



THE CITY OF ARLINGTON, TEXAS

HIKE AND BIKE SYSTEM MASTER PLAN



A collaboration between the Community Development and Planning Department and the Parks and Recreation Department

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Acknowledgements

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1. INTRODUCTION

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1.0 Introduction To The Hike & Bike Plan

In the winter of 2009/2010, the City of Arlington began developing a citywide comprehensive Hike and Bike System Master Plan. This would be the first such Plan for the City of Arlington in its history. Nationally, such issues as rising gas prices, environmental concerns, and a growing interest in health and wellness are demonstrating the need for hike and bike-friendly cities. On a local level, this Hike and Bike Plan represents a strong City commitment to take on such issues, translating them into affordable personal mobility, carbon-free transportation, and healthy, active lifestyles for Arlington residents. The chief goal of this Plan is to create an integrated, seamless transportation framework to facilitate hiking and biking as viable transportation alternatives throughout Arlington.

The development of this Plan included an open, participatory process, with residents of Arlington providing input through public workshops, volunteer activities, stakeholder meetings, the project Steering Committee, and an online comment form.

This Plan contains recommendations that are meant to guide Arlington as it develops its hike and bike system. These are not requirements, but should be used to assist the City as it makes decisions related to hike and bike programs, policies and facilities.

This Plan features:

- A thorough analysis of current conditions for hiking and biking in Arlington
- A comprehensive recommended hike and bike network
- Standards and guidelines for the development of a hike and bike system
- Recommendations on how to integrate hike and bike policy into codes and ordinances
- Recommendations for programming, maintenance, and funding

1.1 Vision Statements

Vision statements and project goals were collected through public workshops, project Steering Committee meetings, input from City staff, and an online survey of local residents. These were combined, condensed, and crafted into the vision statement for this Plan.

Arlington Hike & Bike System Vision Statements

- More people will choose to hike or bike to their destination instead of driving.
- Hike and bike connectivity (through sidewalks, crosswalks, bicycle lanes, multi-use paths, signed routes, bicycle parking, etc.) will be improved by removing gaps in the current system and connecting neighborhoods, parks, shopping centers, schools, employment centers, greenways, and entertainment venues throughout Arlington.
- Hike and bike routes in Arlington will be connected regionally with neighboring cities.
- Hike and bike routes will connect and be more comprehensive, thereby reducing motor vehicle traffic congestion and improving air quality.
- Safer pedestrian crossings will be installed with marked crosswalks and countdown signals.
- Biking, hiking, and trail design will be incorporated into all future development/roadways and during roadway reconstruction/repair.
- Arlington citizens and leaders will become more aware of the economic and health benefits of a more walkable and bikeable Arlington.
- The hike and bike system will be built properly with safety as a priority in all cases, providing adequate and safe separation of space for bicyclists and pedestrians, using consistent design standards.
- Bicycle parking and bicycle stations with rental system opportunities will become common throughout Arlington providing opportunity and convenience for bicyclists.
- Further hike and bike accommodations will support users of all types including recreational, utilitarian, and commuter users.
- The City of Arlington will achieve greater economic vitality through walkable and bikeable spaces.
- Bicycle and pedestrian policy will be integrated into City codes, and a hike and bike culture will be integrated into Arlington life.
- Education, encouragement, and enforcement programs will be enhanced and added to increase program participation and safety, building courtesy between drivers and cyclists.
- A user-friendly hiking and biking map will be made available to residents to provide information on routes and education. The map will be updated every two to three years.

1.2 Measurable Goals

The purpose of this Plan is to make this vision a reality. Measurable goals, derived from this vision, are listed below. While the City of Arlington must lead this effort, overall success will also require continued, active participation and encouragement from local residents and community organizations. The ultimate goal is for this Plan to be fully implemented within a 30-year time frame.

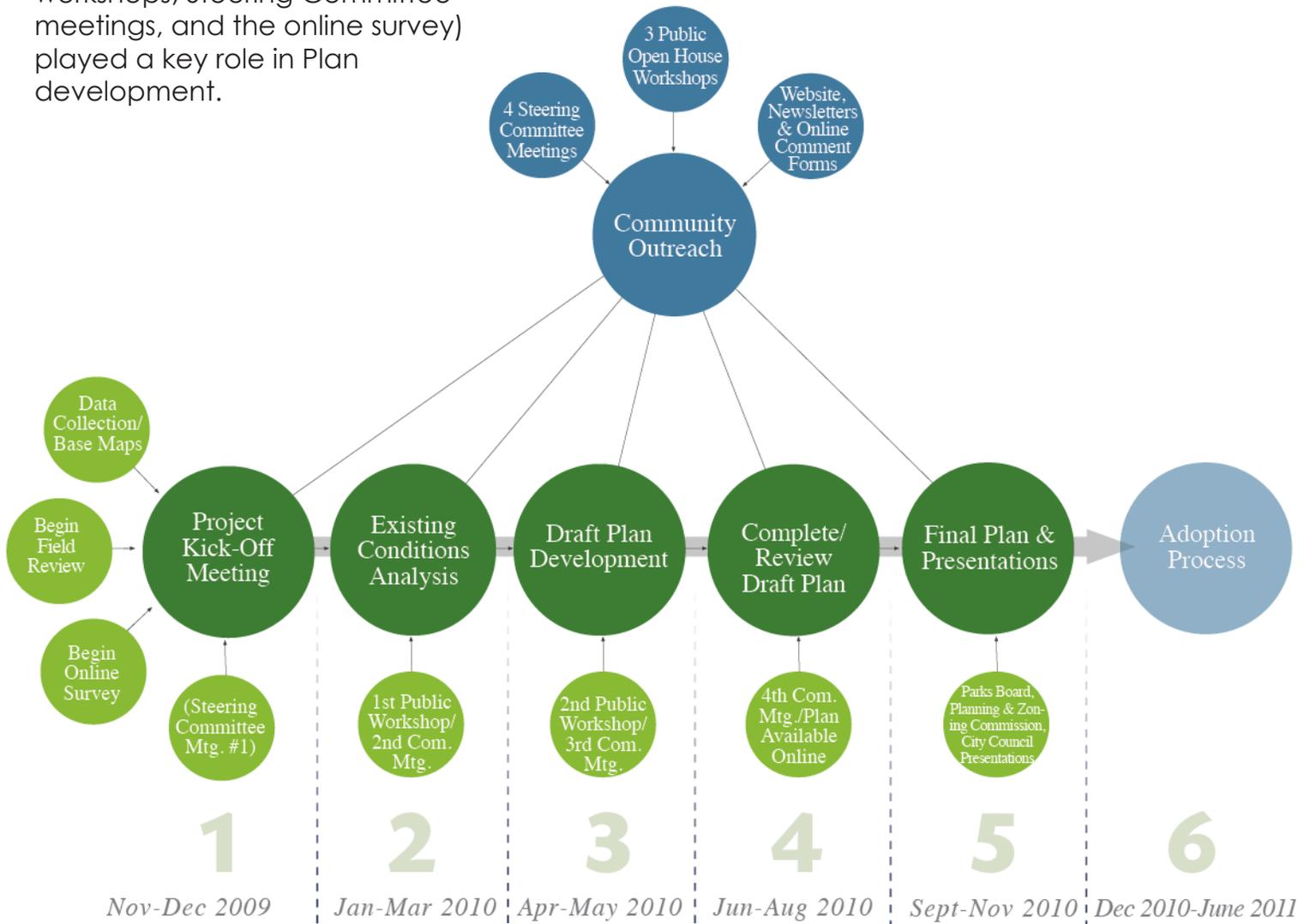
The City should meet annually to evaluate progress on each of the following goals, including an official Plan update approximately five years from the date of adoption of this Plan. During each evaluation, City staff and members of a citizen's advisory board should identify steps to be taken before the next evaluation.

Arlington Hike & Bike System Master Plan Goals

1. Reduce the number of bicycle and pedestrian accidents.
2. Increase the miles of bike lanes as a percent of total city roadways; double the miles of off-road trails.
3. Double the 2000 Census bicycle and pedestrian commute rate by 2016.
4. Complete five hike and bike projects by 2012 and complete an additional five projects by 2016.
5. Become designated as a 'Bicycle-Friendly Community' by 2012 by the League of American Bicyclists.
6. Launch/participate in three new programs in three years (see Chapters 5 and 6 for details):
 - A) Hike and Bike Education and Encouragement Program
 - Create a citizens Hike and Bike Advisory Committee to meet on a regular basis and support implementation of this Plan.
 - Produce online and hardcopy bicycle maps and obtain a variety of educational materials for distribution that cover bicycle and pedestrian safety, etiquette, and rules and regulations.
 - Engage and partner with multiple Arlington area schools to become involved with national Safe Route to School programs and funding opportunities.
 - B) Bicyclist, Pedestrian, and Motorist Enforcement Program and Internal Training
 - Provide officers with an educational handout to be used during hike and bike-related citations and warnings.
 - Training for planning, public works, engineering, and law enforcement staff that focus on hiking and biking-related issues.
 - C) Bicycle Facility Development Program
 - Establish regular CIP funding for roadway retrofits and restriping.
 - Integrate bicycle-related improvements with scheduled roadway maintenance and restriping projects.
 - Add bicycle parking racks throughout the City.

1.3 The Planning Process

The planning process began in November 2009 and concluded in the fall of 2010. This diagram illustrates the main steps taken throughout the planning process. Public participation (through workshops, Steering Committee meetings, and the online survey) played a key role in Plan development.



1.4 The Value of the Hike & Bike System

Given the extensive commitment of time and resources needed to fulfill the goals of this Plan, it is also important to assess the immense value of bicycle and pedestrian transportation. As stated by Arlington residents during the public input process, hiking and biking will help to improve people’s health and fitness, improve livability, enhance environmental conditions, decrease traffic congestion, and contribute to a greater sense of community.

Scores of studies from experts in the fields of public health, urban planning, urban ecology, real estate, transportation, sociology, and economics have supported such claims and affirm the substantial value of supporting bicycling and walking as it relates

to active living and alternative transportation. Communities across the United States and throughout the world are implementing strategies for serving the hiking and biking needs of their residents, and have been doing so for many years. They do this because of their obligations to promote health, safety and welfare, and also because of the growing awareness of the many benefits of bicycling.

“The CDC determined that creating and improving places to be active could result in a 25 percent increase in the number of people who exercise at least three times a week.”

-U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

Increased Health and Physical Activity

A growing number of studies show that the design of our communities—including neighborhoods, towns, transportation systems, parks, trails and other public recreational facilities—affects people’s ability to reach the recommended daily 30 minutes of moderately intense physical activity (60 minutes for youth). According to the Centers for Disease Control and Prevention (CDC), “physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic.”¹ The increased rate of disease associated with inactivity reduces quality of life for individuals and increases medical costs for families, companies, and local governments.

The CDC determined that creating and improving places to be active could result in a 25 percent increase in the number of people who exercise at least three times a week.² This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits. Establishing a safe and reliable hike and bike network in Arlington will positively impact the health of local residents. The Rails-to-Trails Conservancy puts it simply: “Individuals must choose to exercise, but communities can make that choice easier.”³

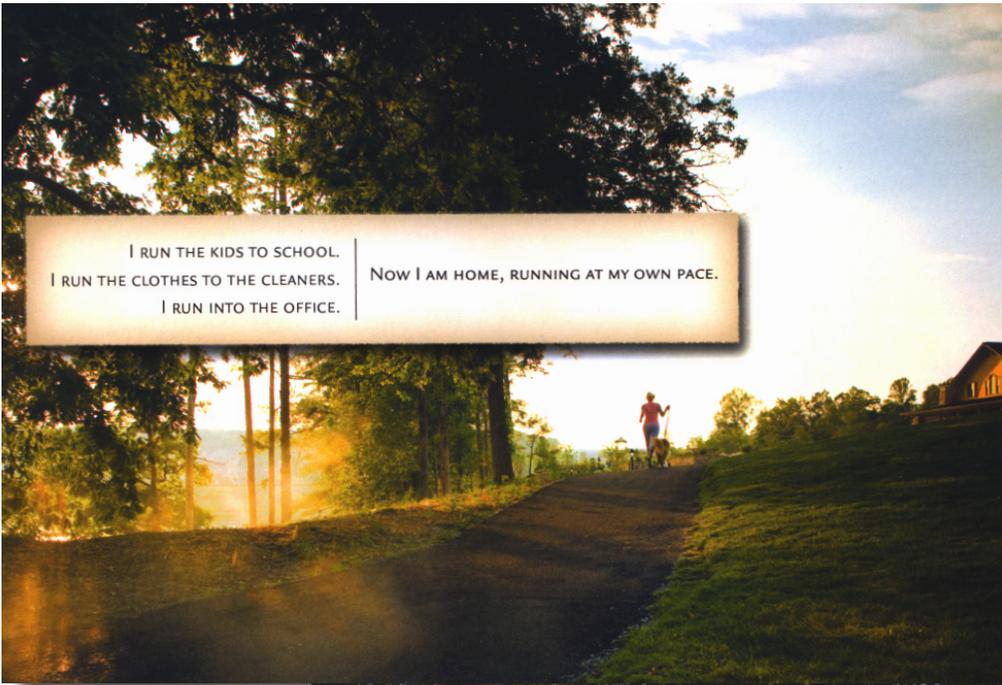
Economic Benefits

Bicycling is an affordable form of transportation. According to the Pedestrian and Bicycle Information Center (PBIC), of Chapel Hill, NC, the cost of operating a bicycle for a year is approximately \$120, compared to \$7,800 for operating a car over the same time period.⁴ Bicycling becomes even more attractive from an economic standpoint when the rising price of oil (and decreasing availability) is factored into the equation. Since 2000, oil prices have more than quadrupled. As of summer 2008, gasoline prices topped \$4 a gallon and are generally forecasted to continue to increase.⁵ The rising cost of fuel reinforces the idea that local communities should be built to accommodate people-powered transportation, such as walking and biking.

From a real estate standpoint, consider the positive impact of trails and greenways, which are essential components of a complete hike and bike network. According to a 2002 survey of recent homebuyers by the National Association of Home Realtors and the



A new residential development advertises the “Last Greenway Sites Available”



I RUN THE KIDS TO SCHOOL.
I RUN THE CLOTHES TO THE CLEANERS.
I RUN INTO THE OFFICE.

NOW I AM HOME, RUNNING AT MY OWN PACE.

Developers are taking advantage of the positive impact of trails on property values by marketing their greenways; left and below are examples of two magazine advertisements from developers that focus their marketing on greenways.

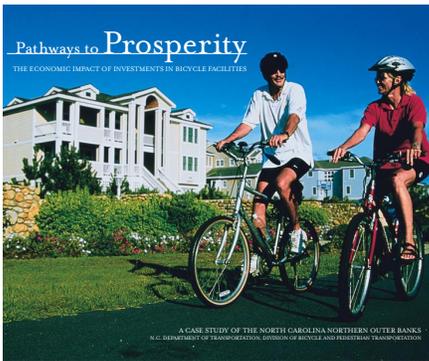


I WANT
top schools nearby
my kids to get fresh air
my kids to have lots of friends
our TV to be ignored

A place where video games get lonely from lack of use. A place where people are always going somewhere—families hiking on the miles of trails, or kids biking to our onsite top-rated schools. A place with best-in-class amenities, including a huge Aquatic Club. A place with a natural setting and tight-knit neighbors that always seem to be doing something together. All this and beautiful homes to match? That's FishHawk Ranch.



National Association of Home Builders, trails ranked as the second most important community amenity out of a list of 18 choices.⁶ Additionally, the study found that ‘trail availability’ outranked 16 other options including security, ball fields, golf courses, parks, and access to shopping or business centers. Findings from the American Planning Association (How Cities Use Parks for Economic Development, 2002), the Rails-to-Trails Conservancy (Economic Benefits of Trails and Greenways, 2005), and the Trust for Public Land (Economic Benefits of Parks and Open Space, 1999) further substantiate the positive connection between trails and property values across the country.



Download the full report, “Pathways to Prosperity”, from: http://ncdot.org/transit/bicycle/safety/safety_economicimpact.html

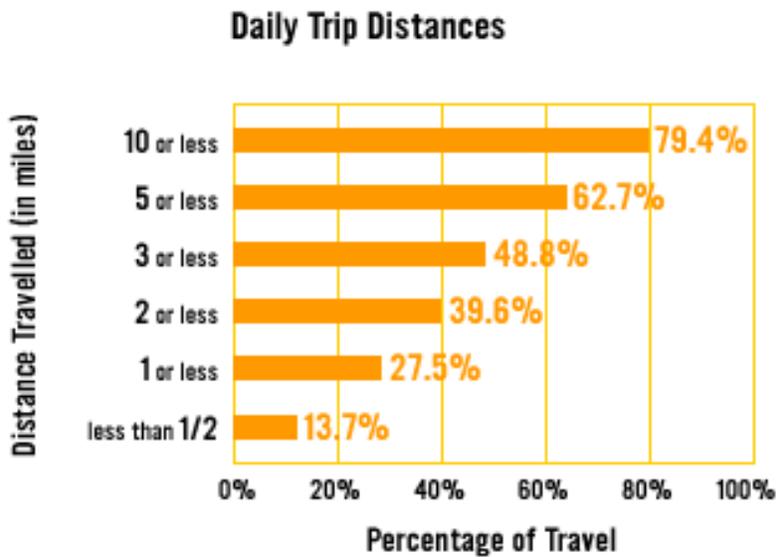
Finally, from a tourism perspective, cyclists can add real value to local economies. For example, in the Outer Banks, NC, bicycling is estimated to have an annual economic impact of \$60 million; 1,407 jobs are supported by the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment.⁷ Similarly, Damascus, VA, the self-proclaimed ‘Friendliest Trail Town’, features 34-miles of trail where approximately \$2.5 million is spent annually related to recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly into the economies of Washington and Grayson counties.⁸ While these examples feature beach and mountain destinations, the City of Arlington also has key hiking and biking advantages, such as the River Legacy Park, which is a regional draw for a large population of potential riders.

Environmental Improvements

As demonstrated by the Southern Resource Center of the Federal Highway Administration, when people get out of their cars and walk or bike, they reduce measurable volumes of pollutants.⁹ Other environmental impacts include a reduction in overall neighborhood noise levels and improvements in local water quality as fewer automobile-related discharges wind up in the local rivers, streams, and lakes.

Trails and greenways are also part of any hike and bike network, conveying unique environmental benefits. Greenways protect and link fragmented habitats and provide opportunities for protecting plant and animal species. Aside from connecting places without the use of air-polluting automobiles, trails and greenways also reduce air pollution by protecting large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metal. Finally, greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, preventing soil erosion and filtering pollution caused by

Below: 'Daily Trip Distances' chart from the Bicycle and Pedestrian Information Center website, www.pedbikeinfo.org



agricultural and road runoff.

Transportation Benefits

In 2001, the National Household Travel Survey found that roughly 40% of all trips taken by car are less than 2 miles. By taking these short trips on a bicycle or by foot, rather than in a car, citizens can substantially impact local traffic and congestion. Additionally, many people do not have access to a vehicle or are not able to drive. According to the National Household Travel Survey (NHTS), one in 12 U.S. households does not own an automobile and approximately 12% of persons 15 or older do not drive.¹⁰ An improved hike and bike network provides greater and safer mobility for these residents.

Above: By walking or biking for our trips that are less than 2 miles, we could eliminate 40% of local car trips.

Traffic congestion is often a major problem in fast growing areas such as the Dallas-Fort Worth region (Arlington is the 49th largest city in the United States in terms of population; the Dallas-Fort Worth-Arlington metropolitan area is the fourth largest metropolitan area in the United States).¹¹ Congestion reduces mobility, increases auto-operating costs, adds to air pollution, and causes stress. Bicyclists and pedestrians can help alleviate overall congestion because each cyclist presents one less car on the road. Incidentally, cyclists take up significantly less space on the road. While some may argue over the degree to which overall congestion is alleviated by cyclists and walkers, one aspect of the argument is particularly difficult to challenge: for the individuals who choose to ride a bike or walk rather than drive, the negative impacts of congestion (stress, operating costs, and sometimes even mobility) are greatly reduced.

Quality of Life

Many factors go into determining quality of life for the citizens of a community: the local education system, prevalence of quality employment opportunities, and affordability of housing are all items that are commonly cited. Increasingly though, citizens claim that access to alternative means of transportation and access to quality recreational opportunities such as parks, trails, greenways, and bicycle routes, are important factors for them in determining their overall pleasure within their community. Communities with such amenities can attract new businesses, industries, and in turn, new residents. Furthermore, quality of life is positively impacted by bicycling and hiking through the increased social connections that take place by residents being active, talking to one another and spending more time outdoors and in their communities.

According to the Brookings Institution, the number of older Americans is expected to double over the next 25 years.¹⁰ All but the most fortunate seniors will confront an array of medical and other constraints on their mobility even as they continue to seek both an active community life, and the ability to age in place. Trails built as part of the hike and bike transportation network generally do not allow for motor vehicles. However, they do accommodate motorized wheelchairs, which is an important asset for the growing number of senior citizens who deserve access to independent mobility.

Children under 16 are another important subset of our society who deserve access to safe mobility and a higher quality of life. According to the U.S. Environmental Protection Agency, fewer children walk or bike to school than did so a generation ago. In 1969, 48 percent of students walked or biked to school, but by 2001, less than 16 percent of students between 5 and 15 walked or biked to or from school.¹³

According to the National Center for Safe Routes to School, “Walking or biking to school gives children time for physical activity and a sense of responsibility and independence; allows them to enjoy being outside; and provides them with time to socialize with their parents and friends and to get to know their neighborhoods.”¹⁴ In a 2004 CDC survey, 1,588 adults answered questions about barriers to walking to school for their youngest child aged 5 to 18 years.¹⁵ The main reasons cited by parents included distance to school, at 62%, and traffic-related danger, at 30%. Strategic additions to Arlington’s trail system could shorten the distance from homes to schools, and overall hike and bike improvements can improve the safety of our roadways.

1.5 Plan Components

This Plan document includes the following major components:

- This Introduction presents the background, visions and goals, planning process, and the benefits of a hikable and walkable City (Chapter 1).
- An assessment of Current Conditions that overviews existing hike and bike conditions, land use, trip attractors, and also summarizes existing related plans (Chapter 2).
- A Demand and Needs Analysis that examines mode-share, models bicycle and pedestrian activity, and presents key findings from the public input process (Chapter 2).
- A recommended Bike Network that outlines a framework of connected recommendations (Chapter 3).
- A recommended Hike Network that outlines a framework of connected recommendations (Chapter 4).
- Key Program Recommendations for education, encouragement, and enforcement (Chapter 5).
- Implementation recommendations that outline specific steps for achieving the Plan's key elements (Chapter 6).
- Design Guidelines to guide the City of Arlington in current hike and bike design and standards (Chapter 7).
- Appendices that provide a summary of public input, the bicycle network segment table, funding recommendations, program resources, recommendations for potential policy revisions, intersection inventory and recommendations tables, and tiled map recommendations.

Footnotes from, "The Value of the Hike and Bike System":

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8. Virginia Department of Conservation. (2004). The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics.
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