

# Draft Framework

## MTP Bicycle Element Update



October 20, 2017

## I. The Role of Bicycling in Arlington Transportation

Arlington is a vibrant community, in the heart of the dynamic Washington, DC Metro region. Arlington's transportation network has contributed to a high quality of life in the County by providing various transportation options, making it possible to travel around and through Arlington at all times with relative safety, speed and ease. Bicycling has consistently been one of the transportation options integral to Arlington's successful transportation network.

As continued growth of both the County and the DC region produces more travel demands on the transportation system, threatening gridlock on our roads and overcapacity on our transit system, the need for a multimodal transportation system becomes greater. Moreover, as our streets and transit system inch closer to their maximum capacity, the less resilient they are at times of extreme stress, such as during natural disasters or major facility shutdowns. In communities such as Arlington, it is increasingly important to provide varied options to serve diverse resident and visitor travel needs while also finding ways to reduce the environmental footprint of local transportation systems.

Bicycling plays a unique role in managing transportation demand for the growing population. When using bicycles, people can travel short- and medium-range distances quickly and efficiently while retaining freedom and flexibility in their routes and schedules. Bicycling can connect many origins and destinations to transit stations, giving our transit system a broader reach on fixed routes. Shifting trips from motor vehicles to bicycles can also improve motorists' travel by reducing congestion and demand for parking spaces.

The cost to the County of building or maintaining facilities for bicycling is typically many times lower than facilities for driving or transit. Bicycles also take up much less space than motor vehicles, particularly while parked. Significant amounts of bicycle parking can be placed within existing streetscapes and building sites at low fiscal expense and with minimal opportunity cost, thereby reducing our community's need to pave parking areas that otherwise could be used for open space or other uses. Due to its low cost and lack of licensing or other requirements, bicycling is a very accessible travel mode, particularly for persons with low-incomes and those unable to obtain drivers licenses. Bicycling, along with walking and public transit, enhances equity in Arlington as it broadens travel opportunities for all persons.

Recent technology changes have made low-powered, personal mobility devices such as electric-bikes, motorized skateboards and scooters, more affordable and reliable means of transport. These devices generally operate best, and most safely, on smooth, paved surfaces, separated from motor vehicles, like bicycle lanes and multi-use trails. By enhancing the capacity and quality of the bicycle network these additional transportation modes can be accommodated. Travelers who may not have the ability or interest in pedaling bicycles and those who may need

some motor assistance when going uphill or carrying large loads or extra passengers will gain additional transport and route options.

Bicycling and other active transportation modes also enhance the health of our citizens by providing moderate exercise while commuting and undertaking other personal travel. In addition to being clean and quiet, bicycling and other active transportation help to build community. People walking and bicycling are connected to their community in a way that people in cars and other vehicles are not. Bicyclists can more easily converse with neighbors, observe happenings in their communities and spend more time traveling on local streets. Bicyclists also help the local economy, as they are more likely than motorists to shop at nearby businesses, and to make more frequent visits. Bicycling fits well with Arlington's local values of encouraging all residents to get out and be part of the community.

## **II. Background**

### **Current Conditions**

How bicycles are currently being used in Arlington is not always obvious nor well-quantified. However, since 2009 Arlington has been collecting data on bicycle use from a network of electronic counters installed at selected locations on area trails and some primary roadways. Utilizing the data collected by those counters, and from the Capital Bikeshare system, County staff is gaining a clearer picture of bicycle use in Arlington. Recent estimates from the 2015 Household Travel Survey and the 2016 American Community Survey found that bicycling now accounts for 2.4 to 5.0 percent of all commute trips by Arlington residents. Those figures, when compared to estimates from past decades, indicate significant growth in bicycle mode share.

The current bikeways network, comprising shared-use trails; marked, protected and buffered bike lanes; bicycle boulevards; and signed bicycle routes, serves much of Arlington well, links across the Potomac River, and includes trails that extend south and west into neighboring Virginia jurisdictions. These facilities supplement Arlington's low-volume residential street network that, for the most part, offer convenient and comfortable bicycling routes. Significant gaps, however, remain in the network, resulting in barriers that leave bicyclists in portions of Arlington disconnected from the overall network.

### **The Master Transportation Plan**

The Master Transportation Plan (MTP) Goals and Policies document specifies three general policies that form the foundation of the MTP and, therefore, transportation in Arlington in the years ahead: integrating transportation with land use, supporting the design and operation of complete streets, and managing travel demand and transportation systems. This element of the MTP focuses on bicycle travel, which is greatly affected by land use, street design, traffic volumes, public perception and transportation system management. Bicycling can also substantially affect demand management by substituting for local travel by motorized vehicles.

Arlington County developed its' first bicycle master plan in the early 1970's. That document established the first network of bicycle and pedestrian trails as well as signed on-street routes. The 1986 comprehensive rewrite of Arlington's MTP brought bicycles firmly into the County's multi-modal transportation planning. Subsequent bicycle plans added elements related to secure bicycle parking and bicycle lanes. The *Bicycle Element* of the MTP that was adopted in 2008 incorporated an expanded bicycle network plus extensive attention on educational and informational activities to encourage more travel by bicycle.

Since adoption of the *Bicycle Element* in July 2008, there have been substantial changes to the bicycle environment in Arlington, the Washington, DC region and nationally that have changed the landscape for bicycling in urban areas. One of the most significant changes has been the introduction of regional bikeshare systems. In addition, several types of enhanced on-street bicycle facilities, such as buffered and protected bicycle lanes, have been implemented. Changes to national engineering and design guidance have also enabled greater utilization of innovative bicycle facility treatments. Moreover, during the past decade there has been substantial growth in local bicycle usage and awareness which necessitate making further revisions to the County's plans for how bicycling should be provided for and how to achieve more equity between travel modes and traveling populations.

### **Updating the Bicycle Element**

During the summer and fall of 2017, Arlington County undertook a comprehensive public engagement effort directed at gaining input from a broad cross-section of Arlington residents for an update to the MTP's bicycle policies. That public engagement effort which included: monthly meetings of a citizen advisory panel, an on-line survey, a visual preference survey, presentations to advisory commissions and dialogues with interested residents provided robust guidance for the plan update.

The community expressed great interest in bicycle travel and a strong desire for making Arlington a safer and more comfortable place to bicycle. Many of the respondents indicated that their concerns about the safety of bicycling on Arlington streets is the primary reason why they and their family members do not bicycle more often. Building more protected bicycles lanes, along with expanding the trail system and better connecting the existing bikeway network, were identified as the best ways for Arlington to achieve greater bicycle safety and more bicycling for transportation purposes. The community responses also favor: making bicycle lanes more highly visible, addressing vehicles that obstruct bicycle lanes and enhancing bicycle priority on neighborhood streets through motor vehicle diversions, traffic calming and greater route connectivity. This guidance from Arlington's community outreach is reflected in updated plan's goals and policy statements.

### **Summary of Revisions**

A primary focus of the Bicycle Element is the completion of a more fine-grained and comprehensive bicycle network of trails, bike lanes, and protected or buffered on-street

facilities. Bicycling will be a more viable travel option for many Arlingtonians when several key bikeway network connections are completed. Enhancements in bicycle parking facilities at transit stations, shopping centers, offices, and in multifamily residential buildings will also improve bicycling in Arlington.

The plan establishes an objective of having at least half of all residents ride bicycles for transportation purposes at least occasionally. Such a participation level would indicate that “average” residents find bicycling to be safe and convenient enough for at least some of their transportation needs. Achieving this level of comfort with bicycling will require, in addition to the facility network improvement, an effort by the County to address safety concerns. Many policy proposals in this plan are aimed at achieving greater safety and user comfort include facility upgrades, enhanced traffic law enforcement, safety education efforts, and promotional events such as mass rides and training classes. Young bicyclists, in particular, should benefit from the proposed greater emphasis on “safe routes to school” educational and promotional efforts.

Bicyclists are also expected to benefit from the overall efforts of the County to expand the multimodal aspects of its transportation system. In particular, the effort to rebalance street space allocation to achieve more Complete Streets (explained in detail in the Streets Element of this plan) will help create safer and more comfortable streets and reduce conflicts between bicyclists and pedestrians on sidewalks. Upgrading bicycle access to transit stations, through the construction of secure, sheltered parking, will strengthen the intermodal connection between bicycling and public transit.

This *Bicycle Element* carries forth the overall goals and policies of Arlington’s *MTP* while simultaneously bringing the plan up to date with the advances in bicycling over the past ten years and looking ahead to what the community desires for the next decade. It focuses on increasing the use of bicycles as a transportation mode in Arlington by broadening the population of persons that feel safe and comfortable riding bicycles on our streets. The primary initiatives of that objective are to upgrade the bicycling network – achieving a comprehensive network of low-stress bicycling routes - and making bicycling a “normal” activity for persons of all ages and abilities. In addition to facility upgrades, achieving the objective will include actions directed towards education, raising general awareness, increasing the use of bicycles as part of multi-modal travel, and further integrating bicycling needs in all aspects of planning, design, operation and maintenance of our community resources.

### **III. Arlington’s Vision for Bicycling**

*Bicycling is an integral part of Arlington’s multi-modal transportation system and provides safe and comfortable travel for persons of all ages, incomes and abilities.*

The vision statement captures a few important themes:

- Bicycling supports the Master Transportation Plan’s general policies of providing multiple viable travel options, supporting the design and operation of complete streets and managing travel demand and transportation systems.
- Safety of bicycling is a priority for Arlington County.
- A bicyclist’s level of comfort will often determine whether bicycling is actually an attractive travel option.
- “All ages, incomes and abilities” is a priority for the plan, supporting the planning and building of bicycle facilities for individuals of various ages and levels of bicycling skill and confidence.

## IV. Plan Goals

### MTP Goals

The 2008 MTP established six broad goals intended to guide and unify Arlington’s approach to transportation. These overall goals are:

1. Provide high-quality transportation services
2. Move more people without more traffic
3. Promote safety
4. Establish equity
5. Manage effectively and efficiently
6. Advance environmental sustainability

### Bicycle Element Goals

This Bicycle Element updates and applies these goals for bicycle transportation. The restated goals acknowledge and build on an additional decade of experience in bicycle planning.

- A. Provide an environment in which people of all ages, abilities, and income levels can get places by bicycle safely and comfortably.
- B. Make all of Arlington accessible by bicycle using easy to follow, low stress routes.
- C. Increase the mode share of bicycle travel, through improved infrastructure, more education, smart law enforcement, positive encouragement and rigorous evaluation. Aim to have the population of persons who bicycle for transportation be demographically similar to the population of Arlington overall.
- D. Provide an excellent trail system that serves the needs of people walking and bicycling for transportation and for recreation.
- E. Properly manage, maintain, and operate the infrastructure that supports bicycling in Arlington.
- F. Integrate bicycling into an efficient, sustainable and equitable transportation system.

## V. Policies, Implementation Actions and Performance Measures

A total of 14 principal policies have been developed to direct the County's approach to bicycling. They are grouped here supporting the six updated Goals of the plan introduced above. Each policy is in turn illustrated by several implementation actions which will lead to measureable outcomes. Finally, a number of performance measures are proposed as a way to assess progress toward achieving the goals.

**Goal A. Provide an environment in which people of all ages, abilities, and income levels can get places by bicycle safely and comfortably.**

Arlington County aims to make bicycling safe, secure, convenient and normal. This is achieved through projects that improve the physical infrastructure for bicycling, and by programmatic activities that build public acceptance for safe, convenient, and accessible bicycling. Persons of all ages, abilities and backgrounds are considered when developing bicycle projects and programs.

**Policy 1 – Enhance the safety of bicycling in Arlington by addressing unsafe bicyclist and motorist behaviors. Increase traffic law enforcement pertaining to bicycle safety, placing priority on those violations that cause the most collisions and injuries.**

*Implementation Actions*

- Promote PAL, the County's approach to travel safety. Everyone is urged to be Predictable, Alert, and Lawful.
- Build bicycle safety efforts into an integrated "Vision Zero" travel safety program, with the goal of zero traffic deaths.
- Conduct bicycle safety and maintenance courses through the Arlington Adult Education and BikeArlington programs. Encourage community colleges, bicycle organizations, fitness clubs, and others to offer safety instruction. Consider providing financial assistance to institutions or to students to encourage participation.
- Produce Spanish-language and multilingual bicycle safety education literature and media campaigns, and continue to participate in the Washington region's multi-lingual Street Smart safety campaign.
- Coordinate with local law enforcement officials to implement bicycle safety enforcement programs directed towards the riskiest violations of traffic safety law by motorists, bicyclists and pedestrians. Target efforts at locations with frequent bicycle/motor vehicle or bicycle/pedestrian conflicts.
- Utilize public awareness campaigns, law enforcement and physical barriers to prevent drivers from obstructing bicycle lanes and from opening car doors in the path of oncoming bicyclists.
- Continue headlight and helmet distributions that reach young bicyclists and persons of limited incomes.

- Regularly review bicyclist crash reports to identify locations and behaviors that require engineering, enforcement or education interventions.
- Make physical improvements to streets and bikeways to address identified bicycling safety concerns.
- Encourage greater use of bicycles by police and County staff for routine and special work, such as trail patrols and site visits.
- Offer training to continuously upgrade planning, engineering, law enforcement and maintenance staffs' knowledge of best practices for bicyclist safety. Establish minimum training requirements for these professionals.

**Policy 2— Expand the County’s existing Safe Routes to Schools program, to explicitly address participation by students and adults.**

*Implementation Actions*

- Support an ongoing Safe Routes to School program that includes Encouragement, Education, Enforcement, Engineering and Evaluation components. To succeed, this program will require coordination between County government and Arlington County Schools; will include school administrators, faculty, staff and parents, in addition to students; and will include all public and private schools in Arlington.
- Provide Arlington elementary and middle school students training in safe and considerate walking and bicycling, and extend the training to high school physical education programs.
- Designate recommended bicycling routes to school. Criteria for safe routes should be established jointly among the staff of the Arlington Public Schools, Transportation, and Police. Continue to improve public infrastructure to increase the number and extent of routes that can be recommended for bicycling to school.

**Goal B. Make all of Arlington accessible by bicycle using easy to follow, low stress routes.**

Expand and complete a dense network of low-stress bicycle facilities that overcome barriers and improve connectivity between origins and destinations. Arlington County supports bicycling to and from residential neighborhoods, retail and commercial districts, schools, recreation centers and parks, employment sites, transit stations, and activity centers in neighboring jurisdictions.

**Policy 3 – Complete and continuously improve, a reliable, safe, efficient bicycle network that connects all of Arlington County. Prioritize projects that overcome barriers, and complete network connectivity. Enhance bikeway information and way-finding.**

*Implementation Actions*

- Fund and build planned projects and trail improvements identified in other adopted County planning documents. Establish a funding stream to regularly implement projects.



- Improve how funded bikeway projects move effectively and efficiently through design and construction phases.
- Add grade-separated bicycle and pedestrian crossings of major highways where needed, and improve existing at-grade highway crossings.
- Improve and promote bicycle access to the Potomac River bridges for connections to shopping, employment centers, and activity centers in neighboring jurisdictions.
- Work with regional partners to ensure that bikeways are provided on and across Virginia Department of Transportation (VDOT) and National Park Service (NPS)-operated arterial roadways, interstate and parkway corridors, as part of all projects to improve or reconstruct these roadways.
- Increase engagement with Federal landowners and regional neighbors to improve interjurisdictional bicycle facilities including access to all bridges across the Potomac River. Develop effective routes for crossing or circumnavigating large federal institutions and properties, such as Joint Base Fort Myer Henderson Hall, the Pentagon Reservation, National Foreign Affairs Training Center and Arlington National Cemetery
- Support the National Park Service with implementation of the 2016 Paved Trails Plan.
- Upgrade and expand the signed bike route system. Improve wayfinding for bicyclists with signs, maps and mobile apps.

**Policy 4- Provide a network of low-stress bicycling to routes that connect residential areas, commercial centers, transit stations, schools and County facilities across Arlington.**

*Implementation Actions*

- Provide additional multiuse trails where significant community demand and support are expected. Develop and formalize trail concepts identified in adopted County documents such as the Public Open Space Master Plan, and area and sector plans.
- Plan and construct new shared-use trails and trail connections in conjunction with new development. Focus on trails, bridges, and overpasses that improve the connectivity of the bikeway network within Arlington and with regional bikeways in adjacent jurisdictions.
- Develop connector trails or routes that link low-volume streets and establish more effective and efficient bicycle travel corridors. Emphasize access to public facilities such as schools, transit stations and community centers.
- Plan and develop new bikeways that extend and link low-stress routes by identifying desired land acquisitions or easements needed to make route connections. Pursue such acquisitions or easements through donations, site development or public purchase.
- Improve the safety and comfort of bicycling on existing north-south routes, and identify opportunities to provide additional low-stress corridors for north-south bicycle travel.

- Utilize established project prioritization criteria for the purpose of funding applications and staff support.

**Policy 5 – Provide higher-quality bicycling facilities. Accommodation for bicycles is needed as part of all street improvement projects. Aim for Protected Bike Lanes (PBLs) as being the safest, most popular, least stressful and best delineated space for bicycling. Use marked bike lanes on arterial streets, and enhance bike lanes with buffers or physical separation where possible.**

*Implementation Actions*

- Upgrade existing on-street bikeways on arterial streets to include buffer striping or protective barriers wherever possible.
- Review existing arterial street cross-sections and look for opportunities, through restriping or reconstruction, to reallocate street space to enhance bicycling safety, access and separation. Look for opportunities to create new protected or buffered bike lanes that bridge gaps in the existing bikeway network.
- Provide bikeways on new or existing streets in conjunction with major new development or redevelopment activities in Pentagon City, Crystal City, the Potomac Yard, Columbia Pike, Lee Highway, Rosslyn and elsewhere.
- Upgrade provision for bicycling at challenging intersections, make full use of available traffic control devices including: signals, signs, beacons, delineators and roadway markings.
- Implement traffic calming and other speed management measures as needed to improve safe sharing of roads by bicyclists and motorists.
- Design and build new and renovated shared-use trails and on-street facilities in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and National Association of City Transportation Officials (NACTO) guidelines.
- Pilot innovative street and bikeway designs, considering examples and research from across the USA and rest of the world.
- Conduct test applications of tactical urbanism measures including trail applications of markings, and reallocation of road space with paint or delineators.
- Add contra-flow bicycle facilities to one-way streets, where safe and appropriate.

**Goal C. Increase the mode-share of bicycle travel through improved infrastructure, more education, smart law enforcement, positive encouragement and rigorous evaluation. Aim to have the population of persons who bicycle for transportation be demographically similar to the population of Arlington overall.**

Make using a bicycle for transportation, at least occasionally, a normal and accepted travel option for the majority of the Arlington residential population, aged 8 to 80. When a large-

enough portion of a community participates in an activity, it spawns a culture whereby an activity previously considered “fringe” becomes embraced by the mainstream of the community.

**Policy 6 - Establish bicycle use as a mainstream travel mode. Raise visibility and participation of bicycling in Arlington through events, prominent facilities and encouragement activities.**

*Implementation Actions*

- Expand the encouragement program of BikeArlington, including map publication, Bike-to-Work Day, organized group rides, Car Free Day, valet bicycle parking at events, learn to ride classes and route assistance. Distribute bikeway maps, program brochures, and safety education materials. Include guidance for safe and courteous use of shared-use paths and streets. Educate bicyclists and others about facility types that may be relatively new to the public.
- Continue to promote bicycling as a part of the County’s Transportation Demand Management (TDM) activities aimed at businesses, employees, and residents.
- Encourage employers to provide cash compensation to their staff who bike to work, rather than subsidizing motor vehicle parking at their workplaces.
- Conduct regular surveys and focus groups to determine actions to encourage greater bicycle use. Identify new marketing approaches to reach groups and individuals that are not currently bicycling.
- Promote bicycling as an activity that will improve health and fitness and conveniently incorporate exercise and recreation into daily life. Support a range of programs to encourage bicycling for transportation, fitness, and recreation, including:
  - Bicycle fitness and training programs by the County and schools. Encourage similar programs by bike shops, bicycle advocacy organizations and bicycle clubs.
  - Bicycling races and group rides.
  - Recognition awards and incentives for bicycling – e.g., awards honoring residents who bicycle to work, and ride through the winter; awards for businesses and citizens who help make Arlington a better place for bicycling; awards for exemplary bicycling support in schools, businesses, and youth organizations.
  - Organize and encourage regular community-based bike rides that appeal to less-experienced bicyclists.
  - Develop open street events.
  - Work with area schools to develop bicycling incentive programs for their staff and students.
  - Evaluate the feasibility of constructing a velodrome (a track for bicycle racing) on County property or in conjunction with a private redevelopment project.
- Incorporate information about Arlington’s bicycle registration program in County publications.
- Improve outreach to potential bicyclists that have been traditionally underrepresented in County planning and programs. Aim to reach and influence persons of lower incomes,

recent immigrants, non-residents who pass through Arlington and young people and renters who tend to not engage in civic affairs.

- Reacho child cyclists and parents through school-based bicycle safety and encouragement programs.
- Continue to provide classes and training for the less-confident cyclists.
- Continue support for the BikeArlington programs for community outreach, education and encouragement.
- Clarify where electric bikes can be legally ridden. Encourage their use as a way to broaden the appeal and range of uses of bicycling.
- Articulate specific goals for bicycle use by Arlington residents and local workers including: travel to work, travel to school and non-work/non-school transportation.
- Undertake policing and communications programs that address reducing bike theft.
- Undertake measures that will lead to achieving Gold Level Bicycle Friendly Community status, an honor awarded by the League of American Bicyclists for communities with exemplary bicycle programs and bicycle use.

**Policy 7 – Require all new property developments to provide facilities to support bicycling, including showers, lockers and adequate bicycle parking.**

*Implementation Actions*

- Apply bicycle parking standards per established site plan conditions and design standards and specifications. Review periodically and update as needed.
- Amend the County zoning ordinance to require all commercial and multifamily buildings to provide adequate, convenient and secure bicycle parking.
- Assist the managers/owners of retail, office and multifamily residential properties in designing and installing high-quality bicycle parking at existing buildings and complexes.
- Ensure that the parking and shower facilities specified in development site plan conditions meet minimum standards for quality and location.
- Develop on-street and on-site bicycle parking to accommodate cargo bikes.
- Provide public bicycle maintenance stands and resources, particularly in lower-income areas.
- Provide opportunities for e-bike charging at commercial, multi-family and public facilities.

**Goal D. Provide an excellent trail system that serves the needs of people walking and bicycling for transportation and for recreation.**

Arlington’s multi-use trail system is a highly valued resource. Sufficient resources must be dedicated to ensure that all trails are well-maintained and available for year-round use.

Attention must be directed to: physical improvements, including lighting; management and education; and issues of trail user conflicts and security.

**Policy 8 – Manage shared-use trails as community assets that enhance transportation and recreational opportunities for everyone.**

- Improve and promote the County’s Report-a-Problem system that allows individuals to report maintenance needs on the web, over the phone, and via e-mail mobile app.
- Adopt the maintenance program and practices in Appendix TBD.
- Promote volunteer maintenance on County-owned trails.
- Establish maintenance responsibilities and protocols for all trails in public access easements on privately-owned properties.
- Perform periodic trail pavement condition assessments. Establish a regular maintenance cycle for trail repaving and repair similar to that used for County streets.
- Establish guidance for night-time lighting on trails.
- Evaluate all existing trail signage and markings and modify as needed to enhance user safety and clarity.
- Expand the bikeway network wayfinding signage system. Implement trail identification signs, markers or art features at key trail entry points.
- Expand public outreach methods to ensure that information alerts about trail activities, are distributed widely to reach Arlington and regional bicycling networks.
- Protect the trails and buffer areas against encroachments from adjacent roadways and new development.

**Policy 9 – Manage the trails for safety with increased use. Improve facilities to address overcrowding and reduce user conflicts. Develop instructional materials to encourage safer user practices.**

*Implementation Actions*

- Prioritize trail widening and trail/roadway intersection projects, especially where crashes or frequent user conflicts have been documented.
- Undertake safety evaluations of all street/trail intersections. Identify how safety might be improved through traffic signals, signage, markings, traffic calming, tunnels/overpasses, or other measures.
- Implement measures such consistent mileage markers, new trailheads, and GPS coordinates to help emergency personnel and vehicles.
- Institute regular trail patrols by Police, Rangers, and volunteers especially during early morning and evening hours.
- Test markings and/or barriers to separate bicyclists and pedestrians.
- Create campaigns to emphasize proper behavior and etiquette by all trail users.

- Improve security and safety with measures such as trail lighting, convex mirrors and landscape treatments that improve visibility.

**Policy 10 - Make trail corridors more environmentally sustainable, with reduced impervious surface area, additional shade and increased planting for bio-retention.**

- Submit plans for new or significantly modified trails to Arlington’s environmental assessment process early in the design stage.
- Review trail width standards; consider widening to accommodate heavy use, and allowing narrower trails for lighter use and smaller footprint.
- Minimize adverse impacts from paved trails in watersheds; explore utilizing permeable paving materials.
- Modify County design practices to allow for increased planting of native trees within trail corridors.

**Goal E. Properly manage, maintain, and operate the infrastructure that supports bicycling in Arlington.**

Planning, designing, funding, and building infrastructure brings it into existence. To extend the life and utility of infrastructure, it must be well-managed, maintained and operated. This applies to the bicycle network – including the on-road portion- in order to provide sufficient bicycle travel capacity, an attractive level of service, functional reliability, safety, and security.

**Policy 11 – Implement measures to assure safe and convenient bicycle travel during and after inclement weather and with street and trail construction.**

*Implementation Actions*

- Develop Maintenance of Travel (MOT) plans that maintain safe, continuous bicycling routes as part of all significant construction in the public right-of-way. Vigorously enforce MOT requirements throughout the duration of construction projects.
- Designate priority transportation trails that require snow clearance and other regular maintenance.
- Enhance trail and bike lane snow/ice/debris clearance practices to minimize the time such such bikeways are unusable.

**Policy 12 - Regularly collect and analyze data including user counts and reported crashes.**

- Refine bicycle data collection on streets, trails, and bridges, to establish baselines, and monitor use, plan for maintenance and expansion, evaluate safety, and model active transportation.
- Operate trail and bikeway data collection systems in an efficient, sustainable, collaborative and comprehensive manner. Provide open access to collected data.

- Conduct periodic travel surveys that include bicycle use questions.
- Apply bicycle count and crash data in project prioritization, identification of bicycle facility needs, and other decisions regarding the transportation network.
- Build on bicycle count data to develop methods for characterizing and estimating bicycle use.

**Goal F. Integrate bicycling into an efficient, sustainable and equitable transportation system**

Continue to integrate bicycling with transit, walking, taxicab, ride-sharing and high-occupancy vehicle (HOV) travel modes. Improve access to bicycling for residents of all backgrounds.

**Policy 13 - Provide convenient, covered and secure bicycle parking at transit stations, schools, public facilities and commercial centers.**

*Implementation Actions*

- Coordinate with WMATA and private property owners to increase the quantity and quality of bicycle parking at all Metrorail stations. Initiate new bicycle/transit integration services, and manage existing services. Provide sufficient free bicycle parking that offers a high level of security and weather protection.
- Improve the security of bicycle parking at Metrorail stations with more bicycle lockers, monitored bicycle stations and reliable surveillance.
- Provide sufficient bicycle parking at schools to meet established per-student and per-staff ratios. Provide secure bicycle parking for staff, and locations for parent/child bike drop-off.
- Work with property-owners to enhance the quality and quantity of bike parking in commercial centers. Increase the use of on-street bike parking, emphasize locations with little existing secure parking. Require new/better parking on private property as part of development approval and incentivize improvements at other times.
- Regularly assess the availability of secure, convenient bicycle parking at all County facilities and significant park and recreation sites. Upgrade quality and quantity of bicycle parking as part of regular facility/site improvements.
- Assess the market for integrating bicycle transportation with carpools, vanpools, taxis, car-sharing programs, and commuter bus or rail services.

**Policy 14 – Coordinate with regional partners and private providers to increase bike-sharing across Arlington and the Washington, D.C. region.**

*Implementation Actions*

- Reduce cost and convenience barriers to the use of Capital Bikeshare and other bicycle-sharing systems.

- Locate and relocate bike share stations to attract more system users and improve non-motorized access to County facilities and transit services.
- Identify how GPS-based, dock-less bike sharing systems can best integrate with and complement Capital Bikeshare and other transportation services.
- Promote bike sharing as a preferred travel mode for first and last mile trips to and from transit services.
- Support privately provided loaner bicycle programs for users such as employees and hotels guests.

### Performance Measures:

1. Use the list of projects in Appendix TBD to monitor progress on the completion of the planned bicycle network. Target the completion of an average of five projects per year.
2. Track the installation of new bicycle racks available for use by the public. Seek to install 250 new racks (500 parking spaces) over the next 10 years.
3. Use data collected in trip diaries and at count stations/regular locations to measure progress in achieving greater bicycle use. Establish baseline bicycle usage rates for transportation and recreation. In successive years achieve greater reported bicycle usage than in the prior years. By the Year 2030 achieve a reported 50% percent of the population bicycling for transportation at least occasionally, with 20 percent using a bicycle frequently and 10 percent regularly.
4. Track the annual number of bicycle encouragement and marketing programs/events as well as the numbers of participants in such programs and events.
5. Achieve the League of American Bicyclists' gold level *Bicycle Friendly City* status by the Year 2019.
6. Continue to collect and analyze bicycle crash data along with parallel bicycle usage data to estimate crash rates relative to exposure and total population. Regularly collect perception of safety data as part of a public surveys.
7. Track annual participation in bicycle safety education programs conducted by Arlington County government and schools.
8. Track the percentages of trail and bicycle lane systems that are repaved or remarked each year.
9. Utilize the trip diary, or other outreach methods, to assess general public and bicycle-user opinion on maintenance and management of the bikeways system.
10. Track inter-modal integration in terms of percent of buses equipped to carry bicycles, amount of high-security bike parking provided at transit stations, and number of new bicycle-accommodating services initiated.



11. Track usage of bike-on-bus, bike-on-rail services and bike parking at Metrorail stations. Track numbers of customers served at bicycle stations and through bike-sharing programs.

## VI. Network and Program Implementation Procedures

### Prioritizing Proposed Facility Improvements

Appendix {TBD in later version} provides lists of planned projects with locations and project descriptions. Existing and planned facilities are depicted in the MTP Map document. The entire planned bikeway network is shown in Figure {TBD in later version} of this document. Prioritizing projects remains a dynamic process that will evolve over time as the MTP is implemented.

### The Prioritization Process and Criteria

Bikeway project priorities are periodically reevaluated in conjunction with funding opportunities, such as the Arlington CIP. Prioritization takes place through a formal process that involves Bicycle Advisory Committee members, BikeArlington staff, and representatives of other agencies as appropriate. The prioritization criteria in the text box below are to be considered in determinations regarding resource allocation and timing. While these criteria are used to develop project priorities, public input is also considered in finalizing priorities.

### Project Prioritization Criteria

- Safety needs and implications.
- Importance to bikeway network connectivity.
- Potential to relieve user congestion and/or conflicts on multi-use trails.
- Estimated demand for usage and potential to attract new bicyclists
- Availability, quality, convenience and distance of existing alternative routes/facilities.
- Community support.
- Cost relative to capital budget and availability of non-County funding.
- Ease of implementation, including neighborhood, environmental clearance, and need for additional right-of-way.
- Opportunity to achieve cost savings or easier implementation through combination with another project.

Reporting priorities to neighboring jurisdictions, State and regional transportation planning agencies can allow planned projects to take advantage of proximate roadway work by other area agencies.

### Implementation

The Arlington Division of Transportation's bicycle program is responsible for implementing many of the policies and strategies in this document to help ensure that bicycling accommodations and considerations are appropriately integrated into land development and regional transportation plans. The program also manages the design and construction of bicycling improvements undertaken by the County and works with the agencies responsible for projects not controlled directly by the County. Coordination amongst County agencies, especially agencies such as Parks and Recreation (DPR); Police; Community Planning, Housing and Development (CPHD); and

Arlington Public Schools (APS) is essential. For example, DPR maintains Arlington’s trails and is involved in bicycle promotion and recreation. The Police Department is responsible for traffic law enforcement and crash reporting. CPHD directs neighborhood and sector planning, zoning, and development review. APS is responsible for guiding Safe Routes to School initiatives, providing safety education, and addressing school transportation issues. Coordination with neighborhood-based and business associations is also important for successful project implementation.

## **Staff**

As of 2017, the County’s Division of Transportation applies the equivalent of three full-time employees for staff to implement BikeArlington activities. This work includes developing and managing projects, encouraging bicycling, and educating people about bicycling. Additionally, other staff members work on projects and activities that are bicycle-related, such as: 1) managing multimodal projects that include bicycle facilities and elements; 2) conducting promotional activities related to bicycling; and 3) working on safety, maintenance, traffic operations, and other multimodal transportation activities. Staffing is required to develop the large projects that enhance the bikeway network, as well as review all street improvement projects, increase the amount and quality of bicycle parking, enable bicycle safety education efforts, collect data such as usage and crashes and initiate the many encouragement activities that build the bicycle culture. The pace of project implementation will largely be governed by the staff and financial resources available to the program. Significant increases in the annual number of projects implemented will require additional staff resources. The County benefits from volunteer assistance with: advisory committees, event staffing, bike counts, facility inspections, educational efforts, and other activities.

## **Project Implementation Mechanisms**

Bicycle facility projects will continue to be implemented in a variety of ways. Many will be done as opportunities arise, such as street resurfacing or rehabilitation projects, while others will be implemented as independent bicycle improvements. Some projects may be developed for both bicyclists and pedestrians and as part of “Complete Street” efforts. Bicycle accommodations and considerations are routinely considered in the planning and scoping phases of new projects in Arlington County. Although providing a complete bikeway at one time is preferred, to avoid missed opportunities, planned facilities may be implemented in a piece-meal manner.

Providing high-quality bicycle facilities is a priority when considering improvements to the streets in the bikeway network. However, some streets in this network are also significant for other modes’ networks. In situations where limited right-of-way exists to adequately accommodate the highest-quality facility for each user group, the priorities of each mode will be considered on a case-by-case basis and balanced as much as possible. This balancing will consider the overall MTP goals and the need to complete and enhance the bikeway network. Typically bike lanes and shared-use-lanes “sharrows” have been created by reallocating roadway space from overly-wide travel lanes. Alternatively, on-street bicycle improvements, such as protected or buffered bicycle lanes, may be provided or enhanced by reducing the number of travel or parking lanes. Impacts upon traffic flow, safety, accessibility and community welfare are all considered in deciding whether existing roadway area should be reallocated to non-motorized travel modes.

**Regional Coordination**

Many of the arterial roads within Arlington are under Federal or State management and are not directly subject to County policy. As a result, many bicycle projects will be implemented by or in conjunction with other agencies. In addition, large areas of Arlington, and several key travel routes, are under the control of Federal agencies such as the Department of Defense. It is critical that Arlington staff continue to coordinate closely with regional, state, and federal agencies to ensure that projects undertaken by these agencies contribute to and not hinder the completion of the Arlington bikeway network. Arlington staff will also work closely with neighboring jurisdictions on bicycling-related improvements within those jurisdictions that are of particular interest to Arlingtonians.

**Funding**

In both the areas of capital improvements and maintenance, an adequate amount of funding needs to be available to ensure regular progress toward achieving the bicycle objectives of the MTP. The County works to identify new sources of funding to implement bicycle-related projects and programs and seeks to maximize the amount of Federal, State and private funding that can be leveraged by local dollars. Funding decisions will be made by the Arlington County Board as part of the Capital Improvement Program (CIP) and the annual budget processes.