

Context-Sensitive Solutions in Multi-modal Urban Corridor Planning: Arlington, Virginia's Experience

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Abstract

Arlington County, Virginia, is recognized nationally for its 35-year experience planning successful redevelopment around its two Metrorail subway corridors. Implementing high-density, mixed-use development around Metro stations has yielded tremendous economic and tangible transportation benefits to Arlington. Success has also led to challenges. Arlington continues to experience growth in numbers of residents and jobs, streets remain busy, and some Metrorail trains are running near capacity during the peak travel periods. Aging arterial streets, many built in the 1940's and 50's, offer little amenity and are not conducive to multi-modal trip-making, even though they are the prime access for major redevelopment sites. Investing in these arterial corridors to make them better places to live, work or play, while also fostering non-auto trip-making is of paramount importance to Arlington's economic and transportation future. This paper will focus on Arlington's experience with planning, designing, building and operating context-sensitive, multi-modal arterial streets.

Context

Arlington County, Virginia, is a 26-square-mile jurisdiction bordering the District of Columbia, at the center of the greater Washington, DC, region. In 2005 the County was home to almost 200,000 residents and a daytime population of 270,000, making it one of the most densely developed jurisdictions in the country. Much of Arlington's growth has occurred in the County's two Metrorail corridors (Rosslyn-Ballston and Jefferson Davis). Development continues in those corridors and is underway in other commercial areas. Currently, there are over 6,000 new housing units and over 3 million square feet of commercial space under construction, and Arlington estimates 50,000 new residents and 75,000 new jobs by 2030.

Arlington's transportation system is truly multi-modal. The County has 12 miles of Metrorail with 11 stations, commuter rail, regional and local bus service, 1,100 lane miles of streets and two major interstate corridors, an extensive sidewalk and trail system, and a major commercial airport. On a given weekday, over 200,000 persons get on or off the subway, and over 40,000 people use bus and commuter rail. There are in excess of 160,000 walking trips to transit and over 4 million vehicle miles of travel on the interstates and Arlington's street network.

Given this context, the planning, design and operation of Arlington's arterial streets are the center of community focus on how to preserve and enhance community quality of life, while accommodating additional trip-making.

Challenges

The County faces significant challenges in repositioning its arterial streets to better serve community needs. The first challenge is existing street design and right-of-way. Arlington's arterial streets were built out in their current form in the 1940's and 1950's and are typical of first-generation suburban streets primarily designed to serve motorists. The design generally featured four to five travel lanes, four to five-foot sidewalks, above-ground utilities and little streetscape amenity. In commercial districts development was characterized by small one and two-story commercial buildings with small surface parking lots and curb cuts from the arterial. The County's pattern of development yielded little public right-of-way for expansion of improvements such as widened sidewalks and landscape areas. Retrofitting this street type to better serve all user groups is expensive and requires close coordination with adjacent property owners and development proposals.

A second challenge is the current level of vehicle traffic on these corridors. These streets carry 15,000 to 25,000 vehicles and the major bus routes on an average weekday. Any plan for redevelopment must maintain the existing carrying capacity to prevent diversion onto adjacent residential streets.

A third challenge is institutional. The Virginia Department of Transportation owns and maintains many of the arterial streets in the County. Arlington manages the traffic signals, roadside signage, parking meters, and bus stops but must obtain permits for any geometric changes to these streets to make improvements supporting development and planning goals. A natural conflict occurs because the County focuses on creating high-quality, multi-modal streets, and the state's goal is moving traffic efficiently.

Catalysts for Change

There have been several concurrent catalysts for reassessing the design and function of arterial streets in Arlington. The first derives from basic County land use and development trends. The available development capacity in the County is mainly located along arterial streets. Pedestrian and landscape/streetscape enhancements and utility undergrounding are generally required as part of development approvals. As more businesses and residents locate on these arterial streets, the needs for improved pedestrian and transit access, and improved streetscape increase. Second, there has been broad and long-standing community support for improving the functionality, pedestrian safety and visual attractiveness of arterial streets. Third, local elected officials have set a clear and consistent direction to achieve a better balance across the user groups

of these streets (pedestrians, transit users, cyclists, and motorist) with a particular emphasis on pedestrian access and safety. Fourth, Arlington staff strongly supports expanding travel choice in these corridors as a way of supporting other community development goals.

Policy Direction – Context-Sensitive, Multi-modal Arterial Streets

To support community-building objectives, the County’s policy direction is to adapt arterial street design and operations. First, street design and operation uses are broadened to accommodate the following:

- Walking
- Surface transit
- Bicycling
- Private vehicle use
- Parking and loading
- Car-sharing services
- Information provision – wayfinding
- Outdoor activities
- Access and integration with adjacent development

The level of accommodation for each and the balance between them varies by location and uses at the location.

In addition to the inclusion of a variety of uses, the County’s policy direction also encompasses changes to a number of long-standing guides that have shaped arterial street design and operations. These specific shifts in policies governing arterial streets are described below:

From:

- Streets defined from curb-to-curb
- Little integration with adjacent land-uses
- Little focus on environmental quality
- Vehicle capacity and throughput
- Vehicle access and safety
- Passive approach to right-of-way management
- Little direct transportation user-provider interaction

To:

- Streets defined building-face to building-face
- High degree of land-use transportation integration
- Increased focus on arterial streets as public space
- Multi-modal capacity and quality of service
- Multi-modal access and safety
- Active right-of-way and curb-side management
- Heightened user-provider interface

These changes in policy are intended to produce a more cohesive urban environment that also supports expanded non-SOV travel.

Initiatives to Retrofit Existing Arterial Streets

Arlington has undertaken a number of initiatives to retrofit arterial streets. In both of its Metrorail corridors, Arlington has been successful in gaining substantial public infrastructure improvements through private redevelopment projects. In the Rosslyn-Ballston Corridor (three miles in length), redevelopment is focused on three east-west arterial streets: Fairfax Drive, Wilson Boulevard and Clarendon Boulevard. Over 50 percent of the total street frontage has been rebuilt as part of the redevelopment process, which added in excess of 30 million square feet of mixed-use development. Arlington has also implemented bike lanes from end to end, added bus stops and bus service, additional metered on-street parking, and on-street car-sharing vehicles.

Along the three and one-half-mile-long Columbia Pike Corridor – centered on a four to five lane arterial street not served by Metrorail – the County took a different approach by integrating land use and transportation planning at the corridor scale. This effort led to the adoption of a form-based code for development along the Pike that includes a plan for transportation and other infrastructure improvements. Arlington is currently in the process of implementing plan recommendations, and substantial infrastructure improvements are underway in conjunction with development approved under the form-based code. One of the major elements of this initiative is providing high-quality surface transit. Branded “Pike Ride,” three-minute-headway, peak-period bus service operates along the Pike to the Pentagon and Pentagon City Metro Stations (at the east end of the Corridor). Plans are underway for improved bus stops, with possible future implementation of street car service.

Arlington launched a third initiative, “Arterial Transportation Management,” to address arterial corridor conditions outside of the major commercial areas. This looks at possible ways to expand travel choice, access and safety for all user groups through improvements in street and intersection design. The two-year study effort was completed in 2004, and the first demonstration project is currently under construction.

Transportation System Performance and Lessons Learned

Arlington’s approach to urban, multi-modal, arterial corridor planning, design and operation has yielded tangible transportation system benefits. Traffic growth on the arterial street network has been relatively modest, with growth often between one-half percent to one percent annually. In contrast, transit ridership has been growing over two percent annually. Anecdotal evidence suggests that walking and biking trips are growing at a healthy rate as the transportation environment becomes more conducive to these forms of travel. A 2005 Washington Metropolitan Area Transportation Authority Development-Related Ridership Study focused on areas served by Metrorail and included six high-density residential properties in Arlington with 3,280 units. Less than 40 percent of all

reported weekday trips from these developments involved the use of a private vehicle (either as a driver or passenger). This is very different from travel patterns in much of the Washington region that are predominantly trips involving the use of a private vehicle.

There are some insights that can be derived from Arlington's experience with urban arterials. First, coordinated planning between private redevelopment and public infrastructure is essential, and many of the improvements in Arlington's arterial street infrastructure are the direct result of this critical factor. Second, an overall plan for the corridor and its operation guides private and publicly funded projects. Third, expanding access to include all user groups is important to long-term corridor performance. Finally, retrofitting urban arterial streets to better serve all modes and respond to the desired community context is very expensive, technically challenging, but ultimately worth doing when the goal is a multi-modal transportation network effectively serving the community.

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