

# Southern Maryland Transit Corridor Preservation Study

## Land Use Analysis & Guidance Report

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## 1. Introduction

The Land Use Analysis & Guidance Report was developed to accompany the Southern Maryland Transit Corridor Preservation Study. This report serves as a reference to assist the counties in preparing for a future transitway in the study area, which is located along MD 5/US 301 from White Plains in Charles County to the Branch Avenue Metrorail station in Prince George's County.

The MD 5/US 301 corridor is a major north/south transportation corridor in Maryland for both commuting and shopping. It links Virginia and Southern Maryland to points north. Because of the continued growth in population and development over the last two decades, which is expected to continue, traffic congestion and safety issues will only become worse if no improvements are made to the existing transportation system and the surrounding land use patterns. In turn, the decline in efficiency and safety of the transportation system could be detrimental to the millions who live and work in the area. Compact land use patterns that provide multiple transportation options will serve to ease the congestion and burden on the regional transportation network.

Land use patterns and the resulting density play an integral role in identifying or establishing the need for particular types of transportation infrastructure and the preservation of land necessary for future integration of the transportation infrastructure. An analysis of existing land uses and future land use plans and a review of current zoning regulations were conducted to determine potential benefits and/or constraints for future land uses as they relate specifically to the accommodation of Bus Rapid Transit (BRT) or Light Rail Transit (LRT) in the study area. This report summarizes the findings and provides recommendations to help the counties in creating the necessary development to support BRT or LRT.

A successful transit corridor requires proactive planning on the part of the local jurisdiction to plan and execute transit supportive land uses and a transportation vision for the corridor which is integrated into the county's Master Plan and other appropriate land use policy documents. These documents, in turn, are used as a basis for regulatory control development (e.g. zoning).

Previous land use policies and the resulting development in both Charles and Prince George's counties have been based on an older post-WWII model. The goal of these policies was to separate different land uses, where residential areas were set apart from commercial, retail, and other land uses. This separation has resulted in several problems, among them:

- Long distances between land uses (e.g., from residential to offices and jobs) discouraging alternate modes of transportation
- Increasing automobile trips that result in traffic congestion and accidents
- The need to build wider roads to accommodate the congestion

The response to these types of problems around the country and in Maryland has been a movement towards "Smart Growth" sustainable development policies. These policies attempt to challenge the auto-oriented view of transportation and land use. Through studies such as this one, Charles and Prince George's counties have begun to break away

from the older style of planning to embrace newer concepts including transit-oriented development and multi-modal corridor planning.

The purpose of proactive planning is to create a successful transit corridor of distinct destinations or nodes comprised of a mix of jobs, housing, commercial development, and recreation. Otherwise, transit trips will be predominantly one-directional peak hour commuter trips, a trip pattern that does not generally create a cost-effective transportation investment. Successful examples can be found throughout the United States, but one of the most often cited is the Metrorail Orange Line Corridor in Arlington, Virginia. From Rosslyn to Ballston, each community has its own Metro station and its own unique conglomeration of densely developed residential neighborhoods, jobs, and other amenities all within a well-designed pedestrian centered environment. The transit and the development are interdependent entities. The transit becomes an important means of transporting people between destinations within the corridor and the destinations are more attractive as growth markets because of their accessibility.

The county Master Plan should include a comprehensive description of the transit-oriented project which details the project scope, termini, interconnections, the goals and objectives of the project and how the goals will be accomplished. An account of any proposed phasing for the project such as additional future stations, as well as the relationship of the project to other transportation or land use projects should also be included in the Master Plan description. The land use planning and regulatory techniques that are going to be utilized should also be identified.

Examples of land use planning and regulatory techniques include:

- Transit district overlays at station locations
- Cluster developments
- Planned unit developments
- Acquisitions
- Zoning restrictions to avoid non-conforming uses
- Designations to protect land such as conservation easements
- Grant programs such as Program Open Space

This Land Use Analysis & Guidance Report identifies strategies, tools, and techniques that will assist the counties in preserving, protecting, and enhancing the transitway in advance of the next phase of project development. The land use element of this report provides information with respect to land use issues as they relate to the policy, vision and regulatory control for the preservation of right-of-way for transit in the study area along the corridor. This report is meant as a reference document for informational purposes only.

The implementation portion of this report provides an overview of the Federal Transit Administration's (FTA) New Starts program, followed by a description of the key steps that the counties could take to preserve the corridor prior to the project entering into National Environmental Policy Act (NEPA) or New Starts. The preservation of the corridor is directly related to the land use patterns that are recommended in the land use portion of this report.

## 2. Summary of Previous Plans, Studies and Codes

Both Charles and Prince George's counties have, by State Law, developed planning documents that establish a vision and goals to assess the needs for and guide future development, transportation and infrastructure. Reviewed documents have been summarized in this section as to the pertinent information relating to development options and alternatives along the MD 5/US 301 corridor in the study area. Key plan recommendations and the existence of current and future transit-supportive land uses and zoning established by previous and current planning efforts have been noted in the following text. As evidenced by these documents, high capacity transit along MD 5/US 301 has long been envisioned.

The previous plans, studies and codes summarized include:

- 2.1. Southern Maryland Mass Transportation Alternatives Study, 1996
- 2.2. Maryland Comprehensive Transit Plan, Vol. IV., Southern MD, 2001
- 2.3. US 301 Policy Oversight Committee Final Report, 2001
- 2.4. MD 5/US 301/MD 228 Corridors Park and Ride Feasibility Study, Maryland Transit Administration, 2001
- 2.5. The Prince George's County Approved General Plan, 2002
- 2.6. 2002 Guide to Zoning Categories, Prince George's County
- 2.7. 2002 Charles County Transportation Strategy
- 2.8. The 2003 Biennial Growth Policy Update, Prince George's County, 2003
- 2.9. Maryland Strategic Framework for TOD in Prince George's County, 2003
- 2.10. MD 5/US 301 Transit Services Staging Plan, 2004
- 2.11. The Waldorf Sub Area Plan, Charles County, April 2004
- 2.12. Approved Countywide Green Infrastructure Plan, Prince George's County, 2005
- 2.13. The Charles County Comprehensive Plan, 2006
- 2.14. The Prince George's County Zoning Ordinance, effective as of June 11, 2008
- 2.15. Southern Maryland Transportation Needs Assessment, June 2008
- 2.16. The Charles County Zoning Ordinance, November 2009
- 2.17. Downtown Waldorf Vision Plan, April 2010
- 2.18. Downtown Waldorf Design Guidelines, April 2010

### 2.1. *Southern Maryland Mass Transportation Alternatives Study, 1996*

The Southern Maryland Mass Transportation Alternatives Study developed and evaluated a number of transit alternatives for the MD 5/US 301 corridor. The alternatives included:

- No Build,
- Transportation System Management (TSM),
- Pope's Creek Branch Commuter Rail (White Plains to US 50/Bowie),
- MD 5/US 301 Barrier Separated HOV (La Plata to I-495),
- MD 5/US 301 Concurrent Flow HOV (La Plata to I-495),
- MD 5/US 301 Busway (La Plata to Branch Avenue Metrorail station) and
- MD 5/US 301 Light Rail Transit (White Plains to Branch Avenue Metrorail station).

Alternatives were evaluated and the LRT Alternative was identified as having the highest level of projected ridership and the strongest opportunity to reinforce local land use and economic development objectives of Charles and Prince George's County. Short term

recommendations included continued increase in bus service along the corridor and to begin right-of-way preservation for a future LRT.

### **2.2. *Maryland Comprehensive Transit Plan, Vol. IV., Southern MD, 2001***

The Maryland Comprehensive Transit Plan (MCTP) recommended improvements to the existing bus network in Southern Maryland (including Charles and Prince George's counties) for both the local county services and the commuter bus services operated by the Maryland Transit Administration (MTA). Short-term recommendations included increasing the level of service on the 900 series commuter bus lines (901, 903, 905, 907 and 909). Long-term recommendations included the recommendation for a transitway/rail line along the MD 5/US 301 corridor from White Plains to the Branch Avenue Metrorail station. The MCTP references *The Southern Maryland Mass Transportation Alternatives Study 1996*, which considered potential transit mode options for the corridor such as LRT, commuter rail, HOV, and BRT.

### **2.3. *US 301 Policy Oversight Committee Final Report, 2001***

This report, the precursor to the MCTP, recommended that viable transit options should be developed in the corridor to help meet the future projected demand and to identify and begin preservation of a future light rail/express bus alignment in the MD 5/US 301 corridor. The report also recommends that a "wider array of transportation options should be made available to residents and workers in the study area." Specific recommendations included:

- Construction of HOV lanes on MD 5, from the Capital Beltway to US 301 and on the western Waldorf bypass, to benefit buses and carpools.
- Expansion of express and local bus service, ridesharing incentives, new park-and-ride lots and other initiatives to increase transit service and build ridership.
- MTA and Charles County should combine their resources to increase commuter and local bus service.
- Preservation of right-of-way for future LRT use through the acquisition of right-of-way from White Plains to the Branch Avenue Metrorail station.
- Implementation of the LRT after it can be economically justified and suitable land use conditions exist.
- Identification of locations for improvements such as bus priority lanes and signal pre-emption as part of the development of a BRT planning study.

### **2.4. *MD 5/US 301/MD 228 Corridors Park and Ride Feasibility Study, Maryland Transit Administration, 2001***

In October 2001, a park and ride site identification report was completed for the MD 5/US 301 corridor. The study identified a total of 17 potential sites in the MD 5 corridor and a total of 16 sites were identified in the US 301 and MD 228 corridors. Potential sites were recommended for short-term (immediate to three years implementation), mid-term (three years to 10 years implementation), long-term (beyond 10 years implementation period) and sites not to be considered. Within the MD 5 corridor, four sites were recommended for short-term, one site for mid-term and seven sites for long-term implementation. Within the US 301 and MD 228 corridors, six sites were recommended for short-term, one site for mid-term, and two sites for long term implementation.

### **2.5. *The Prince George's County Approved General Plan, 2002***

Prince George's County is second in population in Maryland only to Montgomery County and has experienced significant growth over the last 20 years (15%). This growth trend is expected to continue through the 2015 population projections (a population of 925,550 in 2015, up from 801,515 in the 2000 Census). In order to reduce the impact of the projected growth, policies have been established to guide growth along transportation corridors and in development centers (Developed Tier and Developing Tier), including areas that are in the study area. Recognizing the potential impact of this growth on the roadway network, many of the recommendations found in the Plan, in particular in Subregion V, are in support of alternate modes of transportation along the MD 5/US 301 corridor. Compact, dense land uses that support mixed uses are identified along the corridor.

The first statement of the vision in the Plan encourages infill and redevelopment over greenspace development which will be beneficial to building a critical mass to support ridership for BRT or LRT options. The vision further emphasizes mixed uses, higher densities and intensity in development centers and along developed corridors including MD 5/US 301. However, the recommended densities for jobs per acre (1.75 jobs per acre) and residential density (1.5 dwellings per acre) are not transit-oriented. Transit-oriented averages tend to be 10 to 15 jobs per acre and 12 to 40 dwelling units per acre within a one-half mile to one mile radius around a transit station<sup>1</sup>. However, the Plan also identifies the need for higher densities in mixed use areas for residential and higher jobs per acre for employment areas if public transit and transit-oriented developments are to be successful. Development intensity targets in "center and corridor" areas include residential densities of up to 30 dwellings per acre and employment densities of up to 100 employees per acre. The Brandywine area and the MD 5/US 301 corridor are identified as "future centers" as a part of the Plan.

### **2.6. *2002 Guide to Zoning Categories, Prince George's County***

This document represents a summary of the 55 zoning districts available for use in Prince George's County. Of the 55 districts, 12 are appropriate for promoting densities suitable for the support of BRT and LRT: R-53, R-T, R-20, R-30, R-30C, R-18, R-18C, R-H, R-10, R-10A, R-U, the L-A-C Community and the M-A-C New Town or City Corridor Center districts. The Transit District Overlay is also a tool used to support higher densities for public transit.

### **2.7. *2002 Charles County Transportation Strategy***

The Strategy adopts guiding principles for state roads, county roads, mass transit, land use and other transportation options for the transportation network in Charles County. The guiding principles include:

- Provide timely transportation infrastructure to accommodate the County's growth.
- Coordinate transportation planning with land use planning as described in the 1997 Charles County Comprehensive Plan and Sub Area Land Use Plans.
- Create a transportation network which maximizes choices of transportation options.
- Minimize negative impacts of transportation projects on existing neighborhoods and businesses.

<sup>1</sup> Averages were derived from a review of a variety of reports and studies regarding transit-oriented development best practices including information from the Transportation Research Board (e.g. TCRP Report 102, "Transit Oriented Development in the United States: Experiences, Challenges and Prospects"), the Federal Transit Administration (FTA) and Reconnecting America.

### **2.8. The 2003 Biennial Growth Policy Update, Prince George's County, 2003**

The 2003 Biennial Growth Policy Update is an update on the status of the implementation of the 2002 General Plan identified in Section 2.5 above. It contains a Highlights section that is divided into five subsections, one for each of the five General Plan goals, providing relevant trends about each goal and a discussion of recent and upcoming implementation efforts. Implementation trends identified that most of the residential subdivisions that are being applied for or that have been approved are in or near Development Centers which emphasize compact growth. *While the densities of the residential developments continue to be suburban in nature, guiding growth in higher densities to development centers in or near the study area, as Prince George's County is recommending, will help support increased ridership for BRT and LRT.* Prince George's County is increasing opportunities for multi-family development and higher density housing through planning and zoning efforts with the Mixed Use Town Center designation (M-U-TC) in development centers, and along major corridors. The County is also placing a greater emphasis on Developed Tier and Developing Tier projects over Rural Tier projects. This means the County will be proactively guiding growth into the Study area, which is part of the Developing Tier. As a result of the guiding, this growth must be controlled in such a way as to preserve right-of-way for a LRT or a BRT system. Proactive guiding of development will also serve to create a larger population which may utilize BRT and LRT options.

### **2.9. Maryland Strategic Framework for TOD in Prince George's County, 2003**

The Strategic Framework for Transit-Oriented Development (TOD) in Prince George's County is a countywide planning document for attracting transit-oriented development to Prince George's County as a means of achieving General Plan development goals and objectives. The framework discusses the history and employment of transit-oriented development best practices throughout the United States and in Prince George's County. It discusses opportunities, challenges and policymaking issues associated with employing transit-oriented development planning in Prince George's County. The framework provides criteria for evaluating the transit-oriented development potential of 15 Metrorail and two stand-alone MARC (commuter rail) stations in the county, and includes descriptions of those station areas. *It should be noted that the Branch Avenue Metrorail station is one of the stations that was evaluated and identified for potential transit-oriented development projects within the study area.*

### **2.10. MD 5/US 301 Transit Services Staging Plan, 2004**

The MD 5/US 301 Transit Service Staging Plan (TSSP) was drafted to guide the expansion of transit service along the MD 5/US 301 corridor to the year 2025 in Charles and Prince George's counties. The TSSP focuses on major corridor level transit service, leaving specific route planning to be accomplished in the future by agencies that operate and fund transit. The TSSP was a joint effort comprised of nine entities including:

- Maryland Transit Administration (MTA),
- Maryland Department of Transportation (MDOT),
- Maryland State Highway Administration (SHA),
- Charles County Government (Planning Offices and VanGO),
- Prince George's County Department of Public Works and Transportation,
- Tri-County Council for Southern Maryland,
- Metropolitan Washington Council of Governments (MWCOG),
- Washington Metropolitan Area Transit Authority (WMATA), and
- Maryland National Capital Park and Planning Commission (M-NCPPC).

The TSSP identified four alternatives for public transit including enhanced commuter bus, two levels of BRT (moderate level [shared and exclusive lanes] and high level [exclusive lanes and grade separation]), and LRT. Daily ridership levels at the target year 2025 were highest under the high level BRT option (26,400-31,000 riders) and lowest at enhanced commuter bus (6,800 riders). LRT estimated daily ridership was between 22,600 and 26,800 riders. Cost ranged between \$255 million (enhanced bus) and \$1.5 billion (LRT). The timeframe recommended for implementation is identified as follows:

- Expand commuter bus service through 2015 by adding up to 42 trips (190 total trips) to the approximately 148 trips currently being operated on five MTA routes in 2010.
- Potentially initiate project planning for BRT and/or LRT based on state and federal funding, project inclusion in the 2009 federal re-authorization, support of Charles and Prince George's counties master planning efforts, continued increase in ridership on commuter bus, and developing land use densities to support BRT and/or LRT.
- Continue expanding enhanced commuter bus to 246 trips by 2025.
- Implement BRT, LRT or a combination of both between 2017 and 2025.

This planning document identifies a reasonable and fairly aggressive schedule for BRT or LRT implementation. It is all based on the continued proactive land use efforts of both counties to establish the appropriate residential and non residential densities to promote ridership and to preserve areas necessary for exclusive corridors for BRT or LRT, which both Charles and Prince George's Counties are currently undertaking.

#### **2.11. The Waldorf Sub Area Plan, Charles County, April 2004**

The Waldorf Sub Area Plan is a micro level study of the 35 square mile Waldorf area. It is a result of a recommendation of the Charles County 1997 Comprehensive Plan to develop a detailed plan for Waldorf. This specific Sub Area Plan addresses future land use, development, transportation, environment, open space and public facilities issues in Waldorf. There are a total of four "activity centers" identified in the Sub Area Plan, all of which are in the study area. Two of the activity centers, Waldorf Center and Acton Center, are currently being planned by the County. *These activity centers promote zoning which encourages higher densities and mixed uses; regulations that serve to support BRT and LRT transit options.*

According to the Sub Area Plan, the Waldorf area is to serve as a "town center" or activity center for the greater region. Mixed uses and higher densities are encouraged. The Sub Area Plan does not specifically mention BRT or LRT alternatives, but instead focuses on modifications and upgrades to the existing roadway system and increased connectivity for bicyclists and pedestrians. However, the Sub Area Plan has recommendations for a light rail station at both Waldorf Center and Acton Center. The Sub Area Plan incorporates the County's general recommendations for an upgrade and western bypass for US 301, and further recommends that future Sub-Area planning continue to take into account the US 301 project.

#### **2.12. Approved Countywide Green Infrastructure Plan, Prince George's County, 2005**

The Approved Countywide Green Infrastructure Plan identifies the "green infrastructure network" which includes designated areas of countywide environmental significance. It contains most of the County's most significant natural resource lands including streams, wetlands, buffers, 100-year floodplains, severe slopes, interior forests, colonial waterbird

nesting sites, and unique habitats. This system of resources comprises approximately 168,000 acres, of which 33 percent is currently in public ownership.

A portion of the study area at the Prince George's/Charles County line is in a Special Conservation Area. This area is identified as the Mattawoman Creek Stream Valley (Area 10). Approximately one-third of the study area in Prince George's County is also located in the Final Green Infrastructure Network. Charles County does not have significant amounts of "protected land" or Special Conservation Areas within the study area with the exception of the Mattawoman Creek Stream Valley area and other minor streams and creek corridors. The Pope's Creek Railroad is identified as a potential recreational greenway by the Maryland Greenways Commission. The Mattawoman Creek Stream Valley Special Conservation Area is considered a high priority for preservation, restoration and enhancement, and it is one of the highest priority areas for preservation in Maryland. The Plan identifies the Mattawoman Creek and its tidal and nontidal wetlands as among the most productive finfish spawning and nursery streams in the entire Chesapeake Bay region supporting unusually large numbers of fish-eating wildlife. The quality of the water entering the stream systems in the watershed is of particular concern. The Plan suggests that when evaluations for projects occur within the Mattawoman Creek watershed, the woodlands present along either side of the Creek should be preserved to widen the corridors adjacent to regulated areas and to protect water quality. *Minimization of development in the Special Conservation Area is a priority which may affect the improvements needed for the future BRT or LRT system where a separate right-of-way and new construction may be necessary for the transit infrastructure. According to the implementation strategies, development is restricted within "regulated areas", which are defined as areas that contain environmentally sensitive features such as streams, wetlands, 100-year floodplains, severe slopes, and their associated buffers. A portion of the Mattawoman Special Conservation Area is located with a regulated area.*

### **2.13. The Charles County Comprehensive Plan, 2006**

Charles County has experienced significant growth over the last 20 years and is expected to continue this trend through the 2025 population projections. In order to reduce the impact of the projected growth, policies have been established to guide growth to designated Development Districts, including areas that are in the study area. It is anticipated that 70-75% of the future growth of the County will be directed to the designated Development Districts through recommendations and approvals by the County Planning Commission. *This proactive direction of growth may help create the necessary critical mass needed to support BRT or LRT along the corridor.*

Recognizing the potential impact of future growth on the roadway network, many of the recommendations found in the Plan are in support of multi-modal transportation efforts along the MD 5/US 301 corridor in the study area. Compact, dense land uses that support mixed uses are identified along the MD 5/US 301 corridor, in particular around the Waldorf and White Plains areas which are key locations in the study area.

### **2.14. The Prince George's County Zoning Ordinance, effective as of June 11, 2008**

The Prince George's County Zoning Ordinance provides the legal mechanism for controlling the development of private property in the Prince George's County portion of the study area. Eighteen zoning districts exist along the corridor in Prince George's County ranging from Low Density Residential (R-O-S) (minimum 20-acre lot size) to Heavy Industrial (I-2). A majority of the property along the corridor is zoned for Rural Residential (RR) (minimum

one-half acre lot size) and Commercial Miscellaneous (C-M) which permits varied types of commercial uses ranging from office uses to highway oriented commercial. There are also several overlay districts located throughout the study area which require additional design review.

*The zoning districts located throughout the study area are currently not conducive to promoting and preserving transit-oriented developments (in particular, the established low density requirements of the residential zoning districts). The Prince George's County Zoning Code does have a Transit District Overlay available for application, although it does not exist along the corridor. This overlay would be the most conducive to promoting and preserving areas for BRT and LRT, particularly in those areas where stations are desired.*

### **2.15. Southern Maryland Transportation Needs Assessment, June 2008**

The Southern Maryland Transportation Needs Assessment was developed by multiple agencies including the Commission to Study Southern Maryland Transportation Needs, the Tri-County Council for Southern Maryland's Regional Infrastructure Advisory Committee and the Maryland Department of Transportation covering Charles, St. Mary's and Calvert counties. The document assesses the current transportation and land use system and provides information that will enable the Tri-County Council to update the 1998 Southern Maryland Regional Strategy – An Action Plan for Transportation. This effort was undertaken due to substantial changes in population, land use patterns including suburbanization, and changing commuter patterns. The study found that over three-quarters of trips made in Southern Maryland are in personal vehicles. It also found that commuting times in Southern Maryland are among the highest in the nation; over 35 minutes (U.S. average is 25 minutes). The study also found that many commuters in Southern Maryland are driving alone and utilize public transportation less than the national average. The expectation is that commuter trips are expected to increase by 50% over the next 20-25 years in this area. The overarching mission of the study is to support the development of a multi-modal transportation system in Southern Maryland. Goals that support the mission include: improving mobility and accessibility to multi-modal transportation modes, providing for a safe and secure system, providing for an efficient system, being sensitive to social, natural and cultural environment, and ensuring that planning for multi-modal transportation systems is consistent with land use, environmental and economic development decisions of local governments. Policies for land use, transit, highway, bicycle and pedestrian should be coordinated and based on Maryland Smart Growth principals of dense development in designated growth areas or Priority Funding Areas including transit-oriented development principles. The report also recommends accelerated implementation of transit improvements in the MD 5/US 301 corridor, including LRT, as quickly as possible.

**2.16. The Charles County Zoning Ordinance, November 2009**

The Charles County Zoning Ordinance provides the legal mechanism for controlling the development of private property in the Charles County portion of the study area. Seven zoning districts exist in the Charles County portion of the study area ranging from medium density residential (RM) to light industrial (IG). Updated in 2009, the majority of the land in the study area continues to be zoned for commercial use in the Community Commercial (CC) and the Central Business (CB) districts. One overlay zoning district, the Highway Corridor Overlay Zone (HC) and two floating districts, the Planned Unit Development (PUD) district and the Transit-Oriented Development (TOD) district also exist. The HC overlay zone extends the entire length of the US 301 corridor and extends approximately 500 feet on either side of the highway right-of-way. The intent of the HC overlay zone is to protect investment, promote appropriate types of buffers and access management techniques and to protect the visual character of land adjacent to major highway corridors while promoting orderly development.

The TOD development district was established in 1999 to create standards for comprehensively planned, mixed use developments which promote the integrated development of high-density transit-oriented development along major transportation arteries where transit opportunities (station, stop, hub) exist or are planned to exist. Currently, the areas zoned for transit-oriented development are located in the northernmost area of Charles County on either side of US 301 where Old Washington Road intersects with US 301. The remaining zoning districts are traditionally suburban automobile oriented type districts promoting lower densities (three to five dwelling units per acre) and larger lot commercial uses (one to five acre minimum lot sizes). A TOD district, on the other hand, could permit up to 28 dwelling units per acre. Two new zoning districts, the Waldorf Central (WC) and the Acton Urban Center (AUC) were adopted by the Charles County Commissioners in April 2010. These districts that promote mixed use development at residential densities in the range of 12-36 dwelling units per acre which is supportive of BRT and LRT.

**2.17. Downtown Waldorf Vision Plan, 2010**

The Downtown Waldorf Vision Plan was developed through a public participation process in 2009-2010 to establish goals and design principals for the downtown Waldorf area. This document is a result of the Waldorf Urban Design Study, undertaken in 2008, and it creates detailed plans for the Waldorf Central and Acton Urban Activity Centers (Sub-Areas of the 2004 Waldorf Sub-Area Plan and the 2006 Charles County Comprehensive Plan). The goal was to establish policy for public and private efforts that promote activity centers as regional, transit-oriented development nodes that will be capable of sustaining economic development in Charles County. The plan takes into consideration the State's smart growth principles to reduce suburban sprawl in Charles County. Mixed uses, transit-oriented development, pedestrian and bicycle friendly environments are encouraged. The Waldorf Central and Acton Urban Activity Centers should be served by local and regional transit service as the centers evolve as a result of the Downtown Waldorf Vision Plan. The Plan also recommends a transitway alignment that runs parallel to the west side of the existing CSX tracks, as well as stations on the north side of Acton Lane and the south side of Leonardtown Road.

**2.18. Downtown Waldorf Design Guidelines, 2010**

The Downtown Waldorf Design Guidelines were created to provide guidance for both public and private sector investment (development and redevelopment efforts) in the Downtown Waldorf area primarily along Old Washington Road bordered by Holly Tree Lane to the north, Pope's Creek Railroad corridor to the east, Terrace Drive to the south and US 301 to the west. The recommendations in the Design Guidelines are the result of the creation of the Downtown Waldorf Vision Plan. The Design Guidelines establish policy and guidelines for the application of two districts in the Charles County Zoning Regulations – the Acton Urban Center and the Waldorf Central district. The Design Guidelines identify three types of guidelines (mandatory, recommended and optional) for site planning, architectural design elements, street and streetscape elements, signage, lighting and landscaping/screening. This document also encourages mixed use structures which are applicable to transit-oriented type developments and are recommended in the study area.

### 3. Land Use

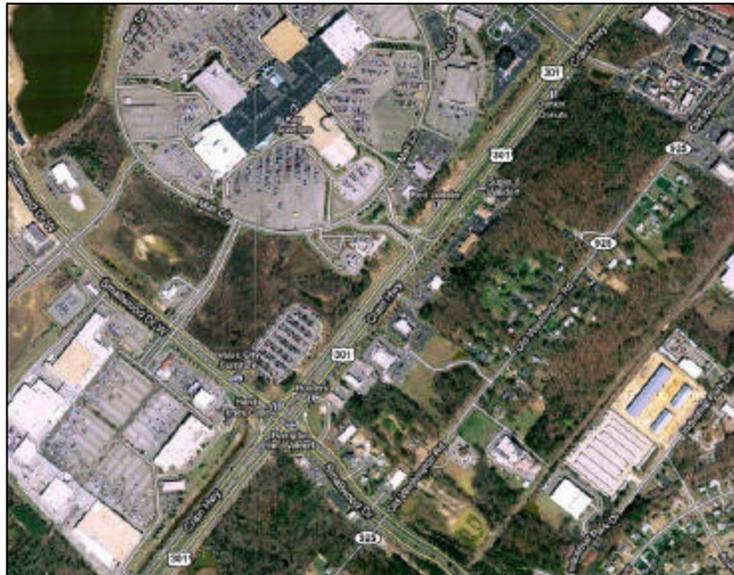
#### 3.1. Land Use - General

The existing land use along the MD 5/US 301 corridor varies widely from large lot undeveloped parcels of land to highly developed regional shopping centers and big box retailers; from potentially historical dwellings to modern office buildings. Population estimates from the United States Census Bureau indicate that both Charles and Prince George's Counties will continue to increase in population through 2030. Charles County is expected to gain an additional 81,200 persons (201,800 estimated population) and Prince George's County is expected to increase by 175,300 persons (976,800 estimated population). These increases will create more congestion on an already strained roadway network.

Much of the existing land uses and their resulting patterns are not typically conducive to building the critical mass needed for high level support of BRT or LRT. Low density development makes the implementation and use of alternative modes of transportation, such as LRT, less economically viable. The existing land use pattern was a result of market trends for large lot single family residential uses over the last 40 years and the reliance on the automobile as the primary means of transportation, coupled together with local policy regulations that permitted low density residential and large lot non-retail and retail type development. Lack of office uses and the predominance of Washington DC as a job market creates one-way peak period travel patterns. Currently the MD 5/US 301 corridor is a mixed use automobile oriented corridor that does not support all-day two-way travel that makes capital investment in a transit system economically viable.

#### 3.2. Land Use – Charles County

The majority of properties fronting the US 301 corridor in Charles County are developed; little vacant or undeveloped land exists between the US 301 corridor east to the Pope's Creek Railroad. Most recent residential development on or near the US 301 corridor has been low density in nature (less than two dwelling units per acre). According to the 2002 Charles County Comprehensive Plan, between 1997 and 2002, the County was actively rezoning land from medium density (two to eight dwellings units per acre) and high



*Charles County Land Use Pattern –  
Typical Development Pattern on US 301*

density residential use (eight or more dwellings per acre) to lower densities to meet market demand. This resulted in over 9,000 acres being lowered in density for residential use throughout the

County, including property on or near the US 301 corridor and along the eastern boundary of the Pope's Creek Railroad. Planning for this development trend is reversing, however, with Charles County proactively developing regulations to promote higher density, mixed use developments in key areas along the US 301 corridor (e.g. Waldorf) to prevent sprawl and to assist in creating an environment that can sustain public transportation alternatives such as BRT and LRT. This effort is primarily apparent in the areas between the US 301 corridor and the Pope's Creek Railroad.



*Charles County Land Use Pattern – Residential and Commercial Uses US 301/Old Washington Road/ Pope's Creek Railroad*

Current land uses along the US 301 corridor include: single family residential (attached and detached), office, neighborhood commercial, general commercial, regional commercial and a few scattered light industrial uses (warehouse and distribution). The primary uses along US 301 within the study area in Charles County are non-residential.

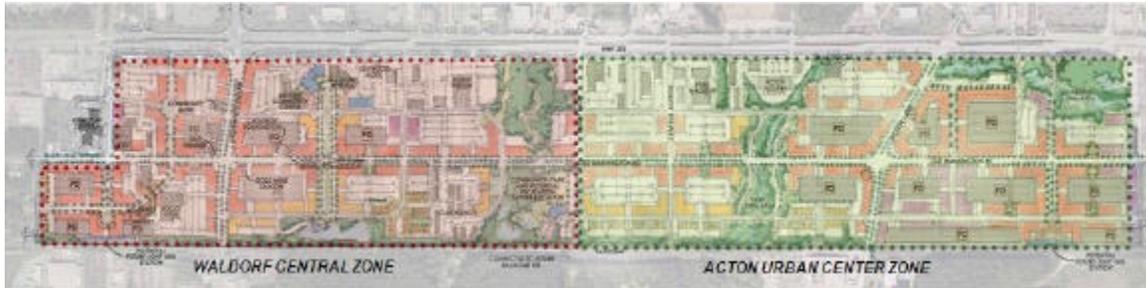
Land uses along Old Washington Road (MD 925) vary from traditionally older uses and buildings, small lots and small physical building footprint to newer large lot non-residential development. Older uses tend to be multiple stories (between two and four stories). Property along the Old Washington Road corridor is sandwiched between the larger, more intense non-residential development of US 301 to the west and the Pope's Creek Railroad to the east.

The largest undeveloped area along the US 301 corridor in Charles County is at the northwest corner of Billingsley Road and US 301, just north of White Plains.

Two large, mixed use developments, led by a private developer, are currently being planned along the US 301 corridor in Charles County. These developments include residential components along with commercial and civic type uses including open spaces. One development is located at the Charles/Prince's Georges County line, and expands to both the east and west sides of US 301. The second development is located north and south of Acton Lane and extends from the eastern side of the Pope's Creek Railroad, east to MD 5. Both of these proposed developments are being undertaken by the same property owner. No specific date for groundbreaking has been established. Both of these developments are also located in the approximate areas of potential transit stations.

Additionally, one activity center establishing two nodes, Waldorf Central and Acton Urban Center, has been created to establish strategic transit-oriented policy for the redevelopment of the area. Planning for the Waldorf Central node, located between US 301 and the Pope's Creek Railroad near the intersection of Leonardtown Road and US 301 has been completed and adopted by Charles County as of April 2010. The Waldorf Central node is an activity center that promotes mixed uses (retail, residential and institutional), pedestrian connectivity, multi-modal transportation options and high quality urban design. The Waldorf

Central node is proposed to remain the historic core of the community providing basic services to the community. The other node is planned near the Acton Lane and US 301 intersection between US 301 and the Pope’s Creek Railroad and is identified as Acton Urban Center. Acton Urban Center is expected to serve larger block redevelopment oriented towards employment and services with a smaller emphasis on residential units.<sup>2</sup> Both activity centers seek to create a pedestrian friendly, mixed use environment by constructing buildings at the sidewalk (zero lot line setback) and providing joint parking to the rear of the buildings. Higher density residential units would be an integral part of the development on upper floors of retail buildings. Both activity centers are located in the approximate areas of potential transit stations.

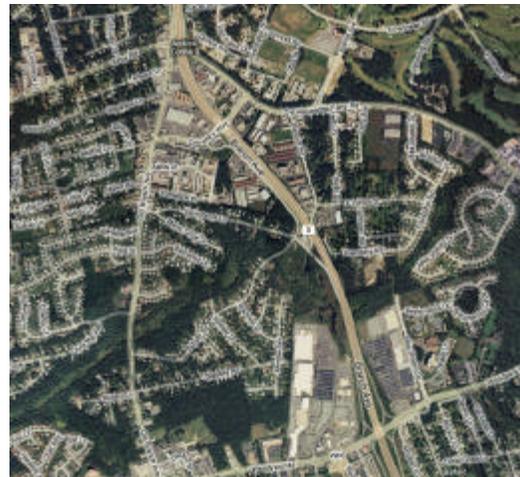


*Waldorf Central Zone and Acton Urban Center Zones  
(Downtown Waldorf Vision Plan, 2010)*

In its present form of physical development patterns, the US 301 corridor is not conducive to BRT or LRT due to lower residential densities and sprawling, large lot non-residential uses. However, the Downtown Waldorf Vision Plan and Design Guidelines adopted by the Charles County Commissioners in April 2010 will facilitate the generation of higher densities and mixed use developments in the corridor which are supportive of BRT and LRT.

**3.3. Land Use – Prince George’s County**

Existing land use in Prince George’s County differs from Charles County. Unlike Charles County, a large amount of land along the MD 5/US 301 corridor remains undeveloped, particularly south of Surratts Road and the Southern Maryland Hospital. A majority of the land uses, where they exist, are detached single family residential, particularly south of Woodyard Road. These residential uses are in the form of traditional suburban neighborhoods with relatively low densities (two dwelling units per acre).



*Prince George’s Land Use Pattern  
– North of Woodyard Road*

North of Woodyard Road, uses change to that of large lot commercial and light industrial. Andrews Air Force Base is located in the northern portion of the study area, east of MD 5. The northern terminus of the study area is the Branch Avenue

<sup>2</sup> Downtown Waldorf Vision Plan, April 2010

Metrorail station where a high density, mixed use development has recently been completed.

Three FEMA designated flood zones exist in the Prince George's portion of the study area along MD 5/US 301. These three zones cross MD 5/US 301 at Mattawoman Creek (Prince George's and Charles County line) and further north at Piscataway Creek and Tinkers Creek. Ample land exists along the MD 5/US 301 corridor in the mid and southern portions of the study area in Prince George's County to develop transit supportive, compact, mixed use development. Currently, the Subregion V Master Plan is being updated by the County. It is anticipated that transit-oriented development recommendations will be made in order to support alternative modes of transportation that include BRT and LRT and to preserve the adequate right-of-way for the dedicated routes.



*Prince George's Land Use Pattern – Southern Terminus*

Both Charles and Prince George's Counties have taken steps to control and guide growth to provide a more dense, compact urban environment along the MD 5/US 301 corridor by establishing "development areas" and "growth areas" in their respective County land use plans. However, the zoning, as is identified in the next section, has not been implemented in appropriate areas that would create higher densities and compact mixed use environments to better support BRT and LRT service efficiency.

## 4. Zoning

Zoning can be applied proactively to establish land use controls that implement the plan(s) prior to a development request. Appropriate zoning can increase density and therefore provide the ridership needed to have a successful transit project.

### 4.1. Zoning – Charles County

The Charles County zoning code contains 24 unique zoning districts available for property in the county. These range from an agricultural district, promoting continued agricultural uses, to heavy industrial uses.

Zoning currently applied in the study area includes 11 specific zoning districts including three residential districts ranging from a density of one dwelling unit per acre (RO Residential Office) to 5 dwelling units per acre (RH Residential High Density- can increase to 20.10 with maximum TDRs and affordable housing bonus). Commercial districts include three districts that range from permitting business and light industrial type uses in a park like setting (BP Business Park District) to regional, intensive commercial uses (CB Central Business District). Industrial districts include the PEP (Planned Employment and Industrial Park), IG (Industrial General) and IH (Industrial Heavy). A TOD Transit Oriented Zone is established at the northern edge of Charles County where Old Washington Road intersects US 301. A Highway Corridor (HC) Overlay district that coordinates design along the US 301 corridor extends along the entire study area corridor, 500 feet on either side of US 301. Additionally, the County recently approved the Downtown Waldorf Vision Plan and Design Guidelines, which includes new zoning for the study area (Waldorf Central (WC) and the

Acton Urban Center (AUC). The new zoning will result in substantially higher residential densities (12-36 units per acre for townhouses, minimum 15 units per acre for apartments in residential-only buildings) with a mix of uses.

In the Charles County portion of the study area, the predominate zoning is for commercial uses (both the CB and CC Community Commercial districts).

Of the zoning districts available in the Charles County Zoning Code, those most appropriate for developing and sustaining public transit, in particular BRT and LRT, establish higher densities for residential uses and mixed uses and promote an integration of residential and non-residential uses. **Table 4.1** identifies the zoning districts in the Charles County Zoning Code that are best suited for transit-oriented development.

**Table 4.1: Charles County Zoning Code Transit Friendly Districts**

District	Density (units per acre)	Land Use
WC Waldorf Central and AUC Acton Urban Center (adopted April 2010)	12-36 units per acre for townhouses, 15 units per acre minimum apartment residential use	Mix of Residential, Commercial, Office, and Employment Uses
CER Core Employment Residential	15 with Maximum Transfer of Development Rights Points	Mix of Residential, Retail, Employment, and Office Uses
CRR Core Retail Residential	15 with Maximum Transfer of Development Rights Points	Mix of Residential, Retail Uses, and Office Uses
MX to RH with MX Mixed Use Floating Zone Designation	5 (20.10 with maximum TDRs and affordable housing bonus)	Mix of Residential, Commercial and Industrial Uses

#### 4.2. Zoning – Prince George’s County

The Prince George’s zoning code contains 55 unique zoning districts for property in the county. These range from open space districts for natural and open space preservation to heavy industrial uses. The aforementioned districts include several districts geared towards design review, as well as planned districts where a conceptual plan must be submitted and approved.

Zoning in the study area includes 18 specific zoning districts including 10 residential zoning districts where densities range from a 20 acre minimum lot size (R-O-S Residential Open Space district) to 12 dwelling units per acre (R-30C Residential). Commercial districts include five distinct districts ranging from a lower density Commercial Office (C-O) district to the intensive Commercial Shopping Center (C-S-C) district which permits retail and services as part of shopping center type facilities. Industrial districts that currently exist in the study area include the I-1, I-2 and I-3 which permit a wide range of uses from light industrial and research type facilities in a park-like atmosphere to heavy industrial uses which may create adverse impacts on surrounding properties such as noise, odor or vibration.

In this portion of the study area, residential zoning is prevalent, specifically the Rural Residential (R-R) and One-Family Detached Residential (R-80) districts which permit densities of 2.17 and 4.5 dwelling units per acre, respectively.

Of the zoning districts available in the Prince George's Zoning Code, those most appropriate for developing and sustaining public transit, in particular BRT and LRT, establish higher densities for residential uses and mixed uses which promote an integration of residential and non-residential uses. The zoning districts in the Prince George's Zoning Code which are suitable for transit-oriented types of development are identified in **Table 4.2**.

**Table 4.2: Prince Georges County Zoning Code Transit Friendly Districts**

District	Density (units per acre)	Land Use
R-35 Residential	12.44	One and Two Family Residential
R-20 Residential	16.33	One Family Attached Residential
R-30 Residential	10.00	Garden Apartment Residential
R-30C Residential	12.00	Garden Apartment Residential
R-18C Residential	20.00	Mid-rise Apartments
R-H Multi-Family High Rise Residential	48.40	High-rise Apartments
R-10 Multi-Family High Density Residential	48.00	High-rise Apartments
R-10A Multi-Family High Density Residential	48+	High-rise Apartments
M-X-T Mixed Use Transportation Oriented	Varies	Mix of Residential, Office and Retail
M-U-TC Mixed Use Town Center	Varies	Mix of Limited Residential and Commercial
M-U-I Mixed Use Infill	Varies	Mix of Residential, Commercial, Recreation, Open Space and Institutional in Conjunction with the Transit District Overlay.
L-A-C Local Activity Center	20.00	Mix of Commercial Retail, Service and Residential
M-A-C Major Activity Center	125.00	Mix of Residential, Regional Commercial
T-D-O Transit District Overlay	Varies	Mix of Uses in Approved Transit District Development Plan
D-D-O Development District Overlay	Varies	Mix of Uses

## 5. Development of Transit Supportive Land Use

The State of Maryland, Charles County and Prince George's County have discussed the opportunities and benefits of alternative modes of transportation to the automobile for decades. Both counties have recommended the future implementation of BRT or LRT in County Master Plans, Subregion Plans and through various task force studies, most recently with the US 301 Task Force in 1996, the 2004 *MD 5/US 301 Transit Services Staging Plan* and the *Southern Maryland Transportation Needs Assessment, 2008*. From these studies, five common destinations for potential stations were identified along the MD 5/US 301 corridor as important to proactively preserve for a future transit station location. The general locations, from north to south, are: Branch Avenue Metrorail station, Andrews AFB, Brandywine, Waldorf and White Plains. Additional station locations may be feasible as the counties continue to develop. The Southern Maryland Transit Corridor Preservation Study identifies six additional station locations. It is a common assumption from the previous plans and studies that feeder bus service will still be required to and from these station locations.

Preservation of right-of-way is essential for the future implementation of a BRT or LRT system. As more land develops in Charles and Prince George's counties and as the population increases by an estimated 256,500 people, the counties should preserve right-of-way to support a future transitway. Right-of-way preservation provides the opportunity to integrate mass transit systems with future development. Certain changes in land use patterns and zoning need to occur for this to successfully happen.

While both BRT and LRT provide mass transit alternatives to the public, they are different in their approach and costs<sup>3</sup>. **Table 5.1** provides a summary of some of the distinguishing features and differentiators of typical BRT and LRT systems.



*LRT System Station Stop, NJ*



*Articulated Hybrid BRT, Eugene, OR*

<sup>3</sup> Information from Reconnecting America, the Transportation Research Board and the Federal Transit Authority.

**Table 5.1: Summary of BRT and LRT Systems**

	<b>BRT</b>	<b>LRT</b>
<b>Projected Costs per Mile</b>	\$4-40 Million	\$20-60 Million
<b>Service Type</b>	Regional, Urban	Regional, Urban
<b>Service Frequency</b>	5-20 Minutes 5 minutes is best practice at peak hour	5-30 Minutes 10 minutes is best practice at peak hour
<b>Average Operating Speed<sup>4</sup></b>	40-55 MPH Non-Stop 25-40 MPH Grade Separated 12-20 MPH Arterial Street/Bus Lane/Median Busway <sup>5</sup>	20-60 MPH
<b>Station Type</b>	Sidewalk Sign, Station, Platform	Sidewalk Sign, Station, Platform
<b>Distance Between Stations</b>	0.25-2 Miles	1 Mile
<b>Alignment</b>	Exclusive, Dedicated or Mixed	Exclusive, Dedicated, or Mixed
<b>Vehicle Length</b>	30-50 feet 80-100 feet articulated	50-80 feet per car (typical 2-4 cars)
<b>Passenger Capacity</b>	30-60 seats 100 - 120 articulated	50-100 seats per car (typical 2-4 cars)
<b>Typical Power Source</b>	Diesel, Electric, Hybrid	Electric
<b>Operational Characteristics</b>	More conducive to branching out service with one seat ride (no transfers)	A feeder bus would be needed to make transfer to LRT

**5.1. Transit-Oriented Development**

In order to provide a higher level of support and economic feasibility to the implementation of an BRT or LRT system, transit-oriented development is recommended for consideration of future needs along a corridor where stations or large staging stops are recommended<sup>6</sup>. transit-oriented development is a pattern of land uses designed to support public transit through dense, compact residential uses integrated with retail, civic and support service uses. The functional integration of a mix of land uses and multiple modes of transit are designed in a compact environment where a transit station or stop is within walking distance of the surrounding neighborhood. The purpose is to reduce the amount of single occupancy vehicle trips by increasing convenient accessibility to alternate modes of mass transit including: light rail, bus, bus rapid transit, streetcar, heavy rail transit, commuter rail transit or trolley systems. Census (2000) research regarding transit usage in the Washington DC/Baltimore Metropolitan



*Carrollton Center, Maryland  
TRANSIT-ORIENTED  
DEVELOPMENT*

<sup>4</sup> Average Operating Speed includes time for stops, starts and layovers at stations.

<sup>5</sup> Bus Rapid Transit Report 90, Transit Cooperative Research Program, Transportation Research Board, 2003.

<sup>6</sup> Federal Transit Administration. TCRP Report 102 – Transit Oriented Development in the United States: Experiences, Challenges and Prospects, 2004. Transportation Research Board, Pages 61 through 82.

area indicates that, for metropolitan areas over 100,000 in population, 34% of Washington DC residents and 20% of Baltimore, Maryland residents used public transit. This is above the national average of 16%. Research by the Transportation Review Board shows that persons who live within walking distance of a transit station are five to six times more likely to ride public transit. Walking distance is generally described as one-half mile from a station stop, but up to one mile is acceptable.

## **5.2. Transit Ridership Supportive Ranges**

According to the Transportation Research Board *TCRP Report 90, Bus Rapid Transit*, and *Report 120, Transit-Oriented Development in the United States; Experiences, Challenges and Prospects*, rapid transit in general works best in urban type areas characterized by high employment and population density and a history of reliance on public transportation. The reports state that the following conditions should be present when rapid transit, either BRT or LRT, are being considered: (1) the proposed location(s) are near a large City with a strong central business district or core, (2) there is sufficient total passenger flows (to and from the large City central business district) that are supportive of the high frequency characteristics of BRT or LRT, and (3) for BRT in particular, “there is a sufficient ‘presence’ of buses where bus lanes or bus ways are being considered.”

**Table 5.2** identifies a list of reports, including State and Local level research documents, which identify recommended densities for population and employment that create a critical mass that is conducive to BRT and LRT systems. Of the reports, the *Southern Maryland Transportation Needs Assessment, 2008*, establishes the lowest population density per acre requirement at nine dwelling units per acre. The other State reports and guidelines establish ranges between 10 and 30 dwelling units per acre with the higher numbers conducive of development nearest the core of the development or nearest the transit station. When including these dwellings per acre with the national average number of 2.55 persons per household<sup>7</sup>, the *Southern Maryland Transportation Needs Assessment* would yield approximately 23 persons per acre. The other studies yield approximately 28-64 persons per acre.

The study averages at the bottom of the table provide a reasonable number for population and employment densities that should be highly considered when establishing land uses in this study area.

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<sup>7</sup> 2.55 persons per household as established by the United States Census Bureau projections for 2010.

**Table 5.2: Sample State and Local Population and Employment Densities Supportive of BRT and LRT**

	LRT		BRT	
	Population Density (Units/Acre)	Employment Density (Employees/Acre)	Population Density (Units/Acre)	Employment Density (Employees/Acre)
Public Transportation and Land Use Policy – Pushkarev and Zupan – 1977	9	n/a	15	n/a
Impacts of Mixed Use and Density on Utilization of Three Modes of Travel: Single Occupant Vehicle, Transit and Walking – Frank and Pivo – 1994	n/a	75		20-50
Planning for Transit Friendly Land Use – New Jersey Transit Authority – 1994	15-24	150	7	40
Transit-Oriented Development in the United States – TCRP Report 102 – 2003	10-20	n/a	10-20	n/a
Southern MD Transportation Needs Assessment – 2008	9	n/a	9	n/a
Transit-Oriented Development Zoning and Design Guidelines – San Diego, California – 2008	12-25	n/a	12-25	n/a
Transit-Oriented Development Guidelines – Portland, Oregon – 2008	12-30	n/a	12-24	n/a
Charlottesville-Albemarle Regional Transit Authority Plan – Charlottesville, VA - 2008	15+	150+	15+	150+
Transit Oriented Development Design Guidelines DRAFT – Florida Department of Transportation – 2009	20-25	30-40	20-25	30-40
Downtown Waldorf Vision Plan and Design Guidelines – 2010*	15-35	38	15-35	38
<b>Study Averages</b>	<b>11-21</b>	<b>90</b>	<b>10-16</b>	<b>60</b>

\*The Downtown Waldorf Vision Plan and Design Guidelines were developed by Charles County during the development of this report in, and therefore, the densities are not included in the study averages.

The Federal Transit Administration (FTA) Office of Planning published a report titled, *Guidelines and Standards for Assessing Transit-Supportive Land Use* (2004). The report identifies transit-supportive land use as one of five criteria to be used in any project justification rating for the New Starts<sup>8</sup> program and identifies land use and zoning policies that are conducive to land use patterns that will be supportive of BRT or LRT. For New Start projects, the FTA uses a five point rating system when evaluating residential densities as it relates to transit projects. The higher the density, the higher the rating with 5 being the highest point that can be achieved regarding land use densities. **Table 5.3** identifies the land use ratings for factors where quantitative data is given consideration in a New Starts application for justification for funding.

**Table 5.3: FTA Guidelines and Standards for Transit Supportive Land Uses**

<b>Corridor Policy and Station Area Zoning</b>			
<b>Rating</b>	<b>Residential Dwelling Units/Acre</b>	<b>Central Business District Commercial Floor Area Ratio (FAR)<sup>9</sup></b>	<b>Weighted Application Points Assigned</b>
High	>25	>10.0	5
Medium-High	15-25	8.0-10.0	4
Medium	10-15	6.0-8.0	3
Low-Medium	5-10	4.0-6.0	2
Low	<5	<4.0	1

For High to Medium rated projects, the data presented in **Table 5.3: FTA Guidelines and Standards for Transit Supportive Land Uses** is relatively consistent with the density averages identified in **Table 5.2: Sample State and Local Population and Employment Densities Supportive of BRT or LRT**. High, Medium-High and Medium rated projects with respect to population and employment density would score fairly high in the grant application process for the New Starts program.

<sup>8</sup> New Starts is the Federal government’s primary financial resource for supporting locally-planned, implemented and operated transit “guideway” capital investments. Eligible purposes are light rail, rapid rail (heavy rail), commuter rail, monorail, automated fixed guideway system (such as a “people mover”), bus rapid transit, or other high occupancy vehicle (HOV) facilities, or an extension of any of these. Projects become candidates for funding under this program by successfully completing the appropriate steps in the major capital investment planning and project development process.

<sup>9</sup> FAR is calculated as the total square footage of a building on a lot divided by the total square footage of the lot or parcel of land.

## 6. Right-of-Way Preservation

The preservation of right-of-way includes acquisition and retention of adequate real property to avoid future conflicts with the built and natural environment. In particular, it helps to facilitate safe and effective BRT or LRT maintenance and upkeep, assures safe and attractive surroundings for transportation facilities, ensures the proper transition between higher density areas and lower density surroundings and protects the environment within the BRT or LRT facility. It is recommended that the right-of-way be identified early on in the process to ensure adequate time to preserve the property prior to any further development occurring within the proposed transitway. The counties are in a good position to start to preserve the land now before the land within the proposed transitway is developed.

Once the right-of-way has been identified in the corridor, actions can be pursued to preserve that right-of-way and zone the land within the corridor to meet recommendations for density. These actions include:

- Adopt corridor improvements into the Master Plan
- Review and rezone land use within the corridor to allow transit supportive uses
- Identify needed right-of-way on the Master Plan
- Require developers to dedicate right-of-way for transit as development occurs

### 6.1. Existing Right-of-Way Preservation Techniques

#### Charles County

In Charles County, once an alignment is officially selected and granted “Location Approval” from FTA, the County practices securing right-of-way through temporary reservation of three years. During the three year period, the property owner is relieved of paying property taxes on the reserved portion of the property. At the end of the three years the County must select to renew the reservation with the property owner’s consent, release the property, or purchase the needed property.

In the case of County Capital Projects, funds are allocated in the project budget to purchase the necessary lands for the project. These funds are designated to negotiate a purchase of property or exercise the County’s condemnation authority if the project is considered to be in the public interest. Such funds are appropriated by the Charles County Commissioners with the intent of protecting the right-of-way for the project from potential encroachment by development.

#### Prince George’s County

Prince George’s County will either purchase the property outright for a particular Capital Improvement Program project or if a developer applies for a permit they will require the developer to dedicate the ultimate right-of-way required for a certain transportation system per the Master Plan. Prince George’s County also has authority to preserve future right-of-way through reservation plats, which are normally valid for one to three years. During the reservation period the property owner is relieved of paying property taxes on the reserved portion of the property. At the time of expiration of the reservation plat, the tax exemption expires and the owner has the option to either renew the reservation, or begin paying the taxes again and develop the property.

## **6.2. Additional Right-of-Way Preservation Techniques**

In addition to the methods authorized and used by Charles and Prince George's counties there are many other land reservation techniques being used by other counties throughout Maryland. Reservation through a county's Master Plan (with well-disciplined implementation) is the most commonly used method of right-of-way reservation in Maryland. One preferred method used by Frederick, Baltimore, and Montgomery counties is the reservation of land during the rezoning and development review process. Howard County has also had experience in land use regulation techniques, donations, dedications and exactions.

### *Montgomery County – One County's Success in Right-of Way Preservation for Transit*

Montgomery County has been very successful in acquiring and preserving right-of-way for major transportation projects. Montgomery County's right-of-way dedication/preservation program is summarized in Section 50-30 and 50-31 of the Montgomery County Code located in Appendix A. The complete version of the Montgomery County code is available at [www.amlegal.com](http://www.amlegal.com).

Some of the ways that Montgomery County has been able to secure the needed right-of-way for projects include:

- County Council adoption of a Master Plan identifying a project alignment for future development.
- Dedication or reservation at time of subdivision, depending upon the nexus between the development and the right-of-way.
- Continuing commitment to purchase land in reservation to protect it from development if a nexus to the dedication does not exist.
- Creation of a revolving fund to acquire land with timely purchases and then transfer the land to the implementing agency with repayment agreements. This is called the Advance Land Acquisition Debt Service Fund and pays principal and interest on the Commission's Advance Land Acquisition bonds. The proceeds of the bonds support the Advanced Land Acquisition Revolving Fund (ALARF) ALARF activities include the acquisition of land needed for State highways, streets, roads, school sites, and other public uses. The commission may only purchase land through the ALARF at the request of another government agency, with the approval of the Montgomery County Council. An example of a project where this was used was the Inter County Connector.

The right-of-way techniques mentioned above, as well as other techniques that are being implemented in other parts of the United States are described below.

Any corridor preservation strategy, whether for LRT, BRT, rail or roadway will fall into one of four general categories:

1. Fee simple acquisition of property rights
2. Less than fee simple acquisition
3. Regulation of land use
4. Negotiation with the landowner for reservation of land in an unimproved condition

### Fee Simple Acquisitions of Property Rights

The most expensive, but most secure, form of property reservation for a public works project is purchasing the property out right. By purchasing property and acquiring rights in fee simple, the county would own the land and have ultimate control over the property, and could best preserve the land for transit use.

The right-of-way cannot be secured until the environmental clearance has been obtained, but efforts to reserve it can be initiated earlier in the project, starting with identifying the corridor and anticipated right-of-way needed for the project. Purchasing property for the purposes of having land available for a transportation project before completion of the federally required NEPA analysis could jeopardize future federal funding of the project if it is determined in retrospect that the acquisition influenced decision making on a locally preferred project location or alignment prior to the completion of the NEPA document.

### Less Than Fee Simple Acquisition

These are reservation strategies in which the government acquires some direct control over how a particular parcel is used, but without actually purchasing the property. They include:

- Purchase options
- Purchase of development rights
- Property exchange
- Eminent domain

**Purchase Options** are when the county pays a landowner for the right to purchase a property at a specified future date, for a specified price. A somewhat less restrictive version of this is a **right of first refusal**, where there is no date specified, but the county is given the first chance to buy (or refuse to buy) the land if the owner decides to sell. Purchase options can be a relatively low-cost way to prevent development in the short term, and allows the property to remain on the tax rolls and be economically productive (although constraining possibly useful improvements).

**Purchase of Development Rights** is when the county pays compensation to the landowner for imposing a restriction on the development of land, or a portion of the land, in this case, in the transit corridor. The Purchase of Development Rights can be designed as a permanent easement pending fee-simple purchase, or as a temporary easement. One primary advantage is that it can be applied specifically to those aspects of development that the county wishes to prevent, while not constraining other development on the parcel. Other significant advantages of this are that it costs less than direct purchase, the county will not have to manage the property, and the property is still on the tax roll. The counties will need to take into account that the purchase of development rights will not count against the future cost of the land.

**Property Exchange** (a type of Transfer of Development Rights) is an option where the county provides a property owner with different land in exchange for the property in question or for a development plan, on the property in question, consistent with the county's needs. This option is limited, in most cases, to surplus land already owned by the county or other governmental agency involved in the transit project. This option is considered as paying a landowner with other land rather than with money. The challenge with this scenario is finding property for the exchange that is acceptable to the property owner for which the exchange is desired.

### Regulation of Land Use

Strategies for regulating land use require little capital investment, and attribute some of the cost to the developer, but they also require increased administrative costs to local governments exercising police power (e.g. zoning and subdivision control). These strategies are tailored not to county control or ownership of the property, but rather to limiting development.

Land use regulation includes:

- Setback regulations
- Zoning
- Site-plan review and subdivision controls
- Conditional use/interim use permits
- Dedications and exactions

**Setback Regulations** are prohibitions on building on a property within a specified distance from the property line or, in this case, to an identified future transit corridor. Setbacks cannot be established solely because of intent to acquire; legitimate purposes include aesthetics and safety. It may, in some cases, be possible to reduce or relax setback regulations in areas that are not adjacent to the corridor to mitigate impacts.

**Zoning** is the use of local police power to regulate the intensity of land use. It can be used to restrict building in the right-of-way of mapped or planned transportation infrastructure without a variance. It is not legal to “downzone” or zone with the intent of condemnation that is, denying a request for a zone change solely because of a transit corridor. Zoning cannot be targeted, arbitrarily applied, or piecemeal; it must be based on uniform planning criteria. Under zoning statutes, while the jurisdiction does not have to guarantee the highest and best use for any property, it is obligated to establish regulations that do not deny all economic return on investment of a property owner.

**Site-Plan Review and Subdivision Controls** can be used by local governments to supervise the development process so that growth is consistent with adequate access and infrastructure (e.g. Planned Unit Development and Adequate Public Facility Ordinances).

**Conditional Use/Interim Use Permits** allow individual landowners permits for low intensity uses for a limited time period. This method is probably best for areas that are years away from construction of the transit infrastructure, but only for uses that will be low-cost to take down.

**Dedications and Exactions** are an exercise of local police power; generally considered an impact fee paid with land instead of cash. They are assessed to a developer in exchange for development approval, a zone change or a conditional use permit. A nexus is required between the exaction and the county need. A detailed, accurate record of the assessment of impacts and the determination of dedication necessary is needed.

### Negotiation with Landowner for Reservation of Land in an Unimproved Condition

At times there may be the need to enter into a specific negotiated agreement with a landowner in order to maintain control of property for a future public works development project. Generally, negotiations are used to compensate the property owner for the impact of transit corridor development on the free use of their property. This technique may be used in tandem with regulatory or accusatory action to mitigate the consequences of those

actions to landowners. This strategy can also be used to negotiate with a landowner in exchange for property rights or an agreement to limit development. Or, negotiations may be used to increase the perceived legitimacy of state action, both in a public relations sense, and specifically relating to takings litigation.

This technique differs from the land use regulations previously discussed in that it applies to individual properties; most likely in cases where the general-purpose regulations do not achieve the necessary land set-asides. This is basically a variation on the theme of acquiring development rights; and it is a way to acquire long-term easements on parts of properties without a direct payment as such. In some cases the payment is in the form of in-kind exchanges for other rights of value, and in other cases there are indirect monetary exchanges. But in every case the payment, such as it is, is made by the local government.

Negotiations with landowners (mitigation) falls into four categories:

- Transferable development rights
- Density transfers
- Impact fee credits
- Tax abatement

**Transferable Development Right** is a government-created right to develop land. The owner may sell or retain the right to zoning use and/or density allocations on parcels other than the land in the transit alignment.

**Density Transfer** is when the landowner leaves some land in an undeveloped state for transit corridor use purposes, and is then permitted to cluster development in excess of ordinary limits, so that the remaining property can be developed with the same total number of housing units, or square feet of floor space, as would have been allowed on the entire parcel.

**Impact Fee Credit** is the waiver of impact fees on a development. An impact fee is a fixed sum of money assessed as a condition to issuance of a building permit, occupancy permit or plat approval. The fee is levied to fund services and facilities necessary to serve the new development (in a proportionate amount to the need generated by the development). Some counties give developers fee credits in exchange for dedication of land to the county in transportation corridors. States and local governments arguably need legislative authority to assess impact fees.

**Tax Abatement** involves allowing the landowner to exclude the land in the corridor alignment for the purposes of property taxes in exchange for an agreement to leave the land undeveloped or used at lower intensity. This is similar to the counties' temporary reservation program.

For additional information, the Transportation Research Board of the National Academies has a paper available for purchase titled *The Legal Techniques for Reserving Right-of-Way for Future Projects Including Corridor Protection (1987)*. The paper provides a general outline of highway reservation laws, discusses the constitutionality of related legal techniques, and describes some of the associated NEPA (National Environmental Policy Act) issues.

## 7. Land Use and Zoning Recommendations for the Corridor

In addition to preserving the right-of-way, the following recommendations should be used as guidelines for reviewing and permitting development within the MD 5/US 301 corridor to promote and preserve areas for BRT and LRT.

### 7.1. Residential Density

1. Compact, dense, mixed use environments should be created in order to support ridership of the BRT or LRT system. The residential density of a TOD is traditionally heaviest in the center or core of the TOD, nearest the transit station or transit stop and, as it progresses outwards, becomes less dense until it reaches the density levels of the surrounding neighborhoods, if any.
2. For semi-urban areas, moderately-high to high densities of 12-40<sup>10</sup> dwelling units per gross acre should be established near the station area for fixed rail transit such as LRT.
3. Incorporating 12-40 dwelling units per gross acre will result in a range of 30-102 persons per gross acre, depending on the assumption of a single person household or the average size family of 2.55 persons per household (2010 Census Estimate). A good target for the core of the TOD area should be at least 30-50<sup>5</sup> persons per gross acre. This target is consistent with the average densities identified in **Table 5.2: Sample State and Local Population and Employment Densities Supportive of BRT and LRT** and it falls in the top tiers for project rankings by the FTA for New Starts projects (**Table 5.3**).



*Plano Texas TOD*

### 7.2. Size & Design of Transit-Oriented Development

1. Walking distance from the surrounding community to the transit station or transit stop should be a maximum of one-half mile radius so that riders can walk to the station in a comfortable five to 10 minute timeframe. In order to be successful, walking paths and sidewalks must be part of an overall complete pedestrian system (no unconnected sidewalks or sidewalks on one side of the street, unpaved walkways, etc.), well lit, convenient, visually pleasing (tree lined streetscapes for shade) and directly accessible to the transit station or stop.
2. Dwellings or places of employment that are greater than one-half mile radius but within one mile radius of a transit station or stop may be incorporated into the overall TOD area if they are supported by bicycle connectivity or bus/shuttle connections in addition to walking paths.
3. Transit stations or stops serving a three mile or larger radius should have adequate park and ride facilities, bus/shuttle service (e.g. VanGO or The Bus), or drop-off and kiss and ride facilities in addition to the bicycle connectivity and walking paths.

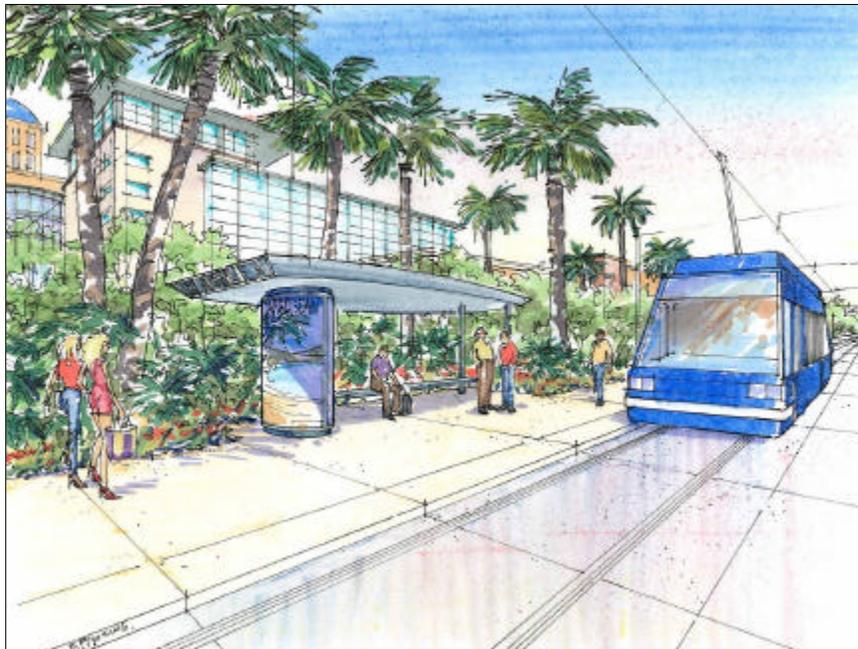
<sup>10</sup> Information derived from best practices identified in reports from the Transportation Research Board, the United States Department of Transportation, the Federal Transit Administration and case studies conducted by communities throughout North America who have implemented TOD type developments including Portland, Oregon and Washington D.C.



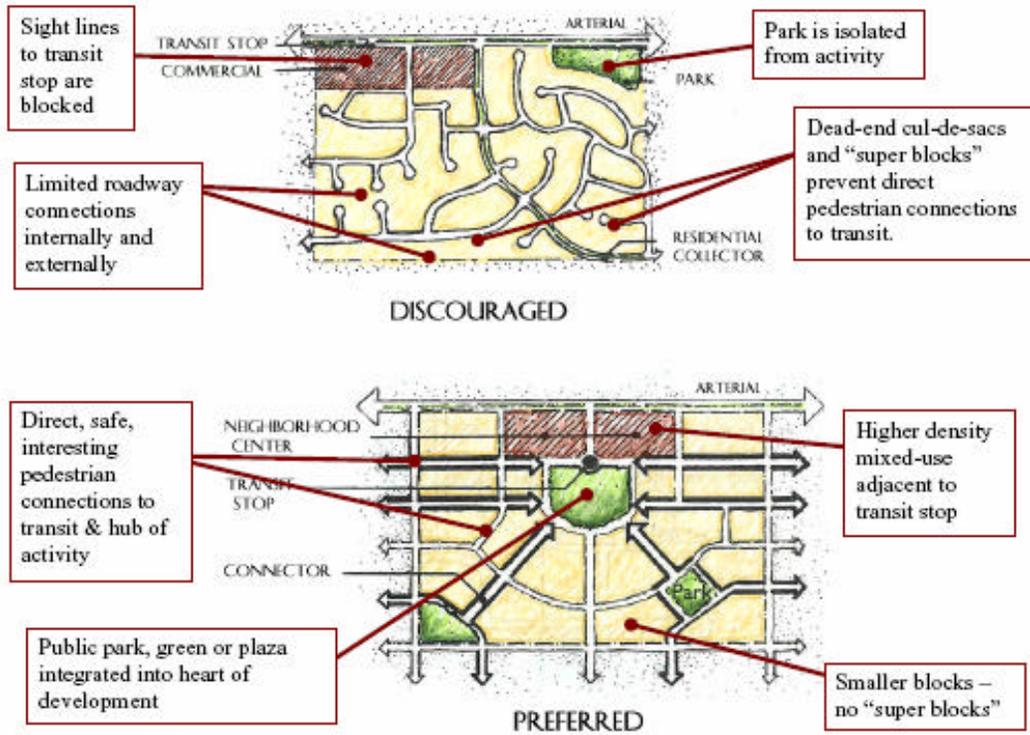
*Daybreak TOD, South Jordan, UT*



*Mockingbird Station TOD, Dallas, TX*

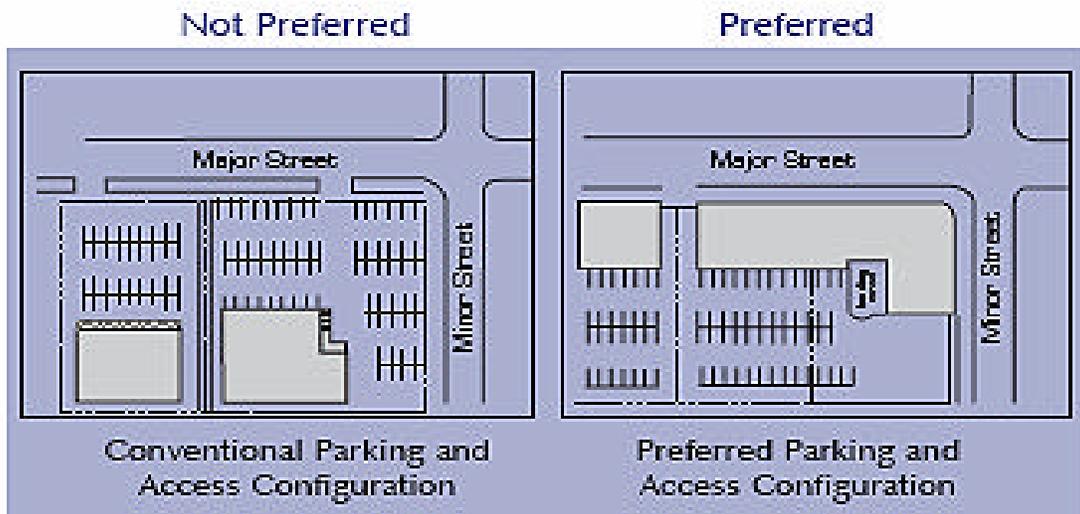


*Transit Streetcar System, Davie, FL*



*Preferred Conceptual TOD Design  
Transit-Oriented Development Guidebook, Austin, TX*

**7.3.**



*Preferred TOD Building, Access and Off-Street Parking Configuration  
Transit-Oriented Development Guidebook, Austin, TX*

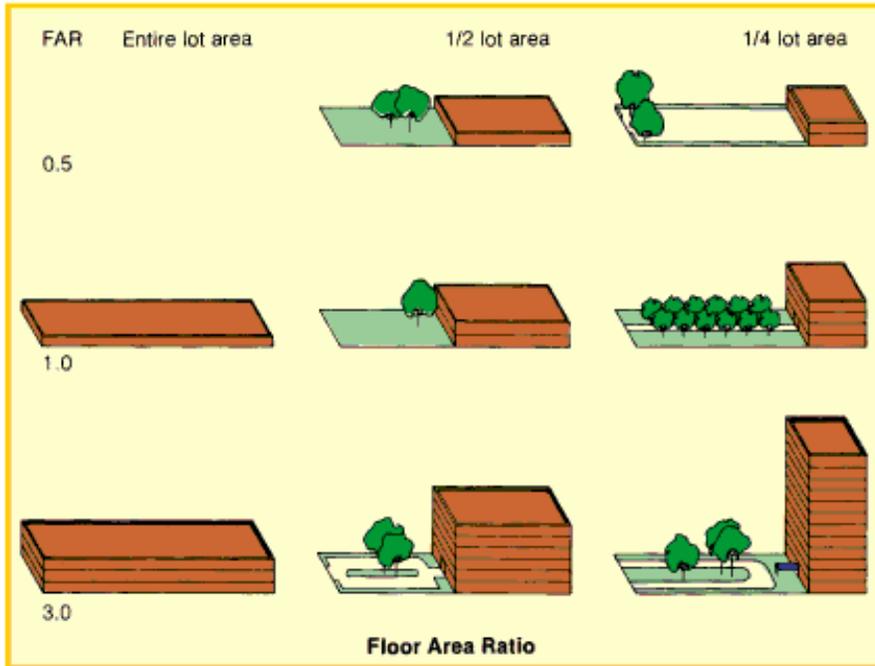
**Recommended Zoning & Development Guidelines**

1. Zoning controls must permit for mixed land uses, both vertically and horizontally, that permit adaptation to market needs. Form based zoning is an option that can be considered for districts where the cohesive design and functional integration of permitted land uses is more important than the specific type of uses permitted.
  - a. Prince George’s County has a specific group of districts developed for application for TOD areas: the Mixed Use – Transportation Oriented District Zone (Part 10, Division 2. 27-542 through 27-548.09.01). This includes the MXC (Mixed Use Community), MUTC (Mixed Use Town Center), and MUI (Mixed Use Infill) districts, as well as, the TDO (Transit District Overlay Zone). These districts have a minimum dwelling size of 2,200 square feet, which is of some concern because such a requirement may prohibit the higher densities needed for a TOD. It is recommended to consider reducing the minimum dwelling size to something more conducive to higher density areas such as 1,500 square feet or smaller.
  - b. Charles County incorporates a Transit-Oriented Development Zone (TOD) which may work for the light rail TOD (297.111). However, there is a minimum district area requirement of 100 acres. Charles County is in their process of revising the TOD. As part of this revision the minimum area for a TOD District would change from 100 acres to 10 acres. This revision is currently going through Charles County legislative adoption process. Charles County has also adopted two transit-oriented zoning districts as a result of the Downtown Waldorf Vision Plan: the Waldorf Central (WC) and the Acton Urban Center (AUC) districts, both of which permit transit supportive development and densities that includes a mix of uses and up to 36 dwelling units per acre.
2. Off-street parking requirements should be lower than that of the surrounding areas outside of the TOD in order to facilitate a more compact development and to promote walkability in the district.
3. Residential densities should be significantly higher than what is permitted through current zoning in the areas outside of an established TOD. This can be accomplished through the application of a high density zoning district or through the use of Transfer of Development Rights (TDR’s). TDR’s are permitted under both the Charles County Zoning Code and the Prince George’s County Zoning Code.
4. Focus should be given to the overall mix of land uses in the TOD and not what is occurring on each individual parcel. Form based zoning can be one tool to implement this concept.
5. Employment densities vary widely in TOD. A recommended target for employment levels in the TOD should be 30-40 jobs per gross acre (see Study Averages, **Table 5.2**). Land uses that encourage these types of employment densities (e.g. restaurants, office buildings, regional retail uses) should be permitted in a



*Employment and Residential Area  
LRT Line, San Jose, CA*

- TOD. Land uses that cannot achieve such densities (e.g. warehousing, gasoline service stations) should be avoided.
6. Taller buildings should be permitted closer to the core of the TOD in order to achieve higher residential and employment densities. Buildings should transition to the lower heights of the surrounding areas as the TOD boundary nears the surrounding zoning districts and land uses.
  7. Public facilities should be an integral part of TOD and should be located adjacent to or very near transit stations or transit stops to establish a public investment in TOD may help spur private investment.
  8. An overall guideline with respect to a mix of land uses is:
    - a. Mixed Uses (both horizontal and vertical) – 10% to 40% with a minimum of 5,000 feet of retail
    - b. Employment (office, commercial, service) – 20% to 50%
    - c. Residential (including attached and detached housing) – 20% to 50%
    - d. Civic Uses (parks, plazas, recreation, government buildings and facilities) – 10%
  9. An acceptable FAR to consider as a guideline for the core area is between four and eight (**Table 5.3**).



*Illustrations of Floor Area Ratio*

## 8. New Starts Overview

Recognizing the cost of implementing a large transit system, it is important to follow certain criteria to ensure that the project remains eligible for federal funding. The FTA's New Starts Program is a discretionary Capital Investment Program that provides funds for construction of new fixed guideway transit systems. Receiving funding from the program is a competitive process vying for limited funds. In order to be eligible for federal funding a project must meet the criteria outlined in the New Starts guidelines.

The FTA is required by law to assign overall ratings to each New Starts or Small Starts project subject to evaluation. FTA evaluates projects based on a range of criteria, including a project's mobility improvements, environmental benefits, cost effectiveness, operating efficiencies, economic development effects, and public transportation supportive land use. Additionally, a project is evaluated on its financial feasibility, including the project's local financial commitment. The FTA website

([http://www.fta.dot.gov/planning/newstarts/planning\\_environment\\_2620.html](http://www.fta.dot.gov/planning/newstarts/planning_environment_2620.html)) explains the evaluation and rating process in greater detail and includes charts of what should be included or be completed for each specific rating category.

As noted above, one issue that affects a project's rating is land use. Land use affects the appropriateness of the corridor alignment, the location of stations, and ultimately the projected ridership. It is something that the counties should be focused on as a strategy for generating a cost-effective project that will rate well with the FTA and thus increase the potential to receive federal funding. The recommended actions in this report will help the counties to preserve the corridor and implement land use changes that will give the project the best chance of success in the future.

Examples of some of the factors that the land use ratings are based on include:

### Transit Supportive Plans and Policies

- Concentration of existing development around established activity centers and regional transit
- Land conservation and management through the adoption of regional policies and agreements and the revision of local comprehensive plans, zoning, and capital improvement programs consistent with these agreements
- Plans and policies to increase corridor and station area development and make it transit friendly
- Plans to improve pedestrian facilities, including handicapped accessibility

### Supportive Zoning Near Transit Stations

- System user benefits (a measure of travel time savings)
- Number of current low-income households that will be served
- Number of jobs served by proposed project

### Other Factors

- Opportunities for increased access to employment for low-income persons
- Cost effectiveness based on alternative land use forecasts, which consider the economic development impacts of the project
- Financial feasibility, including local funding contributions to the project

It will be the responsibility of the local jurisdictions to plan the Southern Maryland Transit Corridor's land use future so that the project will meet the New Starts criteria when ready. At the point that the land use densities are in place and the project is ready to begin the New Starts process, the counties should coordinate with the MTA to begin working to meet the requirements of the National Environmental Policy Act (NEPA) and start the Alternative Analysis phase.

NEPA is required of all projects seeking to receive federal funds. NEPA requires the consideration of a proposed project's impacts to the natural and human environment. NEPA requires a systematic interdisciplinary analysis and requires specific documentation, including the following:

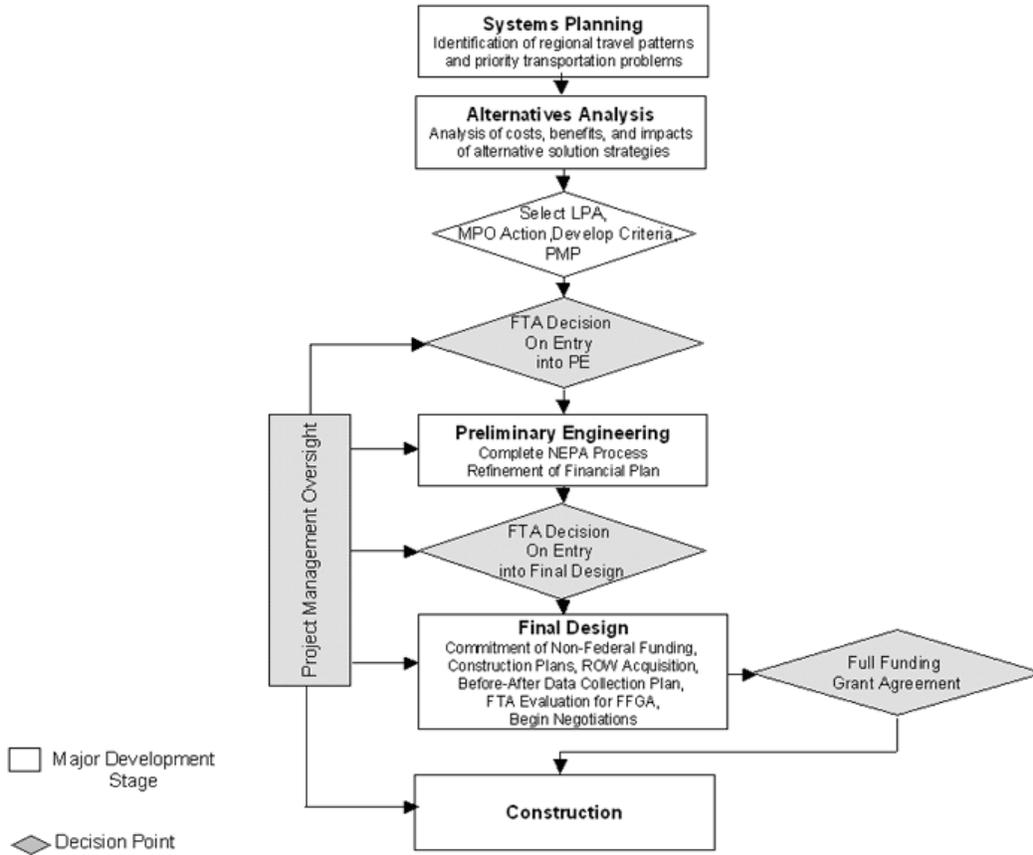
- Environmental impacts of the action
- Adverse impacts that cannot be avoided
- Alternatives to the proposed action
- Consequences of the proposed action

In addition, consultation with agencies and public participation in the planning process are required.

The flow chart represents the project development process for transit New Starts projects. The chart shows major phases in the NEPA and New Starts processes as well as key FTA decision points. The New Starts process can be time consuming, taking approximately five years from the start of the Alternative Analysis through the signing of the Full Funding Grant Agreement. Depending on the complexity of the project, the approximate time frames for the phases are:

- Alternatives Analysis – 24 to 36 months
- Preliminary Engineering – 24 to 36 months
- Final Design – 12 to 24 months
- Full Funding Grant Agreement – 12 to 15 months from the time the project enters Final Design

**Planning and Project Development Process for New Starts Projects**



[www.fta.dot.gov](http://www.fta.dot.gov)

## 9. Summary

The Southern Maryland Transit Corridor Preservation Study is a result of the collaborative effort between the MTA, Charles County, Prince George's County, and other members of the project team who all share a vision for improved transit in the corridor. The products of the initiative identify a corridor for future development into a high capacity transitway along the MD 5/ US 301 Corridor from White Plains in Charles County, Maryland to the Branch Avenue Metrorail station in Prince George's County.

The Land Use Analysis & Guidance report was created to accompany the Southern Maryland Transit Corridor Preservation Study. The report identifies strategies, tools, and techniques that will assist the counties in preserving, protecting, and enhancing the transitway in advance of the next phase of project development. The report provides information with respect to land use issues as they relate to the policy, vision and regulatory control for the preservation of right-of-way for transit in the study area along the corridor. The report also provides an overview of the Federal Transit Administration's (FTA) New Starts program and a description of the key steps that the counties could take to preserve the corridor prior to the project entering into National Environmental Policy Act (NEPA) or New Starts. The preservation of the corridor is directly related to the land use patterns that are recommended in the land use portion of this report.

Both Charles and Prince George's Counties have taken steps to control and guide growth to provide a more dense, compact urban environment along the MD 5/US 301 corridor by establishing "development areas" and "growth areas" in their respective County land use plans. Additionally, the continuation of proper planning based on the recommendations in this report for transit supportive development will assist the counties in achieving the densities needed to support BRT or LRT in the future.

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16. Page 33, *Illustrations of Floor Area Ratio*, source unknown.

**APPENDIX A**  
MONTGOMERY COUNTY CODE

**Montgomery County Code**  
**Part II. Local Laws, Ordinances, Resolutions, Etc.**  
**Chapter 50. Subdivision of Land.**  
**[www.amlegal.com](http://www.amlegal.com)**

**Sec. 50-30. Public sites and adequate open spaces.**

(a) *Platting and dedication.* Whenever a tract to be subdivided includes a proposed site for a park, playground, school or other public use, in whole or in part, as shown on the adopted general plan for the district or on the applicable master plan, such space for public use or part thereof within the subject tract shall be shown by the developer on the subdivision plan after proper determination by the board and public agency involved in the acquisition and use of each such site as to its necessity. When such public sites and open space areas have not been acquired by donation, dedication, purchase, or condemnation, the site or area may be reserved as provided in section 50-31.

(b) *Local recreation.* The board shall require platting and dedication to public use of adequate spaces for recreation wherever it is reasonable to do so, taking into account the recommendations included in the applicable master plan and the circumstances existing in that portion of the district where such subdivision is located, taking into account also the size and character of such subdivision. Whenever the required recreational area involves more than a reasonable area of land, then the subdivider may be required to provide what is determined by the board to be his reasonable share and the balance of such required area shall be reserved for a period of three (3) years pending acquisition by the appropriate agency. "Reasonable share or area to be dedicated" shall mean an area of a size relevant to the recreational needs of the present and future inhabitants of the particular subdivision involved.

(c) *Adequate open space for traffic, coordination of roads, utilities and storm drainage.*

(1) *Roads.* In its consideration of the approval of a proposed subdivision, resubdivision or of a preliminary plan of subdivision, or resubdivision, the board shall require the dedication to public use of adequate open spaces for traffic and the coordination of roads within the subdivision with other existing, planned or platted roads, or with other features of the district, or with the commission's general plan or with any road plan adopted or approved by the commission as a part of the commission's general plan. Such dedication to public use shall be to the full extent of any and all rights-of-way for all roads, streets and highways, including widening of any existing street, determined to be necessary and proper and such as would be required by reason of the maximum utilization and development of the subject property in its present zone classification or that higher use shown on any adopted or approved master plan of the applicable jurisdiction.

In determining the rights-of-way to be dedicated, the Board shall relate the area of dedication to:

- a. The total size of the subdivision;
- b. The maximum street right-of-way or improvement required for that category of land use as established in the road code of the applicable jurisdiction;
- c. The increased traffic, lane and right-of-way requirements which would be created by maximum utilization and development of the subject property in its present zoned classification or that higher use shown on any adopted or approved master plan of the applicable jurisdictions.

Such dedication to public use shall be to the full extent of the required right-of-way in each case, except those roads in paragraphs (1) and (2) of subsection (a) of Section 50-26 wherein dedication shall be required for adequate traffic access to those subdivisions to which access is permitted. A subdivision resulting from a subdivision of land not in accordance with duly enacted subdivision regulations shall be an illegal subdivision; in the event of an illegal subdivision of land the size of such illegal subdivision shall

not be considered in determining the rights-of-way to be dedicated but in such case the tract to be considered shall consist of the land as it existed prior to such illegal subdivision thereof.

Whenever a dedication of land to public use shall be required under any of the provisions above set forth, the Board in its finding and order, shall specify on the preliminary plan the area to be dedicated and shall also state the applicable provision of the subdivision regulations and circumstances that necessitate and require such dedication for public use.

In the event that the applicant shall object to the dedication required by the Board, the applicant shall file written objection within twenty (20) days of such order of dedication, which shall state in detail the exact order or portion of such order which is objected to and specific reason or grounds for such objection. In the event the issue of such dedication and at such hearing it shall be incumbent upon the applicant to supply competent and relevant evidence to sustain his grounds for objection. Any objection to dedication for which evidence shall not be adduced, shall be considered to be waived and abandoned by the applicant.

(2) Slopes. When required for construction or road maintenance, 2:1 slope easements shall be established along both sides of each road or street dedicated to public use. The 2:1 slope easement shall be referred to the street grade approved under these regulations.

(3) Rights-of-Way and Easements Other Than Roads. The Board may require dedication to public use of rights-of-way or platting of easements of land necessary for such public uses as pedestrian paths, equestrian trails, bikeways, water and sanitary sewer, and storm drainage facilities. The Board must approve the extent, location, and width of each pedestrian path, equestrian trail, and bikeway right-of-way after reviewing the applicable master plan. The extent and width of water and sanitary sewer rights-of-way must be determined by the Washington Suburban Sanitary Commission in its jurisdiction. The extent and width of drainage rights-of-way must be determined by the Washington Suburban Sanitary Commission and the Department of Permitting Services after receipt of drainage studies prepared by the applicant's engineer.

(d) *Refusal of areas not suitable for public use.* Whenever a preliminary plan or record plat includes a proposed dedication of land to public use, and the Board finds that the land is not required or not suitable for public use, the Board may either refuse to approve the dedication, or it may require the rearrangement of lots in the proposed subdivision to provide for an acceptable site for public use. In determining if a site is suitable for public use, the Board must consider, among other relevant factors, any criteria for the intended use adopted by the receiving agency, and the natural features of the site. In its evaluation of the natural features of a site, the board may require the applicant, at the applicant's expense, to perform soil borings or to provide other detailed topographical or subsurface information not otherwise submitted under Section 50-34. Information provided to the board must be certified by the applicant's engineer. Unless the applicant agrees to pay for additional site preparation costs, a site may be refused as unsuitable because of natural features if site preparation work for the intended public use will require significant excavation of rock, excessive grading or the grading steep slopes, remedial environmental measures, or similar work. Factors relevant to a determination of the magnitude of site preparation work or developer cost sharing including estimated costs, acreage, agency experience with similar sites, and construction industry practices.

(e) *Excessive grading.* If it shall appear from analysis of the preliminary plan that unusual and abnormally excessive grading will result from the proposed development and if the Board finds that the same can be lessened by a rearrangement of lots and streets or other platting devices, the board may require that the subdivision be so rearranged or replatted. (Mont. Co. Code 1965, § 104-19; Ord. No. 6-192; Ord. No. 9-70, § 1; 11-28, § 2; Ord. No. 11-80, § 1; Ord. No. 13-26, § 1; Ord. No. 13-36, § 1; Ord. No. 13-113, § 1; Ord. No. 14-37, § 1; Ord. No. 14-50, § 1.)

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**Sec. 50-31. Reservation of land for public use.**

(a) *Procedure.* The Board must refer all preliminary subdivision plans to the general plan or parts thereof, adopted or proposed or studies related thereto, or otherwise determine the need for reserving for public use any land included in the preliminary subdivision plan. Reservations for a period of 3 years may be required for road or street rights-of-way, public school and building sites, parks, playgrounds or other recreational areas, or other public purposes.

(1) *Referral to Agency Concerned With Acquisition.* If a reservation appears to be in the public interest, the Board shall refer the plan to the public agency concerned with acquisition for consideration and report. The Board may propose alternate areas for such reservation and shall allow such public agency thirty (30) days for reply. The agency's recommendation, if affirmative, shall include a map showing the boundaries and area of the parcel to be reserved and an estimate of the time (not over three (3) years) required to complete the acquisition.

(2) *Resolution.* Declaration of public reservation shall be by resolution of the Commission, stating the period during which the reservation shall be effective. Notice of the same shall be carried once each in two (2) newspapers of general circulation in the County and a plat shall be recorded in the land records of the County showing in detail the land so reserved. Certified copies of the resolution shall be sent to the property owner and to the agency concerned with acquisition.

(3) *Taxes.* The Board shall advise taxing and assessing bodies of all public reservations, and such public reservations shall be exempt from all state, County and local taxes during the reservation period.

(4) *Posting.* The Board shall post properties so reserved with an appropriate sign, warning against violation of preservation provisions and the penalties therefore.

(5) *Preservation.* During the reservation period, a person must not erect a building or structure on the reserved land. A person must not remove or destroy trees, topsoil, or cover; grade; build a storm drainage structure that discharges water on the reserved land, except according to a storm drainage plan approved by the Department of Permitting Services or the Washington Suburban Sanitary Commission; or put reserved land to any use, except after written approval of the Board. Nothing in this section prohibits the owner from removing weeds or trash from reserved property, or from selling after approval by the Board parts of the land necessary for water, sewer, or road right-of-way for public agencies.

(b) *Expiration of plan.* The expiration or revocation of approval of a preliminary subdivision plan shall not affect a reservation if, before the expiration date, a reservation plat has been recorded by the Commission. (Mont. Co. Code 1965, § 104-20; Ord. No. 13-26, § 1; Ord. No. 13-36, § 1; Ord. No. 13-113, § 1; Ord. No. 14-37, § 1; Ord. No. 14-50, § 1.)

**Editor's note**-In the Maryland-National Capital Park and Planning Commission v. Chadwick, 286 Md. 1, 405 A.2d 241 (1979), it was held that a commission resolution placing land in reservation pursuant to the above section which resolution did not provide for any reasonable uses to be permitted as a matter of right, and which resolution did not provide for compensation for the property owner, was unconstitutional, as the resolution amounted to a taking in the constitutional sense. The above section is cited in Slattery v. Friedman, 99 Md.App. 106, 636 A.2d 1 (1994) and is described in Donohoe Construction Company, Inc. v. Montgomery County Council, 567 F.2d 603 (4th Cir. 1977).