Transit-Oriented Development
In the
Rappahannock-Rapidan Region

Rappahannock Rapidan
Regional Commission
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Overview

The historic towns in the Rappahannock-Rapidan Region are composed of narrow, picturesque, tree-lined streets meant to accommodate moderate levels of vehicular traffic. Prior to the 1970's and 1980's, the towns experienced minimal amounts of population growth, mostly due to natural increases in the local populations. It wasn't until the 1970's and 1980's that they began to experience periods of increasing growth driven by the pressures of urbanizing areas surrounding Washington, DC and Charlottesville, VA. As the towns grew, the road infrastructure inside and surrounding the towns largely remained the same except for the addition of feeder streets and a few thoroughfares. As the populations continue to grow, traffic resulting from commuters and day trips overload roads that are already overcrowded.

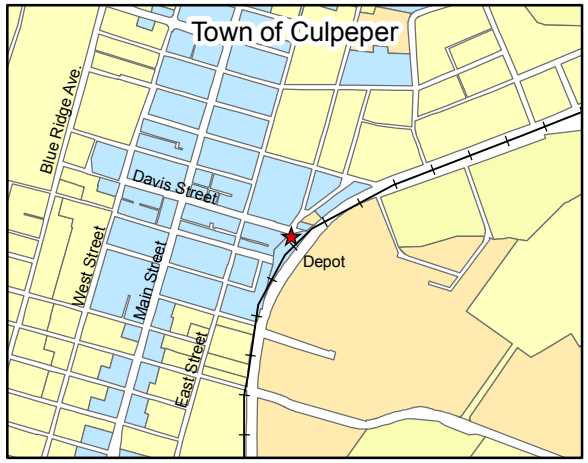
When dealing with commuting and traffic congestion issues in the Region, a variety of solutions must be considered. Demographic trends show the rate of growth continuing in the Region with an increasing segment of the population commuting to Northern Virginia and Washington D.C. for employment. The rate of growth, and people's reliance on driving single-occupancy vehicles, will outstrip the state's ability to enhance existing roadways and to build new ones. Studies underway at the Rappahannock Rapidan Regional Commission and adjoining jurisdictions examine the extension of the Virginia Railway Express (VRE) through Prince William County and into the R-R Region. Commuter rail through the Region can provide numerous benefits including: reduced road congestion, improved air quality, commuting options for those without personal vehicles, and overall improvements in quality of life. Map 1 displays the location of the Region's rail corridor.

Benefits of Transit Oriented Development

- *Reduced automobile dependence*
- *Less road congestion*
- *Improved air quality*
- *Increased housing choices*
- *Higher property values*
- *More efficient regional land use patterns*
- *Healthier lifestyles due to pedestrian- and bike-friendly neighborhoods*

Transit-Oriented Development (TOD) is an effective land-use planning strategy that reduces people's reliance on automobile transportation by building mixed-use, walkable neighborhoods focused around regional transit stops. Most models for transit-oriented development are found in settings more urban than that of the Region, however, the traditional model can be adapted in

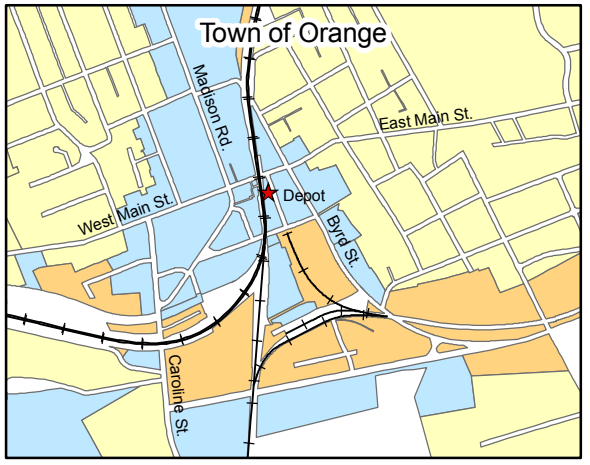
Map 1: Regional Rail Corridor



Culpeper Zoning
- Commercial
- Industrial
- Residential

Gainesville
66
215
VRE
Manassas
28
Nokesville
234
Casanova
15
Catlett
Calverton
Bealeton
Remington
229
Brandy Station
17
Culpeper
Sumerduck
Stevensburg
29
3
15
Mitchells
Locust Dale
Rapidan
522
231
Unionville
Orange
20
Somerset
Barboursville
33
Gordonsville

Town of Orange Zoning
- Dowtown District and General Commercial
- Industrial
- Residential
- Agriculture (County)



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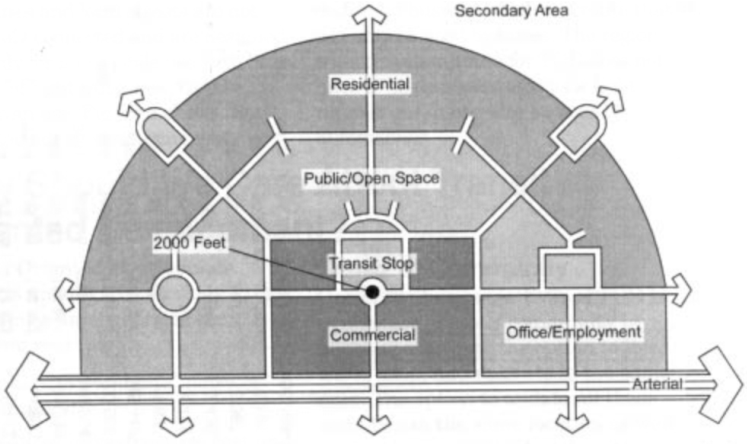
several ways to retain similar goals. TOD has been effectively used in urbanizing settings in Arlington County, VA around Metro stops. More examples of TOD are found in Manassas and Fredericksburg surrounding the stations for the VRE. These communities are similar in historical growth to communities in the Region and also have their transit stations proximate to their historic downtowns. The population growth of these communities, the establishment of VRE stations, and the stations' influence on their historic downtowns deserve closer scrutiny when considering long-range TOD plans for the Rappahannock-Rapidan Region.

The TOD Model

Traditional Transit-Oriented Development is designed so that residents can live, work, shop, and recreate in the same area. A TOD resembles a small, walkable neighborhood focused around a regional transit station. The transit stop (rail or bus) is the main focal point of the development and is immediately surrounded by high-level densities of commercial, office, and residential properties. The transit stop serves as the regional connection for the development as well as the connection to the urban center to which people commute. To maximize access and land-use efficiency, the transit stop is connected to vehicular, bicycle, and pedestrian traffic. As one walks further from the transit center, the building density decreases and becomes more uniformly residential. Density still remains higher than typical suburban densities to centralize the population and maximize land uses.

Figure 1: Typical Layout of Transit Oriented Development



From: Peter Calthorpe, The Next American Metropolis: Ecology, Community, and the American Dream, New York: Princeton Architectural Press, 1993, www.papress.com

TOD Main Elements

Regional Transit Station

The focal feature of any transit-oriented development is the transit station. This emphasizes a localized neighborhood of transit-oriented development instead of dispersed automobile-oriented development. The transit station should be connected to regional or town bus service and automobile, bicycle, and pedestrian traffic to maximize its accessibility and minimize congestion. The regional transportation can be rail or bus or a combination of both. The R-R Region is fortunate to have a major rail line running parallel to Route 29 and Route 15, both heavily-used commuter corridors. This is the same rail line VRE utilizes in Northern Virginia with current service terminating at Broad Run / Manassas Airport.

Size

Transit-oriented development is designed to maximize land use immediately surrounding the transit station and relies on many of the principles of Smart Growth and New Urbanism to create attractive and lively mixed-use neighborhoods. The creation of a walkable neighborhood from residences to the transit stop is a central feature. A comfortable walking radius for the average person would be about 10 minutes, which is a 1300 to 2000 foot radius (Community Planning Workshop 3). This may need to be adjusted for developments in the R-R Region since TOD will be designed with an additional purpose of drawing regional commuters to use rail transit. However, plans should still contain minimal densities and ensure that the building of parking facilities will not disrupt walkable neighborhoods.

Density

Typical TOD are located in urban settings with high, urban densities surrounding the transit stop and mid-level densities in surrounding blocks. Density levels will need to be adjusted for TOD in the Rappahannock-Rapidan Region, but should remain higher than typical suburban levels to maximize land use, maintain a concentration of mixed uses (residential, commercial, and office), and encourage walkability and bikeability. Average densities for urban areas are 18 units per dwelling acre, while rural areas would have 10 units per dwelling acre (Community Planning Workshop 1).

Though a TOD may be located in a rural area, maintaining a sufficient level of density should help to ensure it remains largely self-contained since residents will able to obtain services within the development and thereby avoid the need for external automobile trips. In the R-R Region, a TOD could have multi-story commercial and office buildings with upper story residences immediately surrounding the transit stop, then surrounded by a few blocks of townhouses, and then small-lot single-family homes on the periphery, but still within walking distance.

Mixed Uses

A minimum residential density, a mix of land uses, and walkable neighborhoods ensure that a TOD provides a dynamic living space and sustains transit ridership. Locating offices, restaurants, grocery stores, schools, and other services within walking distance helps reduce auto-oriented trips and creates active street life. Linking the TOD to town and regional bus systems and providing good street connectivity can make it a service destination during the daytime for non-commuters.

Location

TOD should be located in areas convenient to commuters that would encourage maximum ridership of VRE. Rail lines in the Region already parallel Route 29, which is a primary commuting corridor. Locations near the intersections of prominent commuting corridors (Routes 29 and 15 or Routes 29 and 17, for example) would be convenient for many commuters. Similarly, transit locations within areas undergoing high levels of residential development (Bealeton or Remington, for example) might encourage the surrounding communities to commute by rail.

TOD can be planned in previously developed areas or can be designated for new growth areas. The towns of Culpeper and Orange already have renovated train depots in their historic commercial districts. For comparison, the cities of Manassas and Fredericksburg have VRE stations located in similar centrally-located train depots, though it is unclear if VRE ridership has significantly contributed to the development of dense commercial or residential development within walking distance of these stations. The historic downtowns of Culpeper and Orange will have to be thoroughly weighed as locations since they are currently undergoing successful local development, and development under TOD principles may bring in national chain properties that would compete with homegrown businesses.

Designated areas for new growth should also be considered for TOD locations as undeveloped land provides the opportunity to develop neighborhoods resembling traditional towns instead of single-use suburbs that are currently being developed on open land. A good example would be the Inlet area northeast of the Town of Culpeper. In 2005, a developer unsuccessfully proposed using over one-hundred acres for mixed residential, industrial, and commercial purposes. Since heavy residential and commercial development seems to be headed to that area in either case, it would be an opportunity to develop a transit-oriented development that would serve residents of the TOD as well as be a convenient location for commuters from the region to board the VRE. Such a location would draw people from around the region for services as well as for commuting. Proper planning for mixed-uses, connections to regional transit, and a focus on pedestrian and bike traffic would ensure less congestion, more lively neighborhoods than traditional strip malls, and may help appease neighborhood opposition to denser development.

Barriers to Transit-Oriented Development

Most TOD development projects have occurred in urban areas, and because there are fewer models to follow in small towns or rural areas, there may be some resistance to these planning strategies. Some challenges may include:

- Neighborhood opposition – Opponents may consider TOD too dense of development for a rural area or small town or that it would bring more residential growth and traffic congestion. Minimum levels and mixes of density will be required for TOD to succeed, but careful planning should alleviate concerns. For example, TOD can be located along major thoroughfares already utilized by commuters to maximize convenience and to work within the existing road infrastructure. Linking TOD with regional bus routes and designing it to be bike- and pedestrian-friendly can reduce congestion. Also, properly developing mixed land uses can help residents attain most of their services within the development.

- Incompatible planning regulations – Many communities rely on traditional zoning practices that encourage single-use development. This results in auto-oriented and diffuse development, as is presently occurring. Community outreach, education, and modification of planning regulations will need to be achieved before acceptance of these planning strategies. Carefully planned TOD will result in more compact and more efficient land use.

- Insufficient market support – A minimum level of demand for residences, commercial services, and commuting via rail will be

necessary before TOD principles can be implemented. However, given recent population growth in the Region, it is best to plan ahead to ensure the preservation of available land for TOD projects, to strengthen the connections between transportation modes (regional and town bus routes, bikeways, and road improvements), and to take advantage of partnerships (between land owners, developers, and government agencies) as they arise.

- Complex financing – A balance will need to be met between Federal regulations regarding transportation funding, local budgets, lenders, and developers. Budgeting for major transportation projects often takes several years before attaining the required funds. Developers, such as the ones proposing the Inlet development project, could be key to work with and there may be a small window for such opportunities.

- The Park & Ride model – Planning of a TOD will need to avoid characteristics of Park & Ride facilities: expansive parking lots and busy arterial roads. These features are disruptive to pedestrian and bike traffic and would conflict with the development of a lively neighborhood utilizing a mix of commercial, residential, and office uses. Planning following the principles Smart Growth and New Urbanism should be adhered to: a grid network of local streets and the connectivity between transportation modes.

Conclusion

As both population and road congestion continue to increase in the Rappahannock-Rapidan Region, planners and lawmakers must consider many options for developing the transportation infrastructure and providing commuting alternatives. Transit Oriented-Development shifts the focus from diffuse, automobile-oriented development to denser, mixed-use neighborhoods centered around regional transit. Extension of the Virginia Railway Express into the R-R Region should be accompanied by implementation of TOD principles around transit stops. Though such implementation is many years into the future, thoughtful consideration in the preliminary stages can ensure successful long-range plans.

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The contents of this report reflect the views of the Rappahannock-Rapidan Regional Commission (RRRC). The Commission is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the US Department of Transportation, Federal Highway Administration, or Virginia Department of Transportation. This report does not constitute a standard, specification, or regulation.