian and bicycle travel. This transportation system accommodates hundreds of thousands of trips every day, of which the majority occur on the highway and public transit systems. The provision of transportation facilities and services—roadways in particular—has not kept pace, overall, with the increasing travel demand in the County. However, the number of arterial lane-miles within the County since 1990 increased relatively more than both population and employment in the County. During this period (1990-1995), major investments were made in such facilities as the Fairfax County Parkway, thus maintaining the relative capacity of the transportation network (as measured by arterial highway lane-miles), with development in the County. This comparison does not address the growth in traffic associated with development in other local jurisdictions. An indication of increasing traffic demand conditions is revealed in the data collected by the County's Office of Transportation. For example, whereas less than 25 percent of the signalized intersections monitored annually by the County were classified as "failing" during peak periods in the late 1970s, currently, over 50 percent are so classified. Other measures of roadway system adequacy, such as volume-to-capacity ratios and travel speed indicators, reveal similar declines in County roadway operations.

A number of factors related to the overall growth in Fairfax have contributed to the transportation system problems being experienced today. These include not only the pace and amount of land development within (and adjacent to) the County, but also the pattern and character of that development. Socio-economic factors, such as high automobile availability and two-worker households, also contribute to the increasing demand for transportation services and facilities. The rapid extension of commercial air travel and the increasing usage of helicopters makes aviation an important future component of the County's transportation system. For instance, the Metropolitan Washington Airports Authority forecasts that there will be nearly 11 million boarding passengers each year by the year 2000 at Dulles Airport alone. Besides transportation, aviation expansion will also impact land use compatibility, the environment, and the overall safety of County residents.

Coupled with dramatically increased transportation demand in the County, the complexity of planning, funding and implementing transportation improvements requires long lead times to increase the supply of transportation services and facilities. For instance, the Metrorail alignments within Fairfax County were agreed upon by 1975, fully eight years before the first rail service in Fairfax commenced from the Huntington station in 1983. Similarly, the Fairfax County Parkway has been a feature shown on the County's Comprehensive Plan since 1975, currently, 24 miles of the proposed 35-mile facility are open. Finally, an integral part of the increasing traffic volumes is generated by other nearby jurisdictions and their concomitant growth in housing and employment.

In an effort to address the shortcomings of the overall transportation system in the Northern Virginia region, the Governor of the Commonwealth of Virginia initiated the "Sub-regional Planning Process" which was undertaken during the 1988 calendar year. Key political and technical people in the area, as well as concerned citizens, worked together in this process to forge a new transportation plan for the Northern Virginia region.

~~In seeking to accommodate the projected growth in the Northern Virginia region, the Sub-regional Transportation Plan recommends approximately \$10 billion in transportation improvements, including new roadway alignments, roadway widenings, and substantial enhancements to the existing transit (rail and bus) and High Occupancy Vehicle (HOV) lane networks. However, even with these improvements in place, the analysis suggests a further deterioration of traffic conditions in the County. For instance, the number of miles of congested arterials experienced during peak demand in Fairfax County is anticipated under this plan to increase from 25 percent of arterial mileage in 1985 to over 40 percent in 2010.~~

~~One of the primary implications of the trends and forecasts for Fairfax County is that traffic conditions are likely to further deteriorate, even with extraordinary expenditures to improve the transportation infrastructure (including both roadways and transit). In addition, many forces outside the County which generate increasing levels of traffic demand are out of the County's direct control. Thus, it becomes imperative to explore possible options for reducing current and future demands on the transportation system.~~

~~One of the options available to the County for effectuating long-term improvements to the transportation system is to exercise its ability to influence the pattern of land use in the County; specifically, to establish more efficient land use patterns with respect to transportation. Since it is apparent that roadway improvements cannot be relied upon to provide unlimited transportation capacity into the future, measures to bring about less demand for roadway capacity should be a focus of the County's Comprehensive Plan. It will be virtually impossible to meet travel demand solely by roadways. The objectives and policies presented in this section thus emphasize the need to maximize the efficiency of the existing and future Fairfax County transportation system by reducing reliance on automobile travel, and by coordinating land use decisions and transportation planning within Fairfax County and the region as a whole.~~

## BOARD OF SUPERVISORS GOAL

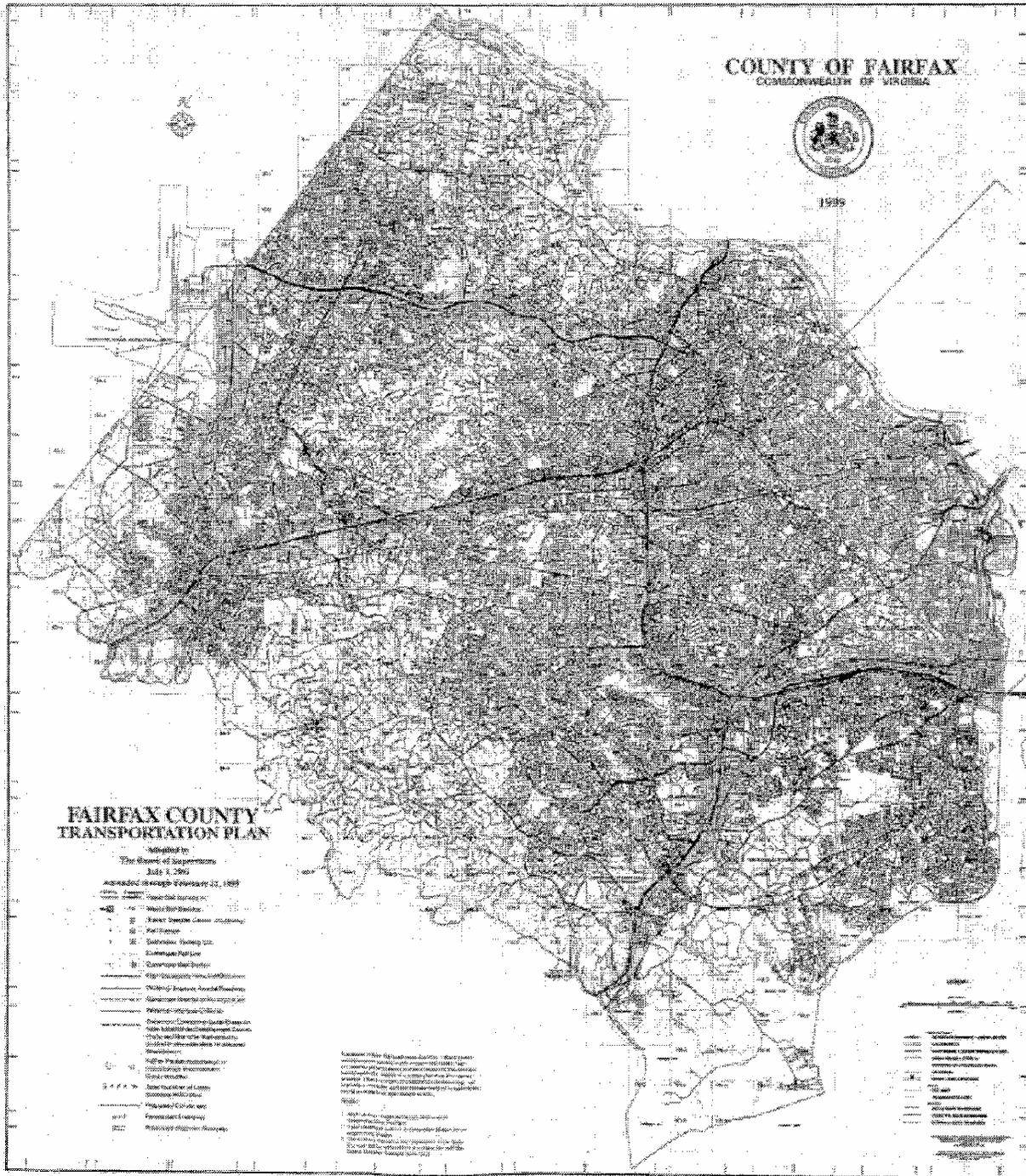
**Transportation** - Land use must be balanced with the supporting transportation infrastructure, including the regional network, and credibility must be established within the public and private sectors that the transportation program will be implemented. Fairfax County will encourage the development of accessible transportation systems designed, through advanced planning and technology, to move people and goods efficiently while minimizing environmental impact and community disruption.

A keystone policy for future planning and facilities includes achievement of ~~Regional and local efforts to achieve~~ a balanced transportation system ~~to help reduce through the development of rapid rail, commuter rail, expanded bus service and the reduction of~~ excessive reliance upon the automobile. ~~Regional and local efforts will focus on planning and developing a variety of transportation options. should be the keystone policy for future planning and facilities.~~ Sidewalks and trails should be developed as alternate transportation facilities leading to mass transit, high density areas, public facilities and employment areas.

## COUNTYWIDE OBJECTIVES AND POLICIES

**Objective 1:** ~~Fairfax County should~~ Provide for both through and local movement of people and goods ~~through via~~ a multi-modal transportation system that ~~provides transportation choices, reduces single-occupancy-vehicle (SOV) use and improves air quality.~~ ~~places the maximum practical emphasis on alternatives to the single-occupant automobile.~~

Policy a. ~~Plan for~~ Integrate motorized and non-motorized transportation facilities and services in accordance with transportation elements ~~in both the Transportation Plan and Countywide Trails Map.~~ ~~indicated in the Transportation Plan Map.~~ (See Figures 1 and 2)



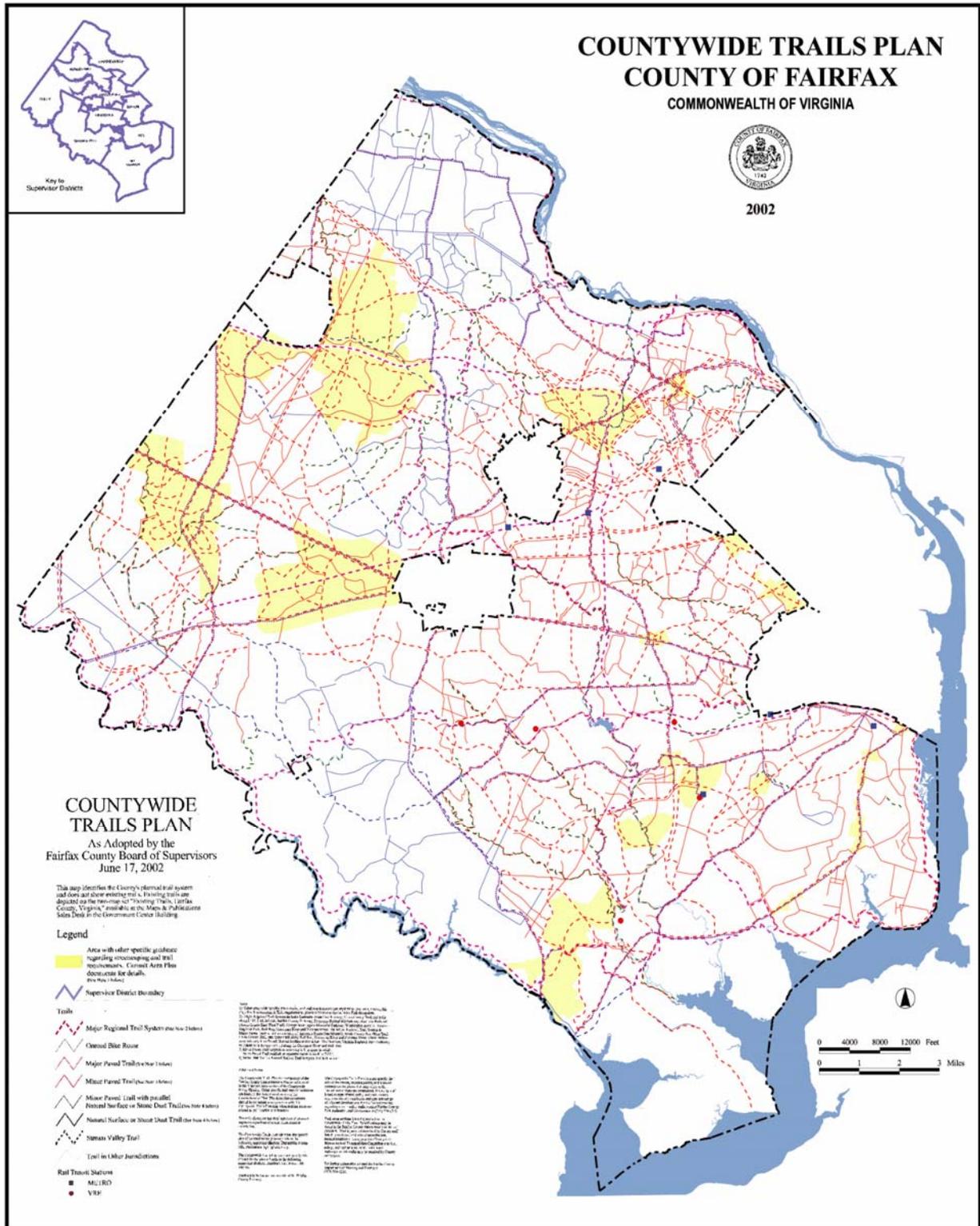
Note: This is a generalized delineation of the Transportation Plan.  
The 1" = 4000' scale map is available at the Maps and Publications Sales Desk

Source: Fairfax County Department of Transportation



See the Countywide Trails Map. The 1"-4000' scale map is available at the Maps and Publications Desk.

**FIGURE 2**  
**COUNTYWIDE TRAILS PLAN MAP**



Policy b. Provide motorized and non-motorized transportation facilities or improvements ~~which that~~ best meet County goals as determined by ~~more~~ detailed corridor and/or subarea studies. ~~level studies.~~ Provide for full public participation in such studies. ~~Where projects have not been programmed as of August 6, 1990 [the date of adoption of the Policy Plan] or, for programmed projects, where full corridor level studies would not unreasonably interfere with implementation, such studies must include a consideration of whether there exists a need to be addressed by the project and an analysis of a reasonable range of alternatives with regard to their effectiveness in meeting County transportation goals and objectives, their cost, and their direct, indirect and cumulative impacts on the environment, heritage resources, parklands, stable and/or residential neighborhoods, and other social and economic values. The scope and geographic breadth of corridor level studies must be commensurate with the scale of the impact area involved, the size of alternative investments being evaluated, and the magnitude of potential impacts. Such studies must be subject to full public participation.~~

Policy c. Accommodate inter-county and through trips with the Interstate and Primary Highway Systems, mass transit, high-occupancy-vehicle (HOV) and high-occupancy-toll (HOT) facilities. ~~Metrorail, the Virginia Railway Express, and high occupancy vehicle facilities.~~

~~Policy d. Design transportation facilities and provide services to accommodate the needs of the mobility-impaired.~~

Policy d. Consider providing HOT lanes on limited access roadways to enhance throughput. Ensure that buses and HOVs have free access to HOT lanes.

Policy e. Design and construct trails, sidewalks, overpasses, bike lanes, transit amenities, and other non-motorized facilities leading to and accessing public transportation facilities and commuter collection points.

Policy f. Provide accessible transportation services and design facilities that address the travel needs of the senior population, disabled, and mobility challenged.

~~Objective 2: Fairfax County should seek to increase the number of commuters using non-motorized transportation and public transportation (i.e., rail, bus, carpooling and vanpooling) so that by the year 2000, 60% of County commuters to the metropolitan core, 20% of the commuters to the Tysons Corner Urban Center, 15% of the commuters to Suburban Center and Transit Station Areas and 5% of other County commuting work trips will use public transportation, and 3% of all trips will be made by non-motorized (pedestrian and bicycle) transportation.~~

Objective 2: Increase use of public transportation and non-motorized transportation.

Policies on Transit Facilities

Policy a. Support the extension of the completion of the 103-mile Metrorail system in the Dulles Corridor to the Dulles Airport and Loudoun County. ~~, including the extension to Springfield/Franconia.~~

- Policy b. Provide public transportation facilities ~~mass transit facilities~~ (such as rail transit, commuter rail, bus rapid transit and/or HOV lanes) in major radial and intra-county commuter corridors designated as Enhanced Public Transportation Corridors in the Transportation Plan Map. ~~including the Shirley Highway, I-66, the Fairfax County Parkway, the Beltway, and the Dulles Access/Toll Road.~~ Preserve rights-of-way for ~~track and~~ station sites where appropriate. ~~Base the selection of the preferred mode in each corridor upon the results of detailed corridor studies.~~
- Policy c. Provide HOV lanes on ~~congested~~ freeways and major arterials where substantial travel benefits can be realized. ~~other heavily used commuter routes where: (1) a substantial travel time savings (generally 8 to 10 minutes or more) can be afforded, and (2) HOV volumes are likely to exceed 500 vehicles per lane in the peak hour. Seek to~~ Develop an integrated HOV ~~lane~~ system with direct connections between HOV park-and-ride lots, transit centers, and other modal transfer facilities and to major mixed-use Centers. HOV regulations should be strictly enforced to minimize violations.
- Policy d. Establish and/or expand park-and-ride lots along major inter-county and intra-county corridors and at potential future modal transfer points such as rail stations in order to promote transit and HOV usage.
- Policy e. Establish a network of multi-modal transit centers as necessary to facilitate both inter-county and intra-county travel.
- Policy f. Provide ~~necessary~~ supporting facilities for the transit system, and provide resources to maintain County-owned equipments and facilities effectively. ~~including operations centers and storage/maintenance facilities.~~
- Policy g. Provide non-motorized access (e.g., sidewalks, pedestrian crosswalk signals and markings, trails, on-road bicycle routes and secure bicycle parking) and user amenities (e.g. paved waiting areas, bus shelters and route/schedule information) ~~for to~~ make transit services and facilities safer, more convenient, user-friendly and attractive.

## Policies on Transit Service

- ~~Policy h. Provide for effective management and maintenance of County-owned transportation facilities, including park and ride lots, bus garages, and FAIRFAX CONNECTOR vehicles.~~
- Policy h. Improve the speed, quality, reliability, convenience and productivity of transit service.
- Policy i. Provide high-quality mass transit service in major commuter corridors designated as Enhanced Public Transportation Corridors on the Transportation Plan Map. These services should connect designated public transit transfer points and park-and-ride lots to mixed-use centers, the Metrorail system, and the metropolitan core. ~~including the Shirley Highway, I-66, the Beltway, the Fairfax County Parkway, and the Dulles access/toll road. These "trunk" services should connect designated public transit transfer points and park-and-ride lots to mixed-use Centers, the Metrorail system, and the Metropolitan Core.~~

- Policy j. Provide feeder and local bus service to connect to mass transit facilities, mixed-use centers and employment centers.  
~~service between areas of medium to high density residential development and trunk routes, including the Metrorail system. Feeder bus service to Metrorail and commuter rail from Suburban Neighborhoods will also be considered. The frequency of peak and off-peak service will be based on ridership levels except where minimum policy headways apply.~~
- Policy k. Provide local circulation service within mixed-use centers and employment centers.  
~~transit service between areas of medium to high density residential development, mixed-use centers and employment centers. The frequency of peak and off-peak service will be based on ridership levels except where minimum policy headways apply.~~
- ~~Policy l. Provide local service within mixed use Centers in order to distribute transit riders arriving on trunk routes and to meet internal circulation needs. Mixed use Centers should be designed in ways that promote and facilitate transit service and pedestrian access.~~
- Policy l. Make appropriate use of advanced transit technologies to provide service information and improve system operations. Evaluate and implement innovative services and methods to increase transit ridership.
- ~~Policy m. Improve the speed, quality, reliability, convenience and productivity of transit service.~~
- Policy m. Facilitate transfer between modes at transit centers through coordination of services, schedules, fares and information.
- ~~Policy n. Evaluate, and where warranted, implement innovative technologies, services and methods that increase transit ridership and/or productivity. Examples might include privatization, pricing, and timed transfer service.~~
- Policy n. Coordinate with neighboring jurisdictions to promote public transportation usage and reduce SOV travel.
- Policy o. Coordinate the planning and provision of public, human service agency, and non-profit transportation services targeted to the senior population, people with disabilities and low-income residents.
- ~~Policy o. Develop parking requirements, parking management programs, and parking controls in mixed use Centers to encourage transit and high occupancy vehicle usage.~~
- Policy p. Work with Fairfax County Public Schools and human service agencies to travel train the senior population and people with disabilities in the use of public transportation.
- ~~Policy p. Provide leadership in working with the private sector to establish effective transportation demand management (TDM) programs at employment locations.~~

~~The County will also encourage and support employers and landowners in establishment of transportation management associations (TMAs) for the purpose of reducing single-occupant automobile use.~~

~~Policy q. — Seek to establish, with assistance of all employers, including the private sector and all levels of government, incentives and disincentives in order to reduce single-occupant automobile use. These might include flexible and alternative work schedules, transit pass programs, dedicated bus/van transportation between employment centers and designated transit centers, alternative parking arrangements, provision of adequate sidewalks and trails, and related measures to promote transit ridership, ridesharing, bicycling and walking.~~

~~Policy r. — Work with Fairfax County Public Schools, private schools, and area colleges to establish programs for encouraging the use of bicycling, walking, carpooling and transit, including school buses.~~

~~Policy s. — Require applicants for all rezonings and special exceptions to include a statement explaining the applicant's consideration of TDM strategies. Where applicable, proffers of TDMs and proffers in support of the County's transit system should be encouraged.~~

~~Policy t. — In cooperation with MWCOG and other local jurisdictions, develop on-demand carpooling/ridesharing system. Actively promote and market public transit, ridesharing, bicycling and walking.~~

~~Policy u. — Facilitate transfer between modes by coordinating services and facilities, schedules, information and fares. To the extent feasible, major mixed-use Centers should be the focal points of timed transfer connections for both trunk and feeder services.~~

~~Policy v. — Provide adequate programs for marketing, publicity and public information for transit services.~~

~~Policy w. — Enhance coordination with neighboring jurisdictions to promote public transit and high-occupancy vehicle (HOV) usage and minimize single-occupant vehicle travel.~~

~~Policy x. — Develop an intermodal transportation network including intracounty and cross-county connections with frequent transit service from transportation hubs. Appropriate use should be made of new technologies to provide service information and for system operations.~~

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**Objective 3:** ~~Fairfax County should provide a road system that provides~~ Ensure that the roadway system provides adequate local access and capacity for through movements, consistent with financial, social, and environmental constraints and with the County's goal of reducing SOV use. ~~commuting by single-occupant automobile.~~

~~Policy a. — Ensure that the street network is planned, designed and operated in recognition of the Roadway Functional Classification System described in the Transportation Appendix.~~

Policy a. — Plan, design and operate the roadway system consistent with the Roadway Functional Classification System set forth in Appendix 1.

Policy b. Provide a street network level of service as high as practical, recognizing the social, environmental, and financial constraints associated with the diverse areas of the County. At minimum, level of service D should be provided, except where a lower level of service has been determined acceptable. ~~where feasible.~~

~~Policy c. — In cooperation with VDOT, re-examine the design standards for local streets and the criteria for acceptance of such streets into the State Secondary System.~~

Policy c. — Encourage the use of context sensitive solutions in roadway design to improve integration of roads into communities.

Policy d. Provide new roadway construction and other facility improvements which can be is-accepted by the meet Virginia Department of Transportation (VDOT) ~~standards~~ for inclusion in the State highway systems.

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**Objective 4:** ~~A Provide a comprehensive network of sidewalks, trails and bicycle routes~~ **trails and sidewalks should be provided** as an integral element of the overall transportation network.

Policy a. Plan for pedestrian, bicycle, and ~~bridle path/hiking~~ trail system components in accordance with the Countywide Trails Plan. ~~(see Figure 2).~~

Policy b. Incorporate pedestrian, bicycle, and other non-motorized components and supporting facilities that meet VDOT, American Association of State Highway and Transportation Officials (AASHTO), or County Standards.

~~Policy b. Provide nonmotorized facility improvements in accordance with standards delineated by the Virginia Department of Transportation (VDOT) and the American Association of State Highway and Transportation Officials (AASHTO).~~

Policy c. Provide for clearly-marked bicycle and pedestrian features, such as sidewalks, trails, crosswalks, curb cuts, refuge areas and pedestrian signal, in the construction and reconstruction of roads and bridges.

~~Policy c. Provide for bicycle and pedestrian features, including clearly marked sidewalks and trails, and marked crosswalk and pedestrian signals, in the construction and reconstruction of roads and bridges.~~

Policy d. Provide sidewalks, trails and/or on-road bicycle routes which link residential concentrations with transit stations, activity centers, shopping districts, recreational facilities, and major public facilities, and provide for pedestrian circulation within activity centers. (See Figure 2 for Countywide Trails Plan Map).

~~Policy d. Establish trails and/or sidewalks in conjunction with roads and stream valleys as indicated by the Countywide Trails Plan.~~

Policy e. Provide sidewalks on both sides of the street.

~~Policy e. Provide sidewalks and/or trails which link residential concentrations with transit stations, mixed-use Centers, shopping districts, recreational facilities, and major public facilities, and provide for pedestrian circulation within mixed-use centers. (See Figure 2 for Countywide Trails Plan Map).~~

~~Policy f. Provide sidewalks on both sides of streets in commercial areas.~~

~~Policy g. Use open space/conservation easements where appropriate to implement the Countywide Trails Plan.~~

~~Objective 5: The programming of improvements to the transportation system should be based upon considerations of cost-effectiveness, should be~~

~~sensitive to the County's environmental, social, land-use, economic, and other goals and objectives, and should reflect an overall goal of reducing reliance on the single-occupancy automobile as far as is reasonably possible.~~

- ~~Policy a. — Give priority to the programming of transit improvements that assist in accomplishing the County's land use goals and objectives, particularly the encouragement of transit-oriented development at Transit Station Areas, Commercial Revitalization Areas, and in the cores of the Urban and Suburban Centers; provide a focus of transit service and plan future rail stations and bus transit centers in these core areas, with congestion-free transit access to the extent feasible.~~
- ~~Policy b. — Take affirmative action in the allocation of capital improvement funds, to advance the construction of those transit and HOV facilities that increase transit ridership and HOV use in a cost-effective manner.~~
- ~~Policy c. — Recognize anticipated future levels of demand and operating conditions, as well as existing conditions, when making programming decisions.~~
- ~~Policy d. — Consider direct and indirect costs in making programming decisions.~~
- ~~Policy e. — Pursue advanced acquisition of land for future highway rights-of-way and public transportation facilities, in order to minimize project costs and impacts on established neighborhoods.~~
- ~~Policy f. — Consider funding intersection improvements when highway funding is insufficient to permit the improvement of full segments.~~

**Objective 5: Promote Transportation Demand Management (TDM) to support efficient use of the County's transportation system.**

*The county has established a Transportation Demand Management (TDM) Working Group to improve the use of TDM strategies and examine ways to make TDM part of the overall package in land use and development in Fairfax County.*

*The policies outlined in this Objective were developed with input from the TDM Working Group during the Transportation Plan Review Process and could be subject to modification pending final recommendations from the TDM Working Group and subsequent approval by the Board of Supervisors.*

- Policy a. Promote and market public transit, ridesharing, HOV lanes, bicycling and walking with all potential users.
- Policy b. Promote TDM strategies including teleworking, teleconferencing, tele-education, alternative work schedules, flexible work hours and/or variable toll pricing.
- Policy c. Implement parking requirements, parking management programs, and parking controls in activity centers to encourage use of mass transit, HOV and non-motorized transportation.
- Policy d. Encourage and support employers and landowners to establish transportation management associations (TMAs).

- Policy e. Work with private and public employers by establishing alternative commute programs to reduce SOV use.
- Policy f. Work with the County residents, developers, homeowner associations and property management companies through residential based programs to promote public transportation HOV travel, non-motorized travel and other alternatives.
- Policy g. Work with Fairfax County Public Schools, private schools, and area colleges to establish programs that encourage the use of bicycling, walking, carpooling and transit, including school buses.
- Policy h. Require that applicants for rezoning and special exceptions show evidence that they have considered TDM strategies. Encourage proffers of TDMs and proffers in support of the County's transit system.
- Policy i. Develop TDM strategies and programs in cooperation with MWCOG and other local jurisdictions.

**Objective 6: Ensure that improvements to the transportation system are cost-effective and consistent with environmental, land use, social, and economic goals.**

Policy a. Give priority to the programming of transportation improvements that assist in accomplishing the County's land use goals and objectives, particularly the encouragement of transit-oriented development at Transit Station Areas, Commercial Revitalization Areas, and in the cores of the Urban and Suburban Centers.

Policy b. Allocate capital improvement funds to advance the construction of those transit and HOV/HOT facilities that are the most cost-effective.

Policy c. Integrate non-motorized transportation projects into the programming of construction and maintenance projects.

Policy d. Anticipate future demands and operating conditions in addition to existing conditions when making programming decisions.

Policy e. Consider direct and indirect costs, including maintenance, in making programming decisions.

Policy f. Pursue advanced acquisition of easements and rights-of-way to reduce project costs and adverse impacts.

Policy g. Consider intersection improvements when funds are insufficient to permit construction of full segments between intersections.

~~Objective 6:—Transportation facilities and services should be provided in a manner that minimizes community disruption and adverse environmental impacts.~~

Objective 7: Provide transportation facilities and services that minimize community disruption and adverse environmental impacts.

~~Policy a.—Use all reasonable means to minimize adverse impacts of existing and planned transportation facilities and services on environmental and heritage resources and neighborhood stability.~~

~~Policy b.—Plan and design transportation facilities to minimize intrusion into Environmental Quality Corridors (EQCs).~~

~~Policy c.—Adopt strategies to reduce automobile emissions in order to help the region attain and maintain the National Ambient Air Quality Standards.~~

~~Policy d.—Promote telecommuting, teleconferencing, and tele education to reduce transportation demand.~~

Policy a. Plan and design transportation facilities and services to minimize adverse impacts on Environmental Quality Corridors (EQCs), other environmental resources, and heritage resources.

Policy b. Plan and design transportation facilities and services to minimize and mitigate adverse impacts (such as noise and visual impacts) to residents and neighborhoods.

Policy c. Adopt strategies to reduce vehicle emissions to meet the National Ambient Air Quality Standards.

Policy d. Minimize adverse impacts of storm water runoff from transportation facilities and services. Use innovative techniques and technologies to manage storm water run-off from transportation facilities.

Policy e. Apply best practices for walkable communities, pedestrian and bicycle planning, quality of life, and ecological preservation.

Policy f. Ensure pedestrian access during construction of roads and other transportation facilities.

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~~Objective 7: Fairfax County should work to ensure adequate financing for its transportation system.~~

Objective 8: Identify the funding needed for the County's transportation system and potential sources for that funding.

- Policy a. Develop and implement a responsible financial plan that considers both public and private sources of financial support for the County's transportation system. ~~identifies existing and new funding mechanisms, including private funding initiatives, to achieve the County's transportation system objectives.~~
- Policy b. Pursue local, regional, state and federal funding support for the County's transportation system. ~~increased state and federal support for the Interstate and Primary Highway Systems, Metrorail and Virginia Railway Express.~~
- ~~Policy c. Supplement state and federal funding of Secondary roadways, transit, and other high priority projects, and continue local funding initiatives.~~
- Policy ~~d.~~ c. Encourage and facilitate private sector initiatives to finance new construction, new transportation services, and improvements to existing facilities and services. ~~and provide additions to the transportation system and to provide supplementary public transportation services.~~
- Policy ~~e.~~ d. Increase funding for trails, sidewalks and on-road bicycle routes. ~~including Federal, State and private sources.~~
- ~~Policy f. Seek multi-jurisdictional funding sources for transportation facilities and services.~~

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**Objective 8: 9:** Ensure public safety ~~should be ensured both for the~~ users of transportation facilities and services and for the **general public**.

Policy a. Monitor safety and security ~~correct safety problems~~ associated with existing transportation facilities and services.

Policy b. Correct safety and security problems associated with existing transportation facilities and services that lie within the control of the County.

Policy ~~d-c.~~ Incorporate safety and security features into new transportation facilities. ~~both for the users and for the general public.~~

Policy ~~b-d.~~ Incorporate medians and separate turning lanes in the design or redesign of roadways having four or more travel lanes.

Policy ~~e-e.~~ Upgrade existing roadways, ~~including rural collectors,~~ to correct unsafe conditions along segments which have with substandard geometrics. ~~such as horizontal and vertical alignments and side clearances.~~

Policy ~~e-f.~~ Monitor and enforce the provisions and regulations for transporting hazardous materials.

Policy ~~f-g.~~ Provide adequate maintenance of County transit ~~transportation~~ vehicles and other County transit facilities, and enhance maintenance ~~these~~ resources wherever possible.

Policy ~~g-h.~~ Reduce conflicts ~~among pedestrians, bicyclists and motorists~~ between motorized and non-motorized traffic and correct unsafe conditions for walking and bicycling.

Policy i. Work with VDOT and local communities to implement traffic calming and other measures where needed to encourage motorists to drive with caution and consideration in residential communities.

Policy j. Plan and prepare to assist with orderly evacuations (selected, staged or full-scale) in the event of an emergency. Provide assistance for residents without a means of transportation during an evacuation.

Policy k. Coordinate with regional public safety and transportation agencies using state-of-the-art communications technology for emergency operations and transportation incident management.

~~Objective 9: — Fairfax County should, to the extent consistent with other County goals and objectives, maximize the efficiency with which each facility within the transportation system fulfills its assigned function.~~

**Objective 10: Maximize the operational efficiency of transportation facilities.**

- Policy a. Maximize the efficiency of existing roads through low-cost strategies to increase capacity such as channelization, turning lanes, ~~signalization, and signage.~~ optimized signalization, and signage, while avoiding negative impacts on pedestrians and bicyclists.
- Policy b. Preserve and enhance the efficiency of the arterial street network by reducing and consolidating private entrances, median crossovers, and similar disruptions to traffic flow.
- Policy c. Promote accessibility between residential developments to facilitate ~~local circulation of emergency access,~~ local circulation of motorized and non-motorized traffic and potential neighborhood bus service.
- Policy d. Develop a roadway system which discourages through travel while maintaining connectivity on local and collector streets. ~~on local and collector streets. Encourage motorists to drive with caution and consideration in residential communities. Work with VDOT and local communities to implement Traffic Calming and other measures where needed.~~
- ~~Policy e. — Develop and implement a Corridor Management Program in cooperation with VDOT.~~
- ~~Policy f. — Develop and implement a Signalization Standards and System capable of providing safe ingress and egress for neighborhoods to and from arterials.~~

**Objective ~~10-11~~: ~~Fairfax County's~~ Ensure that land use and transportation policies ~~should be~~ are complementary.**

~~Policy a. — Encourage relatively high density residential development in mixed use Centers to promote walking trips, enable more efficient transit service and to reduce single-occupant vehicle use.~~

~~Policy b. — Support public transportation and non-motorized travel through the design and development of building projects in Tysons Corner Urban Center, Suburban Centers, Transit Station Areas, and Community Business Centers. The road network and site design (including the location of parking, transit stops, pedestrian facilities, and secure bicycle parking), and other facilities should be supportive of public transportation usage and non-motorized travel.~~

~~Policy c. — Encourage compatible and appropriate land uses such as child care facilities in close proximity to public transportation transfer points.~~

~~Policy d. — Evaluate land uses around existing aviation facilities during the development review process, to ensure compatibility in terms of height, noise, and the functional classification of the aviation facility.~~

~~Policy e. — Encourage location of activities with significant demand for air travel in close proximity to existing aviation facilities.~~

~~Policy f. — To help ensure that development is timed to coincide with the provision of adequate transportation facilities, where the plan provides for an intensity range, development should be limited to the low end of that plan range unless the applicant demonstrates that the level of service on arterials and collectors within the impact area of the proposed project as defined by the County will, upon completion of the project, meet the level of service standard established within the area pursuant to Objective 3(b) of the Transportation element of the Plan, taking into consideration expected development and transportation facilities within the area during that period.~~

~~Policy g. — Require all new developments to mitigate adverse impacts upon the transportation system both in the immediate vicinity of the site and in the surrounding area, and to evaluate measures to facilitate access by transit and to provide other enhancements necessary to promote transit use.~~

Policy a. — Require all new developments mitigate adverse impacts upon the transportation system. Evaluate measures to facilitate access by transit and to provide other enhancements necessary to promote use of transit and non-motorized transportation.

Policy b. — Limit development to the low end of the planned range unless the applicant demonstrates that the level of service on arterials and collectors within the impact area of the proposed project as defined by the County will, upon completion of the project, meet the level of service standard established within the area pursuant to Objective 3(b) of the Transportation element of the Plan, taking into consideration expected development and transportation facilities within the area during that period.

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Policy c. Encourage higher density residential development in activity centers to promote non-motorized trips and transit services to reduce SOV use.

Policy d. Support public transportation and non-motorized travel through the design and development of building mixed-use projects in Tyson's Corner Urban Center, Suburban Centers, Transit Station Areas, and Community Business Centers. The road network and site design (including the location of parking, transit stops, pedestrian facilities, and secure bicycle parking), and other facilities should be supportive of public transportation usage and non-motorized travel.

Policy e. Encourage compatible commercial use and appropriate land uses such as childcare facilities in mixed-use centers and in close proximity to public transportation transfer points.

Policy f. Require new development and redevelopment projects, where applicable, to provide temporary pedestrian access when such access is affected by the development.

Policy g. Evaluate land uses around existing aviation facilities during the development review process, to ensure compatibility in terms of height, noise, and the functional classification of the aviation facility; and encourage the Metropolitan Washington Airports Authority to procure aviation and related facility easements where appropriate.

Policy h. Encourage location of activities with significant demand for air transportation in close proximity to existing aviation facilities

## Objective ~~11~~-12: Preserve land needed to accommodate planned transportation facilities.

- Policy a. Describe ~~each~~ street or highways shown in the Comprehensive Plan for improvement, by the anticipated number of lanes, typical cross-sections ~~shoulder and median treatments~~, and right-of-way requirements. ~~, subject to the results of detailed corridor level studies.~~
- Policy b. Preserve the maximum potential requirements for the planned typical section and right-of-way, where planned roadway improvements have not been designed. (See the Roadway Right-of-Way Requirements Section in the Transportation Appendix.)
- Policy c. Establish right-of-way requirements and preserve the land for future interchanges, transit stations and rail stations, ~~rail line~~ rights-of-way in the Enhanced Public Transportation Corridors (~~I-66, I-95, Dulles Toll Road, and I-495~~), and other public transportation facilities shown on the Transportation Plan Map. Develop potential right-of-way requirements based upon conceptual drawings where designs have not been approved.
- Policy d. Prepare engineering plans for future transportation improvements as soon as feasible in order to clarify and secure right-of-way requirements and to develop improved cost estimates.

**Objective 12: ~~Provide safe, efficient, convenient and compatible aviation transportation facilities.~~**

- ~~Policy a. — Locate and operate aviation and related facilities in such a way as to minimize detrimental environmental and community impacts.~~
- ~~Policy b. — Encourage the use and development of Washington Dulles International Airport and the continued use of National Airport, so long as they do not negatively effect the local communities.~~
- ~~Policy c. — Encourage the Metropolitan Washington Airports Authority to procure aviation and related facility easements where appropriate.~~
- ~~Policy d. — Evaluate land uses around existing aviation facilities during the development review process, to ensure compatibility in terms of height, noise, and the functional classification of the aviation facility.~~
- ~~Policy e. — Encourage location of activities with significant demand for air transportation in close proximity to existing aviation facilities.~~
- ~~Policy f. — Classify aviation facilities in the County in terms of their function as part of an overall transportation network.~~
- ~~Policy g. — Ensure that aviation facilities are subject to the same environmental review as all other transportation facilities, with the additional review of height, noise, and vibration.~~
- ~~Policy h. — Support the provision of an integrated mass transit system to Dulles and National Airports, not only for passengers, but in support of the airports' role as a major employment center. Such an integrated mass transit system to Dulles may be the TSM Alternative of the Dulles Transit Alternatives Study.~~
- ~~Policy i. — Support the provision of adequate road transportation for access to and from Dulles and National airports.~~
- ~~Policy j. — Support the provision of adequate parking facilities for both passengers and employees at both National and Dulles airports.~~
- ~~Policy k. — Seek greater cooperation between the County and the Metropolitan Washington Airports Authority in responding to emergency situations at both Dulles and National airports.~~

**Objective 13:** ~~At least once every five years Fairfax County should review and update the transportation plan taking into account the degree to which its elements are being implemented, and the degree to which the transportation objectives are being achieved.~~

**Review and update the Fairfax County Transportation Plan once every five years.**

Policy a. Monitor changes in travel patterns, traffic, transit use, and the implementation of transportation facilities and services for the purpose of evaluating progress towards transportation objectives and goals. ~~and the provision of transportation facilities and services.~~

~~Policy b. Evaluate the transportation plan's ability to address future travel needs as part of the periodic review process and invite participation by county-based private industry and higher learning institutions as well as local city and town governments.~~

~~Policy c. Conduct major corridor level and communitywide transportation planning studies in an effort to refine the plan and comprehensively address systemwide transportation needs within the County.~~

Policy ~~d.~~b. Promote public participation in the review and update of the transportation plan. ~~planning and development of transportation facilities and services.~~

~~Policy e. Consider regional travel patterns when formulating and implementing the County's transportation plan.~~

Policy ~~f.~~c. Actively Promote and participate in ~~the~~ transportation planning ~~processes~~ conducted at ~~the~~ regional and subregional levels.

~~Policy g. Convene an annual summit on transportation to review and discuss the progress made in implementing the County's Transportation Plan and policy objectives. Such a review will help articulate and update policy guidance for the upcoming year. This summit should include representation from the Board of Supervisors, Planning Commission, the Transportation Advisory Commission, and from County and external transportation implementing and operating agencies.~~

Policy d. Integrate planning and review so that non-motorized, mass transit, and motorized transportation needs are evaluated concurrently.

Policy e. Cooperate with neighboring jurisdictions to coordinate and plan a network of transit routes, services, and roads.

**Objective 14:** ~~Fairfax County should address the transportation challenges associated with continuing trends in suburb-to-suburb commuting patterns and the resulting need to facilitate employee access to major employment areas within the County.~~

~~Policy a.~~ Initiate a cooperative effort among the area's local governments to coordinate and plan for a network of additional transit routes, services, and roads within the County and between neighboring jurisdictions that provide alternatives to commuting by single-occupant vehicle to major employment sites within the County.

~~Policy b.~~ Emphasize the importance of providing improved access to major County employment centers through improved transit and roadway facilities and services, such that home-based work trips initiated by employees living both within the County and within neighboring jurisdictions, can be made in a manner that minimizes roadway congestion and community disruption.

## APPENDIX 1

### ROADWAY SYSTEM FUNCTIONAL CLASSIFICATION

Roadway functional classification is the process by which streets and highways are grouped into classes according to the type of service any given facility provides. It defines the role of any particular road or street in serving the flow of trips through the roadway network. ~~A fundamental concept addressed in the transportation plan is the development of a road functional classification system. This concept specifies the type of service which any given facility provides.~~ Functional classification is very useful in considering the dual role of the transportation network in providing both travel mobility and access to property. Although access is a fixed requirement which is necessary at both ends of a trip, mobility can be provided at varying levels incorporating a wide range of elements.

~~Although the utilization of the various functional classes is seldom discrete or absolute (e.g. most local streets carry some nonlocal traffic), a substantial amount of the transportation problems in the County arises directly from the excessive mixing of functions on a particular facility. For example, one of the most frequently raised transportation issues in the County is the excessive use of local and/or collector streets by through traffic. Since these streets are not ordinarily designed for such usage, which usually occurs at peak hours, it is evident that a major cause is congestion and delay on the arterials. Further, this arterial congestion is itself often caused by traffic using the arterials for local access. Another similar problem involving a mixing of function is the excessive use of the Beltway, which was originally designed for interstate and regional travel, by short-distance trips covering only a few interchanges. Obviously, a principal reason for this attractiveness of the Beltway is the congested and slow operation of most arterial highways in the circumferential direction. Travel on any high-speed, limited access highway becomes correspondingly reduced, by the presence of large volumes of entering and exiting traffic at frequent interchanges. Therefore, the additional traffic attracted to the Beltway because of these inadequate arterials serves only to diminish its effectiveness in carrying the through traffic it was originally designed to serve.~~

~~Clearly, then, †~~ The development of an effective circulation plan for any area should rely on the delineation of a basic roadway functional classification system of that area. ~~The extent to which this system is violated or compromised may determine the adequacy of circulation in the area.~~ In developing such a system, consideration ~~is~~ was given to the magnitude and distribution of projected travel demand, and types and spatial distribution of activities within the County. Because the effectiveness of any one type of transportation facility is dependent upon the adequacy of other types, it is necessary to determine the purpose and function of facilities and services prior to making recommendations.

~~For this document, the facilities and services of the total transportation system were classified according to their primary function. Transit service is classified by line-haul service, and collection and distribution service. Highway facilities are classified by freeways and expressways, other principal arterials, minor arterials, collectors and local streets.~~

The County's roadway functional classification is based on the Federal Highway Administration's functional classifications for urbanized areas, with consideration given to the local characteristics and variation within the County's roadway network. For this document, the roadway system is classified into freeways and expressways, other principal arterials, minor arterials, collectors and local streets. (See Figure 3).

## ~~TRANSIT SYSTEM FUNCTIONAL CLASSIFICATION~~

~~Line-haul transit service provides express or limited-stop high-speed travel over relatively long distances or between points which are relatively far apart. The guideway required for this service can be reserved exclusively for transit vehicles, or be shared with all traffic. The line-haul function can be fulfilled by either bus or rail vehicles. The critical elements determining the efficiency of the service are a concentration of travel demand between activity centers, sufficient access to the service through provision of parking facilities and integration with collection and distribution transit services, and adequate guideway capacity to ensure high speeds.~~

~~Collection and distribution transit service offers local travel between two activities or between an activity and a mode for line-haul transit service. Unlike line-haul service, most users walk to and from stops. Transit vehicles almost always share the guideway with other traffic unless the concentration of transit vehicles is quite high and their performance would be extremely adversely affected by shared use, as is the case in the downtown area of Washington, D.C.~~

~~In addition to these transit services, specialized community-oriented transit services may be advantageous. Such systems are usually characterized by more personalized service with deeper neighborhood penetration and a much greater emphasis on local rather than regional trips. To determine the applicability and structure of such systems requires careful analysis on a case-by-case basis to assure the most effective use of County resources.~~

~~Recommendations for improvement and services, including fringe parking lots, bus priority lanes and express bus thoroughfares, commuter rail service and rapid transit service are included in this Phase. Due to the dynamic nature of bus transit service, recommendations for specific bus routes are not included in the Comprehensive Plan.~~

## ~~ROADWAY SYSTEM FUNCTIONAL CLASSIFICATION~~

~~The functional classification system for roads includes a variety of roadway types. (See Figure 3.)~~

**Freeways and expressways** are controlled access facilities providing for high-volume travel. ~~Serviceing~~ ~~The concept of service to~~ abutting land is subordinate to accommodating the through movement of vehicles. It is desirable that medians, shoulders, acceleration and deceleration lanes, and grade separated interchanges be included in the design. Parking and pedestrian travel ~~should not be permitted along~~ ~~along or very near~~ the traveled portion of the roadway. ~~should not be allowed.~~

**Other principal arterials** also serve as main travel corridors. Some access is provided to abutting land, but the primary function of the roadway, particularly during peak periods, is to carry through traffic. Intersections with expressways and other principal arterials (see following description under Minor Arterials) should generally be grade separated. Where many turning movements could occur over a relatively short roadway section, service drives are desirable. Medians, shoulders, and acceleration and deceleration lanes are also desirable. Where shoulders cannot be provided, bus storage bays are desirable. Adequate and safe pedestrian and bicycle travel along and across these facilities should be included in the design. Parking should not be ~~permitted along the traveled position of the roadway~~ ~~allowed.~~ These facilities should include four to six travel lanes with a minimum right-of-way of ~~122~~ **120** feet.

**Minor arterials** usually carry an even mix of local and through traffic. They link collectors, and sometimes local streets, with principal (major) arterials. Minor arterials

are lower service level roadways with partial control of access. Adequate and safe pedestrian and bicycle travel along and across these facilities should be included in the design.

A wide disparity exists in the characteristics of minor arterials found in the County. At one end, Braddock Road, with segments carrying over ~~50,000~~ 70,000 vehicles daily on six lanes, represents a very high design standard. Conversely, Fox Mill Road, a two-lane rural road, is also a minor arterial because it carries a significant volume of through traffic over a relatively long distance. In an effort to recognize and accommodate this disparity, minor arterials are divided into two categories in this Plan.

**Type A minor arterials** are those which perform a particularly significant function in the transportation network due to their length and/or their design. These facilities closely approach principal arterials in terms of their traffic characteristics and role in the network. They include Braddock Road, Old Keene Mill Road-Franconia Road, Centreville Road, and several additional segments. They should be multi-lane divided facilities within a minimum right-of-way of ~~120~~ 122 feet. Parking should not be permitted along the traveled portion of the roadway ~~allowed~~. Interchanges should be provided at intersections with freeways. Interchanges at other locations should only be provided where the results of a detailed traffic study indicate that an at-grade intersection cannot accommodate the traffic.

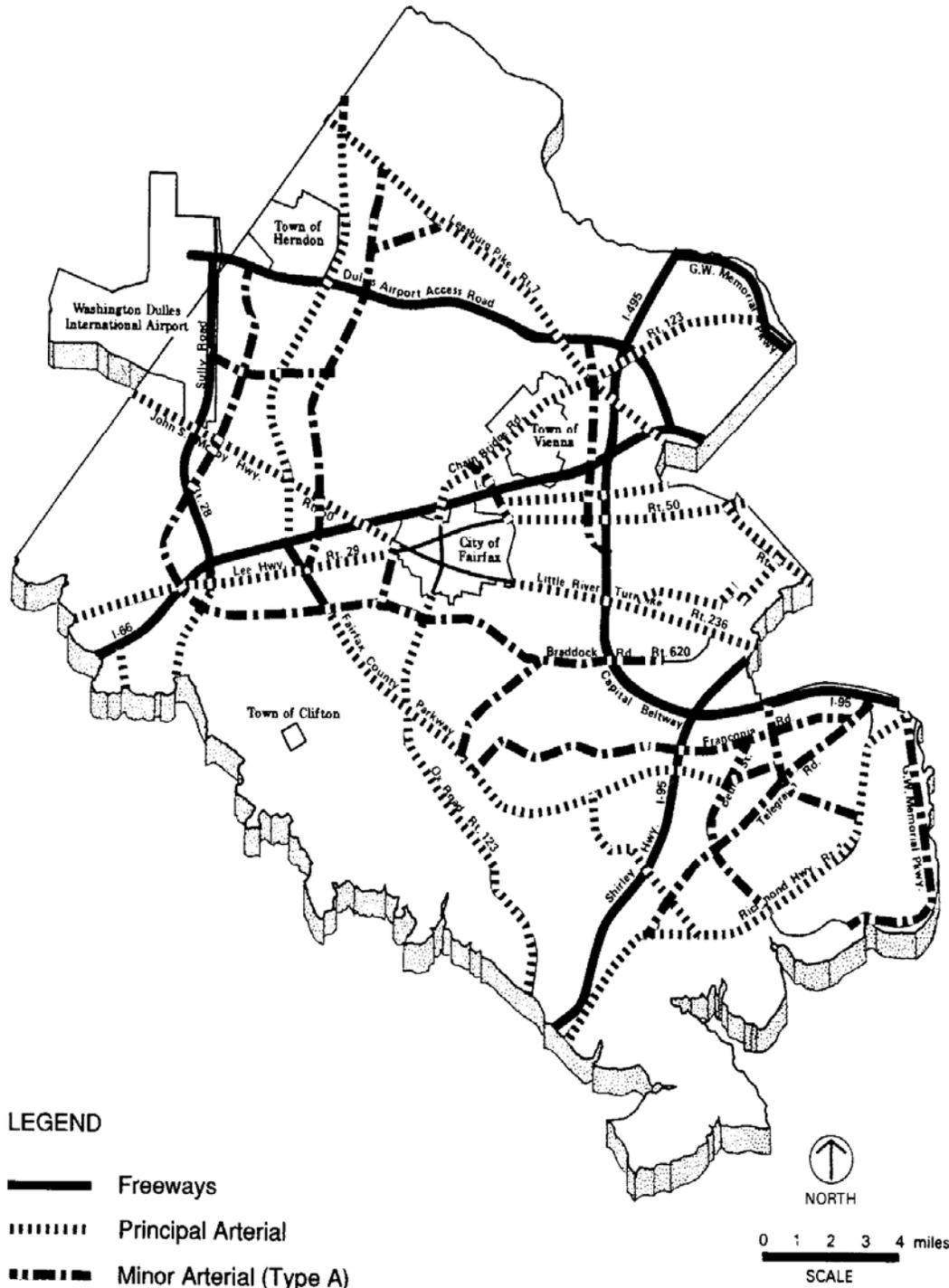
**Type B minor arterials** represent the remaining minor arterials which are somewhat shorter in length, traverse a less densely developed area, or are located in more mature areas and consequently were built to a somewhat older design standard. Examples include Backlick Road, Annandale Road, and Sherwood Hall Lane. They can generally be constructed within a ~~120~~ 122-foot right-of-way, although in less developed areas or where additional lanes are needed, additional right-of-way may be necessary. Parking may be permitted ~~provided~~, although it should generally be discouraged along the traveled portion of the roadway due to the arterial nature of the road. Interchanges should only be provided with freeways, and then only at selected locations, or where the results of a detailed traffic study indicate that an at-grade intersection cannot accommodate the traffic.

**Collector streets** provide direct service to and from local areas, routing traffic to the arterial street system. Generally, these roadways are not used for through trips. Collector streets are very important for the collection and distribution functions of transit service. As such, they should be designed in conjunction with the arterial system to permit safe boarding and alighting, and allow buses to safely enter, exit, and turn around if necessary. Medians, access control, and turning lanes are desirable only where traffic volume is expected to exceed about 5,500 vehicles per day. Parking is optional, and can generally be safely accommodated in most sections. Sidewalks and/or trails should be provided on both sides of the road. These facilities should generally allow for two travel lanes with sufficient pavement width to permit safe bus operations. Where traffic volumes are anticipated to be high due to relatively intense use of the area served, four travel lanes should be provided. Many unimproved rural roads in lower-density areas of the County serve a collector function. They are characterized by narrow pavement, poor horizontal and/or vertical alignment, and a lack of shoulder. These roads should be improved for safety reasons to minimum VDOT geometric standards.

**Local streets** provide access to properties abutting the roadway and within the immediate vicinity. Traffic speed and volume should be low. Parking should be accommodated and sidewalks and / or trails should be provided. ~~Bus routes along local streets should be~~

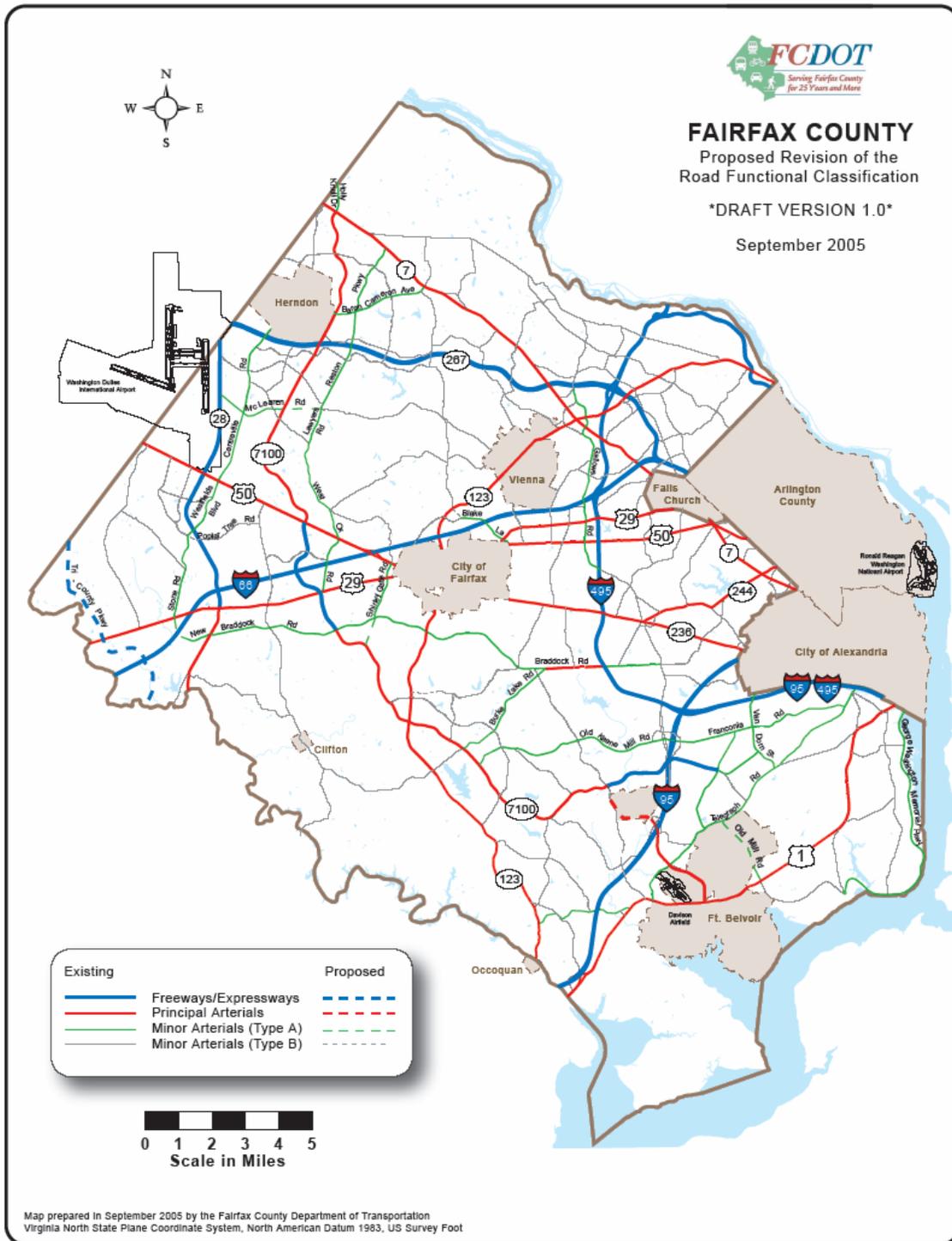
~~discouraged. Sidewalks and parking are desirable.~~ Right-of-way widths should be in provide conformance with standards for safe operation and proper maintenance.

The above functional classification system is used to help develop recommendations to facilitate the flow of trips generated in or traveling through the County. ~~The above functional classification system has been kept in context in the development of recommendations for serving the trips generated in or traveling through the County. It is essential to clearly understand that~~ Facilities intended to serve a certain type and magnitude of travel will require improvements consistent with such a function. The plan has been developed with heavy emphasis on separating local and non-local facilities by functional classification and maintaining the integrity of local streets by recommending improvements on higher type facilities.



**ROADWAY SYSTEM FUNCTIONAL CLASSIFICATION ———— FIGURE 3  
 (EXCLUDING TYPE B MINOR ARTERIALS AND LOCALS)**

**FIGURE 3**  
**ROADWAY SYSTEM FUNCTIONAL CLASSIFICATION**



The highest three classification categories of the roadway system functional classification are depicted on Figure 3. The following lists the freeway and arterials in the County.

**LISTING OF ROADWAYS BY FUNCTIONAL CLASSIFICATION**  
(Exclusive of Collectors and Local Streets)

<u>Freeways/Expressways</u>	<u>From</u>	<u>To</u>
1. <del>Capital</del> Beltway (I-495 & I-95)	<del>Cabin John Bridge</del> <u>American Legion Memorial Bridge</u>	Alexandria City Line
2. Dulles Airport Access Road (DAAR) <u>and</u> Dulles Toll Road (DTR)	Loudoun County	I-66
3. Fairfax County Parkway	<del>Popes Head Road</del> <u>Braddock Road</u>	<del>Fair Lakes Parkway</del> <u>Route 50</u>
4. <u>Franconia-Springfield Parkway</u>	<u>Fairfax County Parkway</u>	<u>Beulah Street</u>
5. George Washington Memorial Pkwy.	I-495	Arlington County Line
6. I-66	Prince William County Line	Arlington County Line
7. Shirley Highway (I-95 & I-395)	Prince William County Line	Alexandria City Line
8. <u>Route 28</u> <del>Sully Road</del>	<del>U.S.</del> Route 29	Loudoun County Line
<b><u>Other Principal Arterials</u></b>		
1. Arlington Boulevard ( <del>U.S.</del> Route 50)	Fairfax City Line	Arlington County Line
2. <u>Route 28</u> <del>Centreville Road</del>	<del>U.S.</del> Route 29	Prince William County Line
3. Route 123 <del>Chain Bridge Road</del>	Fairfax City <u>Line</u>	I-495
4. Route 123 <del>Chain Bridge Road</del>	George Washington Parkway	Arlington County Line
5. Columbia Pike <del>Route 244</del>	<del>Route 236</del> <u>Little River Turnpike</u>	Arlington County Line
6. Route 123 <del>Chain Bridge Road</del>	I-495	George Washington Parkway

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7.	Fairfax County Parkway	<del>I-66</del> <u>Route 50</u>	Route 7
8.	Fairfax County Parkway	Braddock Road	<del>U.S.</del> Route 1
<del>9.</del>	<del>Franconia Springfield Parkway</del>	<del>Fairfax County Parkway</del>	<del>Beulah Street</del>
10.	<del>U.S.</del> Route 29 <del>Lee Highway</del>	Fairfax City Line	Falls Church City Line
11.	<del>U.S.</del> Route 29 <del>Lee Highway</del>	Prince William County Line	Fairfax City Line
12.	<del>U.S.</del> Route 50 <del>Lee Jackson Memorial Highway</del>	Loudoun County Line	Fairfax City Line
13.	Route 7 <sup>1</sup> <del>Leesburg Pike</del>	Loudoun County Line	Falls Church City Line
14.	Route 7 <del>Leesburg Pike</del>	Falls Church City Line	Alexandria City Line
15.	Little River Turnpike <del>Route 236</del>	Fairfax City Line	Alexandria City Line
16.	Route 123 <del>Ox Road</del>	Fairfax City Line	Prince William County Line
17.	<del>U.S.</del> Route 1 <del>Richmond Highway</del>	Prince William County Line	Alexandria City Line
<del>18.</del>	<del>Route 28 Bypass</del>	<del>Prince William County Line</del>	<del>I-66</del>
<u>19.</u>	<u>Manassas National Battlefield Bypass</u>	<u>Route 29</u>	<u>Prince William County Line</u>
20.	Tri-County Parkway	<del>I-66</del> <u>Prince William County Line</u>	Loudoun County Line

## Minor Arterials (Type A)

	<u>From</u>	<u>To</u>
1.	<del>Reston Parkway</del> <u>Herndon Town Line</u>	Route 7
2.	Franconia Road	<del>Woodlawn Road</del> <u>Telegraph Road</u>
3.	Jermantown Road	Fairfax City Line
4.	Backlick Road	<del>Union Mill Road</del> <u>Route 28</u>

<sup>1</sup> ~~Provide grade separations and service drives where feasible between Herndon Junction and Tysons Corner.~~

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5. Burke Lake Road	Fairfax County Parkway	Braddock Road
6. Centreville Road	Herndon Town Line	<del>U.S.</del> Route 50
7. Franconia Road	Backlick Road	Telegraph Road
8. Gallows Road	Route 7	I-495
9. George Washington Memorial Pkwy	Mount Vernon Highway	Alexandria City Line
10. Holly Knoll Drive	Route 7	Loudoun County Line
11. International Drive	Route 7	Spring Hill Road
12. Kingstowne Boulevard	Kingstowne Village Parkway	South Van Dorn Street
<del>13. Lawyers Boulevard</del>	<del>Centreville Road</del>	<del>Reston Parkway</del>
14. Lawyers Road	Fox Mill Road	West Ox Road
15. <a href="#">Lorton Road</a>	<a href="#">Route 1</a>	<a href="#">Route 123</a>
16. Manchester Blvd	Beulah Street	Kingstowne <del>Blvd</del> <a href="#">Village Parkway</a>
17. McLearen Road	Route 28	Reston Parkway
18. New Braddock Road	Union Mill Road	<del>U.S.</del> Route 29
19. Old Keene Mill Road	Backlick Road	Fairfax County Parkway
20. Poplar Tree Road	Sully Station Drive/ Sequoia Farms Drive	Braddock Road
21. Reston Parkway	Route 7	<del>Fox Mill Road</del> <a href="#">Lawyer Road</a>
22. Shirley Gate Road	<del>U.S.</del> Route 29	Fairfax County Parkway
23. South Van Dorn Street	Alexandria City Line	Telegraph Road
24. Stone Road	<del>U.S.</del> Route 29	Braddock Road
25. Telegraph Road	Alexandria City Line	<del>U.S.</del> Route 1
26. Walney Road	<del>U.S.</del> Route 50	Westfields Blvd
27. Waples Mill Road	<del>U.S.</del> Route 50	<del>U.S.</del> Route 29
28. West Ox Road	<del>U.S.</del> Route 29	Lawyers Road

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29. Westfields Blvd	Walney Road	Sully Station Drive/ Sequoia Farms Drive
31. <del>Woodlawn Road</del> <u>Old Mill Road</u>	<del>Beulah Street</del> <u>Telegraph Road</u>	<del>U.S. Route 1</del> <u>Route 1</u>
<b><u>Minor Arterials (Type B)</u></b>	<b><u>From</u></b>	<b><u>To</u></b>
1. Alban Road	Backlick Road	Rolling Road
2. Anderson Road	Route 123	Magarity Road
3. Annandale Road	<del>Route 236</del> <u>Little River Turnpike</u>	Falls Church City Limit
4. <u>Amherst Avenue</u>	<u>Calamo Street</u>	<u>Highland Street</u>
5. <u>Armistead Road</u>	<u>Lorton Road</u>	<u>Route 1</u>
6. Backlick Road	Little River Turnpike	Fairfax County Parkway
7. Baron Cameron Avenue	Reston Parkway	Herndon Town Line
8. Beacon Hill Road	<del>U.S.</del> Route 1	Fort Hunt Road
9. Belle View Blvd	Fort Hunt Road	George Washington Parkway
10. Beauregard Street	<del>Route 236</del> <u>Little River Turnpike</u>	Alexandria City Line
11. Beulah Road	Route 7	Vienna Town Limits
12. Braddock Road	Backlick Road	Columbia Pike
13. Braddock Road	Pleasant Valley Road	Stone Road
14. Browns Mill Road	Crowell Road	Beulah Road
15. Burke Center Parkway	Burke Lake Road	Fairfax County Parkway
16. Burke Lake Road	Fairfax County Parkway	Route 123
17. Carlyn Springs Road	Seminary Road	Arlington County Line
18. Cedar Lane	Gallows Road	<del>U.S.</del> Route 50
19. Chain Bridge Road	Anderson Road	Route 123

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20. Clifton Road <sup>2</sup>	<del>U.S.</del> Route 29	Route 123
21. Colvin Run Road	Walker Road	Route 7 East
22. Commerce Street	Old Keene Mill Road	Franconia Road
23. Compton Road	Ordway Road	Clifton Road
24. Crowell Road	Hunter Mill Road	Browns Mill Road
25. Dranesville Road	Route 7	Herndon Town Limits
26. <a href="#">Fair Lakes Parkway</a>	<a href="#">West Ox Road</a>	<a href="#">Stringfellow Road</a>
27. Edsall Road	Backlick Road	Alexandria City Limits
28. Fort Hunt Road	<del>U.S.</del> Route 1	Vernon View Drive
29. Fox Mill Road	<del>Centreville Road</del> <a href="#">Monroe Street</a>	<del>Waples Mill Road</del> <a href="#">Reston Parkway</a>
<del>30.</del> Frying Pan Road	Route 28	<del>Centreville Road</del> <a href="#">Monroe Street</a>
31. Fullerton Road	Backlick Road	Fairfax County Parkway
32. Furnace Road	Route 123	<del>U.S.</del> Route 1
33. Gallows Road	I-495	Hummer Road/ <a href="#">Annandale Road</a>
34. Gallows Road	Annandale Road/ <a href="#">Hummer Road</a>	Columbia Pike
35. Georgetown Pike <sup>2</sup>	Route 7	Route 123
36. Glen Carlyn Road	Route 7	Arlington County Line
37. Gosnell Road	Route 7	Old Courthouse Road
38. Graham Road	Annandale Road	Route 29
39. Great Falls Street	Route 123	Falls Church City Line
40. Guinea Road	<del>Route 236</del> <a href="#">Little River Turnpike</a>	Route 123

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<sup>2</sup> — ~~Clifton Road from Braddock Road to Route 123, and Georgetown Pike from Route 7 to Route 123 are designated as Virginia Byways pursuant to Section 33.1-63 of the Code of Virginia, as amended.~~

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41. Haycock Road	Route 7	Westmoreland Street
42. Hayfield Road	Manchester Blvd	Telegraph Road
43. Henderson Road	Old Yates Ford Road	Clifton Road
44. Hooes Road	Fairfax County Parkway	Route 123
45. Hummer Road	<del>Route 236</del> <a href="#">Little River Turnpike</a>	Gallows Road
46. Hunter Mill Road	Baron Cameron Avenue	Blake Lane
47. Huntington Avenue	Fort Hunt Road	Telegraph Road
48. Idylwood Road	Cedar Lane	Great Falls Street
49. <a href="#">Lee Road</a>	<a href="#">Route 50</a>	<a href="#">Stonecroft Blvd</a>
50. Jermantown Road	Fairfax City Line	Blake Lane
51. John Marr Drive	Ravensworth Road	Columbia Pike
52. Kirby Road	Great Falls Street	Route 123
53. Lawyers Road	Fox Mill Road	Vienna Town Line
54. Lee Chapel Road	Burke Lake Road	Route 123
55. Lewinsville Road	Route 7	Route 123
56. Lincolnia Road	Columbia Pike	Beauregard Street
57. Loisdale Road	Franconia Road	Newington Road
<del>58. Lorton Road</del>	<del>Furnace Road</del>	<del>U.S. Route 1</del>
59. Magarity Road	Lisle Avenue	Great Falls Street
60. Monroe Street	West Ox Road	Herndon Town Line
61. Mount Vernon Highway	Route 1	Mount Vernon Memorial Highway
62. Mount Vernon Memorial Highway	Route 1	Mount Vernon Highway
63. Newington Road	Loisdale Road	Fairfax County Parkway

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64. North Kings Highway	<del>U.S.</del> Route 1	Telegraph Road
65. Nutley Street	Vienna Town Line	<del>U.S.</del> Route 50
66. Old Courthouse Road	Beulah Road	Gallows Road
67. Old Dominion Drive	Georgetown Pike	Arlington County Line
68. Old Yates Ford Road	Prince William County Line	Henderson Road
69. Ordway Road	Prince William County Line	Compton Road
70. Park Street	Vienna Town Line	Cedar Lane
71. Patrick Henry Drive	Route 7	Route 50
72. Pleasant Valley Road	Route 29	Route 50
73. Pohick Road	Fairfax County Parkway	Route 1
74. Poplar Tree Road	Stringfellow Road	Westfields Boulevard
75. Prosperity Avenue	<del>Route 236</del> <a href="#">Little River Turnpike</a>	Gallows Road
76. Ravensworth Road	<del>Route 236</del> <a href="#">Little River Turnpike</a>	Braddock Road
77. Roberts Parkway	Fairfax County Parkway	New Guinea Road
78. Rolling Road	Braddock Road	<del>Fairfax County Parkway</del> <a href="#">Franconia-Springfield Parkway</a>
79. Rolling Road	Fairfax County Parkway	Pohick Road
80. Seminary Road	Carlyn Springs Road	Alexandria City Limits
81. Sherwood Hall Lane	<del>U.S.</del> Route 1	Fort Hunt Road
82. Shreve Road	<del>U.S.</del> Route 29	Route 7
83. Silverbrook Road	Route 123	Lorton Road
84. Sleepy Hollow Road	Columbia Pike	Route 7
85. South George Mason Drive	Seminary Road	Arlington County Line
86. South Kings Highway	Telegraph Road	<del>U.S.</del> Route 1
87. Spring Hill Road	Route 7	Georgetown Pike

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88. Springvale Road	Georgetown Pike	Route 7
89. <a href="#">Stonecroft Blvd</a>	<a href="#">Route 50</a>	<a href="#">Westfield Blvd</a>
90. Stringfellow Road	<del>Fairfax County Parkway</del> <a href="#">Route 50</a>	<del>U.S.</del> Route 29
91. Sunrise Valley Drive	Centreville Road	Hunter Mill Road
92. Sunset Hills Road	Herndon Town Line	Hunter Mill Road
93. Swinks Mill Road	Georgetown Pike	Lewinsville Road
94. Sydenstricker Road	Old Keene Mill Road	Fairfax County Parkway
95. Towlston Road	Old Dominion Drive	Trap Road
96. Trap Road	Towlston Road	Beulah Road
97. Twinbrook Road	Braddock Road	Guinea Road
98. Vale Road	West Ox Road	Vienna Town Line
99. Vernon View Drive	Fort Hunt Road	George Washington Parkway
100. Wakefield Chapel Road	<del>Route 236</del> <a href="#">Little River Turnpike</a>	Braddock Road
101. Walker Road	Georgetown Pike	Colvin Run Road
102. Waples Mill Road	<del>U.S.</del> Route 50	West Ox Road
103. West Ox Road	Centreville Road	Lawyers Road
104. West Street	<del>U.S.</del> Route 29	Falls Church City Limit
105. Westmoreland Street	Chain Bridge Road	Arlington County Line
106. Westpark Drive	International Drive	Route 7
107. Wiehle Avenue	Crestview Drive	Sunrise Valley Drive
108. <a href="#">Willard Road</a>	<a href="#">Stonecroft Road</a>	<a href="#">Walney Road</a>
109. Wilson Boulevard	Route 7	Arlington County Line

## ~~APPENDIX 2~~

### ~~ROADWAY RIGHT-OF-WAY REQUIREMENTS~~

~~In an effort to preserve land for roadway improvements, to decrease delays in land acquisition, and to obtain land before land values are associated with developed properties, requirements are hereby set forth regarding right-of-way limits for roadways shown on the transportation plan.~~

~~The rights of way specified herein should be obtained through the development approval process (e.g. rezoning, special exception, site plan, etc.) as applications are submitted to the County. The provision of these rights of way will allow for future road improvements to be constructed with adequate ancillary features such as turning lanes, trails, and buffering, while minimizing impacts on properties which are subsequently developed. It should be stressed, however, that the ultimate roadway designs will recognize available right of way to the extent possible; the intent of these requirements is not to impose a rigid right of way swath through areas or mature neighborhoods, but rather to secure additional right of way needed for road improvements as development or redevelopment occurs.~~

#### Freeways

~~Right of way needs along freeway facilities can be variable and extensive. The right of way may need to accommodate HOV treatments and rail transit as well as roadway configurations which are difficult to standardize such as collector-distributor systems. The right of way requirements for freeway facilities should be based upon the associated studies for each improvement. These studies could include the detailed corridor analyses which are referred to in Objective 1 for the Shirley Highway, I-66 and Dulles Road Corridors as well as other environmental impact studies, feasibility studies and design efforts.~~

#### Arterials

~~Right of way requirements for arterials should be similar throughout the County. Table 1 summarizes the right of way requirements for arterial roadways based upon the number of lanes and the type of edge treatment: 'curb and gutter' or 'shoulder'. The number of lanes refers to the designation on the transportation plan. The edge treatment will vary by location within the County as follows:~~

- ~~• In the Low Density Residential Areas of the County, right of way should be provided as described for a 'shoulder' edge treatment. The provision of sufficient right of way to accommodate shoulders will allow for the ultimate typical section to be determined at the time detailed design is initiated. It is anticipated that this decision will be made based on a number of factors, including cost, clearing and grading requirements, the presence of storm sewer lines in the area, aesthetics, and other concerns. However, it is recognized that in all other areas of the County, curb and gutter treatments having less right of way requirements will normally be appropriate. The following roadways traverse or abut Low Density Residential Areas and hence should be considered for shoulder treatment:~~

<u>Roadway</u>	<u>Between</u>
Route 1	Route 235 (S. Int.) and Pr. Wm. Co.
Route 123	Fx Co. Pkwy and Pr. Wm. Co.
Route 28	Braddock Road Ext. and Pr. Wm. Co.
Route 29	I-66 and Pleasant Valley Road
Rt. 28 Bypass.	I-66 and Pr. Wm. Co.
Lockheed Blvd	Telegraph Road and Harrison Lane
Woodlawn Road	Telegraph Road and Route 1
Lorton Road	Route 1 and Silverbrook Road
Hunter Mill Road	Route 123 and Sunrise Valley Dr
Telegraph Road	Lockheed Blvd. and Route 1

- In other areas of the County, right-of-way should be provided as described for a 'curb and gutter' edge treatment.
- The 'shoulder' edge treatment is optional in Suburban Neighborhoods.

Additional right-of-way requirements are noted on Table 1 regarding service drives and intersections.

Many highway projects have completed, approved designs or are in active stages of design at this time. Thus, the strict application of these right-of-way requirements could result in inconsistencies with such plans. To avoid this situation, approved or active designs should be utilized to determine right-of-way requirements on those projects where no change is envisioned in the Plan designation for number of lanes. However, where the new Plan recommendation provides for more lanes than were previously shown on the Plan, right-of-way should be provided in accordance with Table 1.

Applying the foregoing principle, right-of-way for the following roads should be provided in accordance with Table 1, and the designs should be reconsidered to ensure compatibility with the expanded section:

<u>Roadway</u>	<u>Between</u>
Route 7	Falls Church City and Alexandria
Route 123	Burke Center Parkway and Burke Lake Road
Braddock Road	Fairfax Co. Pkwy. and Rt. 123
Telegraph Road	S. Van Dorn St. and Route 1
Lorton Road	Silverbrook Rd and Route 1
Hunter Mill Rd.	Lawyers Rd. and Sunrise Valley Drive
Fairfax Co. Pkwy.	Sydenstricker Rd. and Rt. 1

These right-of-way requirements should not affect the design and/or construction of the following projects:

<u>Roadway</u>	<u>Between</u>
Fairfax County Pkwy	Rt. 7 and Sydenstricker Rd.
Route 29	Fairfax City and Route 495
Beulah Street/Woodlawn Rd	Franconia Rd and Route 1
Burke Lake Rd	Pohick Rd. (Fairfax Co. Pkwy.) and Burke Centre Pkwy.

<u>Roadway</u>	<u>Between</u>
Centreville Rd	Rt. 50 and Dulles Toll Rd
Franconia Rd	Telegraph Rd. and Craft Rd.
Lawyers Rd	Fox Mill Rd and West Ox Rd
Shirley Gate Rd	Route 29 and Braddock Rd
Lockheed Blvd. <sup>†</sup>	Route 1 and Telegraph Rd
Stone Rd	Route 29 and Braddock Rd
Telegraph Rd.	Franconia Rd and S. Van Dorn St.
West Ox Rd	Route 29 and Lawyers Rd
Rolling Rd	Franconia/Spfd. Pkwy. and Old Keene Mill Rd.
Wiehle Avenue	Dranesville Rd. and Reston Ave.
Backlick Rd	Franconia/Sprfd. Pkwy. and Fairfax Co. Pkwy.
Haycock Rd	Rt. 7 and Great Falls St.
Jermantown Rd	Rt. 123 and Fairfax City
Lee Chapel Rd	Burke Lake Rd. and Old Keene Mill Rd.
Pohick Rd	Fairfax Co. Pkwy. and Alban Rd.
Waples Mill Rd.	Rt. 29 and Gov't Center Pkwy. Ext.
Rt. 28	I-66 and Loudoun Co.
Braddock Rd.	Fairfax Co. Pkwy. and Union Mill Rd.
Spring Hill Rd.	Rt. 7 and International Dr.
Burke Centre Pkwy. Ext.	Rt. 123 and Fairfax Co. Pkwy.
Lawyers Rd.	Centreville Rd and Fairfax Co. Pkwy.

<sup>†</sup> No change in number of lanes from previous Plan; consider shoulder design as suggested for Low Density Residential Area.

**TABLE 1**  
 Right-of-Way Requirements for Roads  
 Shown on Transportation Plan Where No Plans Exist<sup>1,2</sup>

<u>Lanes</u>	<u>Edge Treatment</u>	
	<u>Curb and Gutter</u>	<u>Shoulder</u>
	<u>meters<sup>3</sup></u>	<u>feet<sup>3</sup></u>
2 lane		27      90
4 lane	34      112	48      158
6 lane	41      136	55      182
8 lane	49      160	63      206

<sup>1</sup> Where design plans consistent with the Comprehensive Plan and providing all anticipated future turn lane requirements are developed to a sufficient level of detail and approval, right-of-way and easement dedication requirements should be based upon them.

<sup>2</sup> Where a substitute trail is to be provided in easements within the development site, the right-of-way requirements can be reduced in an amount to be determined by VDOT and DEM; however, adequate right-of-way must be retained to meet VDOT clear zone requirements.

<sup>3</sup> These metric equivalents were derived using the conversion rate of 1 foot = 0.3048 meter and approximating the result to the nearest whole number.

Add ~~XX~~ feet/meters of right-of-way for each of the following special circumstances:

	<del>XX</del>	
	<del>feet</del>	<del>meters</del>
<del>Tandem Left Turn Lanes at Major<sup>4</sup></del>		
<del>Intersections on All Legs</del>	<del>12</del>	<del>4</del>
<del>Right Turn Lanes at Major<sup>4</sup></del>		
<del>Intersections on All Approaches</del>	<del>12</del>	<del>4</del>
<del>Enhanced Median Treatments<sup>5</sup></del>	<del>4</del>	<del>1</del>
<del>Service Drives<sup>6</sup></del>	<del>92</del>	<del>28</del>
<del>Parking Lanes<sup>7</sup></del>	<del>9</del>	<del>3</del>

~~Add 15 feet (5 meters) in ancillary easements. Add supplemental right of way with transitions to avoid special features (e.g., historic properties, parks, cemeteries, wetlands, landfills, sewage and water treatment facilities, existing buildings, etc.) and/or to improve horizontal alignment. Add 40 feet (12 meters) radius at intersections dedicated to the chord of the radius curve.~~

<sup>4</sup> ~~Within 500 feet (152 meters) of intersections of arterial roads with collectors or with other arterials unless specifically determined by a traffic study to not be needed.~~

<sup>5</sup> ~~Commercial revitalization areas or other special areas where landscaping or special design features are desired.~~

<sup>6</sup> ~~Primary Highways, except where waived.~~

<sup>7</sup> ~~On side(s) of road where residences front on the road or service drive. Does not apply to shoulder sections.~~

## APPENDIX 2

### TYPES OF TRANSIT SERVICES AND FACILITIES

The Countywide Transportation Plan identifies improvements of public transportation services and facilities. The Transportation Plan designates a number of Enhanced Public Corridors where major transit services will be provided in corridors that carry higher volumes of inter-county and/or intra-county vehicular traffic. The Plan also maps out approximate locations for supporting facilities of the existing and planned transit services for the purpose of reserving rights-of-way required by the facility development. Final locations of component facilities are subject to completion of area plans or appropriate studies. This document outlines types of transit services and facilities based on comprehensive consideration of transit modes, technologies, rights-of-way, capacities, and service and operational characteristics.

#### Transit Services

Public transportation services can be generally categorized into three major types: rail transit, bus transit and paratransit.

**Rail Transit** is a mass transit service using rail technology and occupying a separate right-of-way. Heavy rail, commuter rail and light rail are the common rail transit services.

**Heavy rail transit (HRT)** is an electric railway with the capacity for carrying a heavy volume of urban passenger traffic. It is characterized by high speed and rapid acceleration passenger rail cars operating in multi-car trains on fixed rails, separate rights-of-way from which all other vehicular and foot traffic are excluded, and high platform loading. Most passengers access heavy rail services by walking, riding feeder bus services, or using park-and-ride facilities near suburban stations. The heavy rail transit service in the Washington DC region is referred to as Metrorail.

**Commuter rail (CR)** is a type of passenger train service that utilizes diesel-electric or electrically propelled trains and operate over existing railway track on the same rights-of-way used by intercity railway freight and passenger trains. Services are operated on a regular basis by or under contract with a transit operator for the purpose of transporting passengers within urbanized areas, or between urbanized areas and outlying areas. The Virginia Railway Express (VRE) is a commuter rail service that provides service between Virginia suburbs, including outlying counties, and downtown Washington DC.

**Light rail transit (LRT)** is essentially an improved and modernized version of the old streetcars and electric interurban railways that were common in the United States from the 1890s through the World War II. It utilizes electrically propelled passenger cars operating on fixed rails in rights-of-way that may or may not be separated from other traffic for much of the way. Light rail vehicles typically operate at surface level with power drawn from an overhead trolley wires. Light rail serves passenger trips within

the densely developed urban and suburban areas. A modern streetcar is a form of light rail that has less capacity.

**Automated guideway transit (or people mover)** is an electric railway of guided transit vehicles, operating singly or in multi-car trains, without an onboard crew. AGT systems provide short-distance collection and distribution service, usually in major activity centers. Service may be on a fixed schedule or in response to a passenger activated button. AGT systems are located in several U.S. cities but are more commonly found in downtown areas and at airports and amusement parks.

**Monorail** is a form of guided transit where the vehicles are supported by or suspended from a guideway formed by a single beam, rail or tube, usually elevated. If the trains do not have an onboard crew, they are considered automated guideways.

**Bus Transit** utilizes rubber-tired vehicles operating on fixed routes with fixed schedules on roadways. Bus transit can be further classified in the following types.

**Local bus service** is the most common type of bus service. Buses may stop every block or two along a route several miles long and serve a destination end or traffic generator, for example, a shopping mall or a hospital, for example.

When limited to a small geographic area or to short-distance trips, local service is often called feeder, circulator, or shuttle service. Such routes may operate in a loop and connect, often at a transfer center or rail station, to major routes for travel to more destinations. Most Fairfax Connector bus routes are categorized as local bus service.

**Express service** is a high-speed limited-stop service generally operating within transportation corridors oriented to a principal destination. It consists of longer trips, especially to major activity centers during peak commuting hours, and operates long distances without stopping. Examples include services accessing freeways, and services on major streets that operate local service on the outlying portions of a route until a certain point and then operate non-stop to activity centers. **Reverse commute** is a type of express service transporting passengers from residential locations in urban core areas to employment centers in the outlying areas. It is operated in the opposite direction of the peak direction of travel.

**Bus rapid transit (BRT)** is a limited-stop service developed in the 1990s that relies on technology to help speed up the service. It combines the quality of rail transit and the flexibility of buses. Bus Rapid Transit can operate on exclusive rights-of-way, within high-occupancy-vehicle (HOV) lanes, on expressways, or on ordinary streets. A BRT typically combines intelligent transportation system (ITS), technology applications, signal priority for transit, cleaner and quieter vehicles, rapid and convenient fare collection, and integration with land use policy.

**Paratransit** is a demand-responsive shared-ride transportation service without a fixed route.

In practice, paratransit covers two broad areas: ADA paratransit and other paratransit.

**ADA paratransit**, in compliance with the Americans with Disabilities Act (ADA) and other rulings, transports people with disabilities who are unable to travel alone on fixed route system. MetroAccess is the ADA paratransit service for the Washington DC metropolitan area.

**Other paratransit services** can transport individuals to a destination ("many to one") or to several destinations ("many to many"). There are several forms including shared-ride taxi, general public dial-a-ride (typically used in areas of low transit demand), human service agency transportation, and ridesharing including vanpools. Vanpools, comprised of vans operating as a ridesharing arrangement, provide service to a group of individuals traveling directly between their homes and a regular destination within the same geographical area.

### **Transit Facilities**

Transit facilities provide access and modal transfer for users of public transportation services.

**Bus stop** is where one or multiple bus routes pick up passengers. A bus stop should have minimum amenities such as schedule and route information displays, sidewalks or trails accessing the stop, benches and/or shelters. The provision of benches and shelters should take into consideration daily passenger boarding levels and adjacent land use characteristics.

**Transit transfer center (T)** is a passenger loading and waiting area where a number of bus routes and/or other modes converge. A transit transfer center should have good access to nearby arterials and/or freeways in order to minimize transit travel times. It could be a free-standing individual facility or could easily be integrated with the design of a building. A transit transfer center typically has significant infrastructure such as a waiting room, benches, restrooms, sales outlet, ticketing or pass vending machines, and/or other services. In some instances, a timed-transfer system is used and buses converge on the transit center at a specific time to exchange passengers. Parking typically is not provided at these locations, although the transit transfer center could be co-located with a rail station parking facility or park-and-ride lot.

**Rail Station (R)** is defined as a location where a rail rapid transit service picks up and drops off passengers. A rail station typically has a bus transit waiting area, kiss-and-ride, bicycle parking and other amenities listed under transit transfer centers. It may or may not be accompanied by vehicle parking areas, depending on the nature of the station area.

**Commuter Rail Station (C)** is defined as a location where commuter rail service is provided. It has passenger amenities similar to those provided for a rail station.

**Park-and-Ride (P)** is a parking garage and/or surface lot used for parking passengers' vehicles, either free or for a fee, while they use public transportation facilities or vanpools.

Park-and-ride facilities are generally established as collector sites for multiple bus routes, rail service, and high-occupancy-vehicle (HOV) lane access, and may also serve as collector sites for vanpools and carpools. They may have amenities similar to transit transfer centers.

**Kiss-and-Ride** is a location where passengers in non-transit vehicles are dropped off to board public transportation vehicles. Kiss-and-Ride areas could be located at transit transfer centers, rail stations, commuter rail stations, and park-and-ride facilities.

**APPENDIX 3**

**TRAIL CLASSIFICATION**

**Major Regional Trail:** Includes the Interstate Route One Bikeway, Cross County Trail, and trails along I-495, I-66, Dulles Airport Access Road, Fairfax County Parkway, Franconia-Springfield Parkway, Southern Railroad, George Washington Memorial Parkway, Washington and Old Dominion Regional Park, Bull Run, Occoquan River and Potomac River. Most of the trails designated in this category are paved trails, 8 feet or more in width. However, surface materials vary from paved, natural surfaces and stonedust for the Interstate Route One Bikeway, South County East-West trail, Cross County Trail and those trails along the Bull Run, Occoquan River, and Potomac River.

**On-road Bike Routes:** Designated bike lanes or signed routes to accommodate bicycle users. Design features are determined on a case by case basis.

**Major Paved Trail:** Concrete or asphalt trail, 8 feet or more in width.

**Minor Paved Trail:** Concrete or asphalt trail, 4 feet to 7 feet 11 inches in width.

**Minor Paved Trail with Parallel Natural Surface or Stone Dust Trail:** Concrete or asphalt trail, 4 feet to 7 feet 11 inches in width adjacent to, and in the same easement with a stone dust or natural surface trail typically 6-8 feet in width.

**Natural Surface or Stone Dust Trail:** Stone Dust or natural surface trail typically 6-8 feet in width.

**Stream Valley Trail:** Trails along stream ways as determined by Fairfax County Park Authority Staff.

**Trails in Other Jurisdiction:** Trails to be reviewed by and located in the Towns of Herndon, Vienna and Clifton and the Cities of Fairfax and Falls Church.

## APPENDIX 4

### ROADWAY RIGHT-OF-WAY REQUIREMENTS

In an effort to preserve land for roadway improvements, to decrease delays in land acquisition, and to obtain land before land values increase with developed properties, requirements are hereby set forth regarding right-of-way requirements for roadways shown on the transportation plan.

The rights-of-way specified herein should be obtained through the development approval process (e.g. rezoning, special exception, site plan, etc.) as applications are submitted to the County. The provision of these rights-of-way will allow for future road improvements to be constructed with adequate ancillary features such as turning lanes, sidewalks, trails, and buffering, while minimizing impacts on properties which are subsequently developed.

It should be stressed, however, that the ultimate roadway designs will recognize available right-of-way to the extent possible; the intent of these requirements is not to impose rigid right-of-way standards through areas or mature neighborhoods, but rather to secure additional right-of-way needed for road improvements as development or redevelopment occurs.

#### Freeways/Expressways

Right-of-way needs along freeway facilities can be variable and extensive. The right-of-way may need to accommodate HOV/HOT lanes and rail transit as well as roadway configurations such as interchanges, ramps, and collector-distributor lanes. The right-of-way requirements for freeway facilities should be based on studies for each facility. These could include the detailed corridor analyses, feasibility studies, location and design studies and/or environment impact studies.

#### Arterials

Right-of-way requirements for arterials should be similar throughout the County. Table 1 summarizes the right-of-way requirements for arterial roadways based upon the number of lanes and the type of edge treatment: 'curb and gutter' or 'shoulder'. The number of lanes refers to the designation on the transportation plan. The edge treatment will vary by location within the County as follows:

- (1). In the Low Density Residential Areas of the County, right-of-way should be provided as described for a 'shoulder' edge treatment. The provision of sufficient right-of-way to accommodate shoulders will allow for the ultimate typical section to be determined at the time detailed design is initiated. It is anticipated that this decision will be made based on a number of factors, including cost, clearing and grading requirements, the presence of storm sewer lines in the area, aesthetics, and other concerns. However, it is recognized that in all other areas of the County, curb-and-gutter treatments having less right-of-way requirements will normally be appropriate.
- (2). The 'shoulder' edge treatment is optional in suburban neighborhoods.
- (3). Additional right-of-way requirements for items such as turn lanes, service drives, parking lanes and on-road bike lanes are noted on Table 1.

When highway projects have approved designs or are in active stages of design, the strict application of these right-of-way requirements, shown in Table 1, could result in inconsistencies with such plans. To avoid this situation, approved or active designs should be utilized to determine right-of-way requirements on those projects where no change is envisioned in the Plan designation for number of lanes. However, where the new Plan recommendation provides for more lanes than were previously shown on the Plan, or where there are no design plans, right-of-way should be provided in accordance with Table 1.

The cross-section illustrations in Figure 1 and Figure 2 correspond to the measurements provided in Table 1. These cross-sections represent the typical right-of-way needed and can serve as guidelines in the development of roadway plans.

## Other Considerations

Additional right-of-way might be required to support traffic operations and facilitate non-motorized transportation. Table 1 outlines the required rights-of-way for each of the following facilities. Provision of such facilities should be determined on a case-by-case basis, taking into consideration community development characteristics, land use types and density, traffic volume and turning movements, transit service, and non-motorized users.

**TABLE 1**  
Right-of-Way Requirements for Roads  
Shown on Transportation Plan Where No Plans Exist<sup>1, 2</sup>  
(Measurement in Feet for the Entire Cross Section)

<u>Lanes</u>	<u>Typical Curb and Gutter Section</u> Feet	<u>Typical Shoulder Section</u> Feet
2-lane	---	87
4-lane	119	161
6-lane	143	185
8-lane	167	209

Add XX feet of right-of-way for each of the following special circumstances:

	<u>Feet</u>
<u>Dual Left Turn Lanes at Major</u> <sup>3</sup> <u>Intersections on All Legs</u>	<u>12</u>
<u>Right Turn Lanes at Major</u> <sup>3</sup> <u>Intersections on All Approaches</u>	<u>12</u>
<u>Enhanced Median Treatments</u> <sup>4</sup>	<u>4</u>
<u>Service Drives</u> <sup>5</sup>	<u>92</u>
<u>Parking Lanes</u> <sup>6</sup>	<u>9</u>
<u>On-Road Bike Route</u> <sup>7</sup>	<u>4</u>

Add 15 feet in ancillary easements. Add supplemental right-of-way with transitions to avoid special features (e.g., historic properties, parks, cemeteries, wetlands, landfills, sewage and water treatment facilities, existing buildings, etc.) and/or to improve horizontal alignment. Add 40 feet radius at intersections dedicated to the chord of the radius curve.

<sup>1</sup> Where design plans consistent with the Comprehensive Plan and providing all anticipated future turn-lane requirements are developed to a sufficient level of detail and approval, right-of-way and easement dedication requirements should be based upon them.

<sup>2</sup> Where a substitute trail is to be provided in easements within the development site, the right-of-way requirements can be reduced in an amount to be determined by VDOT and DPWES; however, adequate right-of-way must be retained to meet VDOT clear zone requirements.

<sup>3</sup> Within 500 feet of intersections of arterial roads with collectors or with other arterials unless specifically determined by a traffic study to not be needed. The use of dual turn lanes requires a width of 30 feet on the receiving road.

<sup>4</sup> Commercial revitalization areas or other special areas where pedestrian refuge, landscaping or special design features are desired within the median.

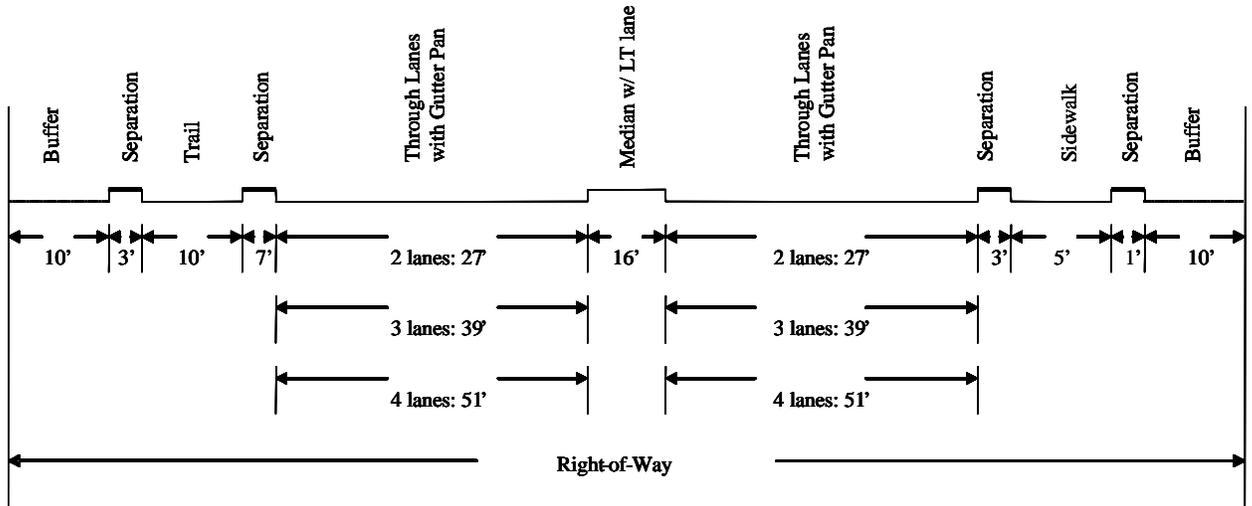
<sup>5</sup> Primary Highways, except where waived.

<sup>6</sup> On side(s) of road where residences front on the road or service drive. Does not apply to shoulder sections.

<sup>7</sup> On-road bike route is a designated lane or signed route to accommodate bicycle users. Design features should be determined on a case-by-case basis, as either a marked bike lane, wide shoulder lane, or paved shoulder.

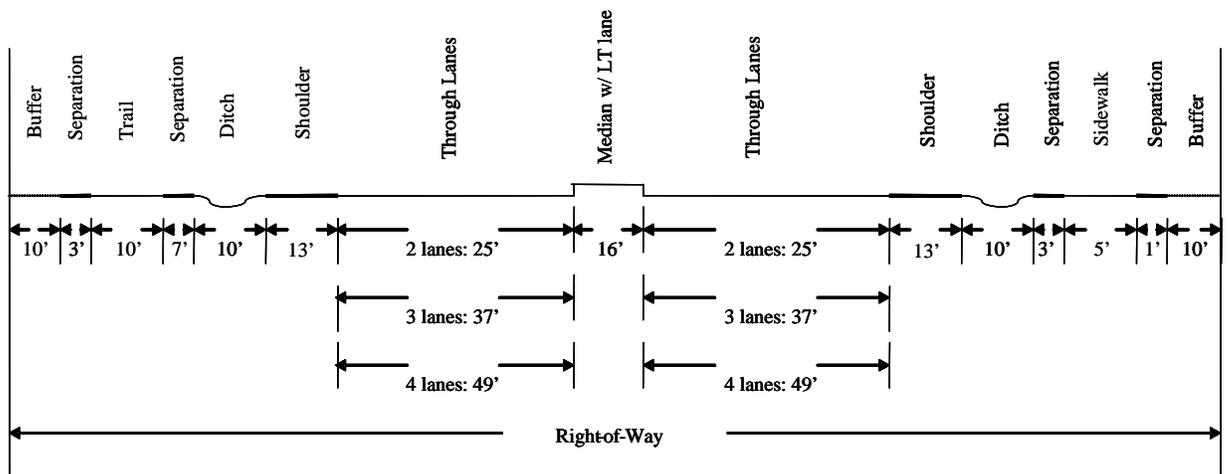
**FIGURE 1**

Cross Section Illustration of a Typical Curb and Gutter Section  
 (Measurement in Feet)



**FIGURE 2**

Cross Section Illustration of a Typical Shoulder Section  
 (Measurement in Feet)



**Roads in Revitalization Areas**

The right-of-way requirements outlined above (Figure 1 and Figure 2) are generally applicable for improvements in a typical suburban setting. The County is comprised of diverse communities and development patterns, some of which have more urban features, higher land use densities, and more pedestrian activities and transit services. To preserve communities' characteristics and support economic vitality, this Plan allows flexibility and variation in right-of-way requirements for the planned arterial improvements. The planning and design of individual roadways need to fit with the surrounding land use and community, while enhancing mobility and safety for all road users.

The County has designated several Revitalization Districts and Areas to encourage economic development in the older commercial and residential areas. Special incentives and policies are provided for these areas, such as flexibility within certain zoning regulations and urban design measures. The Plan emphasizes that road improvement policies within the Revitalization Districts and Areas be in concert with the adopted land use, urban design and economic and administrative policies formulated to foster a sense of place and to support successful revitalization. Figure 3 serves as a guideline for such variation and flexibility. It is important to recognize that land use, transit and travel patterns differ among these areas. Area Plans of the Comprehensive Plan provide specific guidelines for right-of-way requirements and cross sections in the Revitalization Districts and Areas.

**FIGURE 3**

Richmond Highway Cross Section  
Including At-Grade Transitway in Center  
(Measurement in Feet)

