August 22, 2007

Bicycle and Pedestrian Master Plan

Prepared for:

The Lexington Area Metropolitan Planning Organization

101 East Vine Street

Lexington, Kentucky

Bicycle and Pedestrian Master Plan

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Executive Summary

This is a plan for bicycling and walking in Fayette and Jessamine Counties. It is a blueprint for developing our communities and transportation system over the next twenty years in a way that makes bicycling and walking a safe and convenient way to travel to school, to work, to shop, to play and to stay fit.

Plan Development

The mission of the planning process was to articulate the community's vision for bicycling and walking, and to develop strategies for making travel on foot and by bike a routine activity – for transportation, recreation and health – for all ages and abilities.

During the planning process, community goals and objectives were developed, existing bike and pedestrian facilities were assessed, policies were suggested and improvement projects were proposed.

Creating a Vision

To get a sense of what the public desires for bicycling and walking, the process began with an extensive series of public meetings, forums and opinion surveys. These became the basis for a shared vision for this plan.

The vision statements and goals embrace the benefits of reducing our dependence on the automobile and the social importance of providing more independence for children, seniors, people who are disabled and others who don't drive. They emphasize improved connectedness with our neighborhoods and sustainable community growth. They also envision more livable communities, strong local economies and people who are healthy and active.

Call to Action

A set of actions are presented based upon community goals and an analysis of factors that affect bicycling and walking. Factors include street type, safety issues, existing sidewalks and bike facilities, land use patterns and connections to destinations such as schools, parks, shopping areas and employment sites.

The plan appeals to local governments and planning commissions to create more walkable and bicycle-friendly communities by bringing about development patterns and site designs that make bicycling and walking easy and enjoyable.

The plan calls for refocusing transportation projects and planning efforts on creating "complete streets'" that provide real transportation options and a better balance between cars, bikes, pedestrians and transit. The plan includes a system of off-road trails with an emphasis on completing north-south and east-west corridors within and between the two counties. A future system of rural bike routes and regional trails is also envisioned to attract bicyclists from across the country to the beautiful Bluegrass Region.

Finally, a list of bike/pedestrian roadway and trail projects is prioritized for each county based upon safety and connectivity. Short, medium and long-term projects are identified based upon project feasibility. This means the most realistic and low-cost projects can be completed in the near future, while more significant resources will need be needed for high priority projects that are more challenging, but no less important.

Implementing the Vision

Arguably, the most important part of the plan is the implementation chapter. This chapter lays out several critical elements for the long-term development and financing of the plan.

The plan calls for integrating bicycle and pedestrian-friendly policies and improvements into the daily business of local and state governments. It outlines funding opportunities and procedures for making sure that bicycle and pedestrian projects are 'on the table' when budgets and funding decisions are made. The plan identifies a set of performance

measures to monitor progress and to evaluate the impacts of our investments in bicycling and walking over time.

The plan also appeals to partners and the public for their help in implementing the plan. Successful implementation will require a sustained effort over many years and continued advocacy to accomplish the community vision. Acknowledging this, the plan calls for citizen-based groups in each county to provide oversight and to be actively involved in implementing the plan. These designated groups should call on every segment in the community – government, schools, law enforcement, employers, developers, public health agencies, and more – to be a part of the effort to improve our community for bicycling and walking.

In conclusion, the plan challenges us to join together to create a better community that works more efficiently for everyone and perhaps most of all, for our children, and for their children. Viewed in that light, it is a modest investment of time and energy that is well worth the effort.

Chapter 1

Introduction

Chapter 1.
Introduction

1.1 Background

The Lexington Area Bicycle and Pedestrian Master Plan (Master Plan) is a framework that directs bicycle and pedestrian efforts in Fayette and Jessamine Counties. These two counties became the regional Lexington Area Metropolitan Planning Organization (MPO) in 1993. The MPO is a transportation policy-making organization responsible for the planning and funding of transportation projects within the region.

Rural Fayette County Horse Farm

Brannon Crossing in Northern Jessamine County

The Bicycle and Pedestrian Master Plan was a recommendation in the Lexington Area MPO 2030 Transportation Plan that was adopted in June 2004. As noted in the Transportation Plan "barriers have made bicycling and walking uncomfortable at best, and even dangerous in some locations." The plan states "cities with programs, policies, and funding in place to improve conditions for bicycling and walking have enhanced bicycle and pedestrian safety in their communities, while making travel by these modes more enjoyable." The three primary recommendations in the plan were to prepare comprehensive bicycle and pedestrian plans for the counties in the MPO, to ensure that a full-time bicycle and pedestrian coordinator position is funded and integrated into the MPO, and to develop bicycle and pedestrian facility improvements. With the completion and adoption of this Master Plan, the framework will be in place to achieve those recommendations.

1.2 Why Accommodate Biking and Walking?

The 2030 Transportation Plan has a section devoted to bicycle and pedestrian planning. However, increasing interest in biking and walking warrants a more in-depth plan to improve accommodations for these modes in Fayette and Jessamine Counties. Benefits of walking and biking include:

Quality of Life

Communities where people want to live are ones with a high quality of life. Throughout the world this is exemplified by a community that is walkable. People-oriented, walkable cities provide a quality of life that is attractive to prospective businesses and residents. The National Center for Bicycling and Walking has developed the following statements as a general description of a walkable community:

- People of all ages and abilities have easy access to their community "on foot" - an automobile is not needed for every trip.
- People walk more and the community and neighborhoods are safer, healthier, and friendlier places.
- Parents feel comfortable about their children being outside in their neighborhoods; they don't worry about the threat of motor vehicles.
- Children spend more time outside with other children and are more active, physically fit, and healthy.
- Streets and highways are designed to provide safe and comfortable facilities

for pedestrians and bicyclists, and are safe and easy to cross.

- Pedestrians are given priority in neighborhood, work, school, and shopping areas. Motor vehicle speeds are reduced to ensure compatibility with pedestrian traffic.
- Motor vehicle speeds are carefully controlled to ensure compatibility with adjacent land uses and the routine presence of pedestrians.
- Drivers of motor vehicles operate them in a prudent, responsible fashion, knowing that they will be held strictly accountable for any threat, injury, or death caused by their lack of due care or violation of the vehicle code.
- Streetscapes are designed to attract pedestrian use. There are buffers between cars and pedestrians, street trees, pedestrian-scale buildings, setbacks, front porches and interesting storefronts.

Economics

Property Values

Property values tend to be higher in walkable communities and houses near trails have higher resale values than those not located near trails. Note, for example, the five most walkable cities in the U.S. in 2007, according to a survey by the American Podiatric Association. They are: Madison, WI; Austin, TX; San Francisco, CA; Charlotte, NC; and Seattle, WA. Each is among the leaders in property values in their regions.

Reduced Transportation Costs

Biking and walking to local destinations reduces vehicle trips and can reduce the personal and public cost associated with automobile use, including congestion mitigation, air emission controls and frequent pavement maintenance. Roadway widening is costly and the use of valuable land for additional vehicle lanes and parking lots removes it from more beneficial uses and results in negative environmental impacts.

Needless expense is added to tight school and family budgets when many school students who could walk or bike are driven or bused. It is estimated that over 50% of parents in Fayette County drive their children to school despite many of them living within walking or biking distance. There is a high cost associated with busing students to school sites that are not located within biking or walking distance to the students they serve. Many students that do live within biking and walking distance are "hazard bused" because there is a lack of safe sidewalks and roadway crossings.

Tourism

Bicycle tourism contributes significantly to many local economies. Bicycle tourism alone is responsible for $60 million in North Carolina's Outer Banks, and Monterey, CA holds a four-day bike festival which contributes over $25 million to the local economy. The local "Horsey Hundred" ride hosted in neighboring Georgetown, KY has drawn 1500 cyclists from 34 states and Canada to the Bluegrass Region on an annual basis. The region is lauded by local cyclists as one of the most scenic and attractive places in the country to bicycle and there are significant opportunities to expand, enhance and promote bicycle tourism.

Health Care Costs

The State of Kentucky spent approximately $1.1 billion dollars in 2003 for obesity-related medical expenditures. Walking is the number one activity that doctors recommend and which Americans prefer to stay fit; however, safe and desirable walking facilities must be present.

Safety

There were 622 motor vehicle crashes involving pedestrians or bicyclists in Fayette and Jessamine Counties from 2003-2005. Eighty-four percent of collisions resulted in injuries and 15 crashes involved a fatality.

While less than five percent of work-related trips in Fayette County are made by walking, pedestrians represent 10-20% of all traffic fatalities each year. A perceived sense of decreased safety also exists. Many cyclists interviewed during the development of this plan said they no longer bike in Jessamine County due to an increase in traffic speeds, volumes and aggressive drivers.

Recreation

Parks provide many benefits to a community, and safe access to parks is vital, especially for children. In addition to needing bike and pedestrian access to parks,

over 700 citizens responding to a 2006 survey in Fayette County cited walking trails and a county-wide bike path system as the second-most priority need for parks in the area, second only to more restroom facilities.

Air Quality

The American Lung Association rated the air quality of Fayette County as no better than "C" in 2006. Fayette County achieved "attainment" status in 2006 for ozone and particulate matter pollutants; however, the area was on the cusp of "attainment" versus "non-attainment" status. Auto and other emissions must be closely monitored to maintain acceptable pollutant levels in the area.

Health, Fitness and Physical Activity

Sixty percent of Fayette and Jessamine County residents are either obese or overweight. Fewer than 35% of our residents engage in moderate physical activity five or more days a week. Creating more and safer opportunities to walk and bike for recreation and transportation will encourage people to be more active. Studies have shown direct correlations between the presence of sidewalks, trails and bike lanes and an increase in bicycle commuting and recreational walking.

Social Equity

Year 2000 U.S. Census data indicates approximately 6.5% of households in Jessamine County and 8% of households in Fayette County do not have access to a vehicle. Over 20% of Fayette County and Jessamine County residents are over 65 or under 16 years of age. Fourteen percent of residents are physically disabled and may be unable to drive. Safe pedestrian accommodations, augmented by public transit, are needed to provide the non-driving public (approximately 1/3 of our residents) with the mobility they need.

Legal Requirements

The MPO and associated Long Range Transportation Plan are required by federal transportation legislation (SAFETEA-LU) to "provide for the development and integrated management and operation of transportation facilities (including pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system."

Public Demand

The public articulated their desire for improvements to the bicycling and walking environment during public meetings and in response to over 600 citizen surveys completed during this planning process. Some people said they need better places to walk and bike. Others said they have limited time to incorporate walking or biking into their busy schedules. Some have a perception that it is not safe to walk or bike. Nearly all agreed that more trails, sidewalks and bike lanes are needed and that these facilities would encourage them to bike and walk more frequently. Recent research has established that, in fact, people do walk and bike more often if safe facilities connect them to places they want to go.

Summary

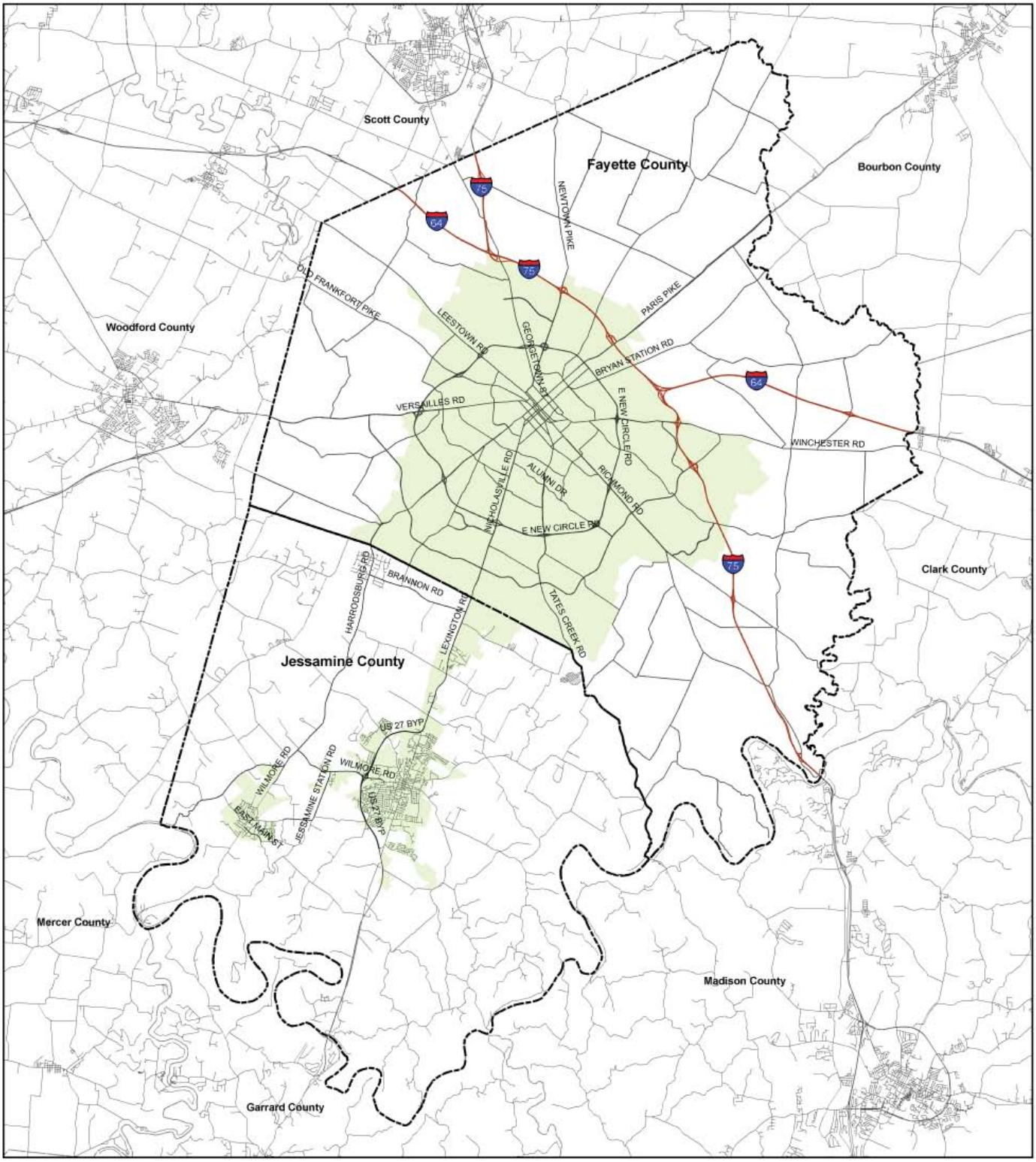
The reasons for accommodating bicycling and walking and the underlying purpose of this plan is more than simply meeting the requirements of laws and regulations; it is a plan intended to respond to the desires of the people of the region for better opportunities to walk and bike; to identify the actions needed to make our neighborhoods better, safer places for people to live healthy and active lives; and to improve the quality of life in our region while ensuring our continued economic vitality.

1.3 Study Area

The Study Area for the plan is the two counties that comprise the Lexington Area MPO—Fayette County and Jessamine County, Kentucky (see figure 1). Fayette County has a merged city/county government (Lexington-Fayette Urban County Government or "LFUCG"), while Jessamine County has two city governments (City of Wilmore and City of Nicholasville) and a county government.

Jessamine County's estimated population is 43,463 persons, while Fayette County's is 268,080 persons (U.S. Census Bureau estimate, 2005). Fayette County's growth from 1990 to 2000 was 15%, and Jessamine County grew by 28%. There are 173 square miles of land in Jessamine County and 284 in Fayette County.

Figure 1. Study Area - Fayette and Jessamine Counties



Fayette County

- Merged city/county government--Lexington Fayette Urban County Government (LFUCG)
- Guided by Lexington Fayette Urban County Comprehensive Plan
- 268,080 persons (2005 estimate)
- 284 square miles of land

Jessamine County

- Two city governments, one county government
- Guided by Jessamine County/Wilmore Comprehensive Plan and Nicholasville Comprehensive Plan
- 43,463 persons (2005 estimate)
- 173 square miles of land

Pressure to develop is strong in both Fayette and Jessamine Counties. With the 2006 Comprehensive Plan Update, the Expansion Area in Lexington-Fayette County was not increased, meaning growth will occur as infill and redevelopment. In 2006, Nicholasville city limits in Jessamine County were extended northward along the US 27 corridor to the Fayette County line. This resulted in an uninterrupted expanse of residential and commercial development between the two counties.

1.4 Brief History of Bicycling and Walking in the Region

Shortly after the settlement of Lexington, sidewalks were required of property owners downtown and in adjacent neighborhoods. This trend continued until the 1950's and 1960's when opinions changed about sidewalks and new subdivisions, such as Lexington's Stonewall and Lakewood, were built without sidewalks. Suburban design did not include pedestrian-oriented commercial centers and the street patterns lacked connectivity. Transit ridership and pedestrian travel declined. The 1970's Subdivision Regulations required sidewalks on local and collector streets, however, Lexington's planning commission could waive sidewalks on arterial streets.

Due to development trends and the range of access that personal autos provided, schools, parks and commercial sites in Fayette and Jessamine Counties were located on large parcels, separated from neighborhoods, and accessed by major roadways. Busing students longer distances to schools increased and walking to school decreased. Neighborhood groceries and retail shops were also regionally-oriented, rather than neighborhood-oriented.

In the 1990's the inclusion of sidewalks on both sides of local streets became routine, however, many collector and arterial streets continued to lack sidewalks. Transportation improvements focused on roadway capacity building and the addition of travel lanes continued to increase roadway widths and pedestrian crossing distances.

From 1990 to 2000, the U.S. Census reported a continued decline in walking rates in Fayette and Jessamine Counties as the number of vehicle miles traveled increased steadily. During that same time period, bicycling rates in Fayette County increased for the first time. It was during that time that Lexington implemented a number of bicycle facility improvements including the Alumni Drive and Euclid Avenue bike lanes.

In 1999, the Bicycle Pedestrian Advisory Committee (BPAC) was established by the MPO to provide guidance on bicycle and pedestrian needs and projects in the MPO region. Bicycle and pedestrian facilities began to be routinely included in roadway improvement projects. Both grants and federal surface transportation funds were also allocated for more bike and pedestrian projects during the ensuing years. A Bicycle and Pedestrian Coordinator Position was established in 2003. Bicycle and pedestrian facility mileage and funding have steadily increased in the region since the establishment of the BPAC and Coordinator position.

1.5 Planning Framework

This Master Plan shall be adopted by the MPO as an element of the 2030 Transportation Plan. The 2030 Plan is also an element of the LFUCG Comprehensive Plan as adopted by the Fayette County Planning Commission. Plan adoption by the Jessamine County/Wilmore Joint Planning Commission and the Nicholasville Planning Commission is also desirable.

Comprehensive planning documents relevant to the two-county study area are:

- Lexington-Fayette Urban County Comprehensive Plan, 2006 Update
- Jessamine County/City of Wilmore Comprehensive Plan, 2004
- Nicholasville Comprehensive Plan, 2002

1.6 Planning Objectives

The planning process included steps to meet the following key objectives:

- Seek and gain meaningful input from the public, stakeholders and MPO;
- Provide multiple opportunities for input at the beginning of the process, during the draft preparation and before adoption;
- Develop vision and goals that articulate the input received from the public, stakeholders and MPO;
- Review existing documentation to understand other planning efforts up to this point;
- Evaluate physical conditions to understand the current pedestrian and biking environments;
- Propose policies and standards for pedestrian and bicycle facilities and a prioritized list of on-road and off-road facility needs; and
- Recommend strategies for implementing the Master Plan.

1.7 Organization of the Plan

This plan is organized into the following chapters and appendices:

Chapter 1: Introduction provides the background for the development of this plan.

Chapter 2: Mission, Vision, Goals describes a detailed set of objectives to make bicycling and walking regular, routine activities.

Chapter 3: Community Input describes the various activities used to directly involve the residents, professionals, agencies and organizations of the Region in the development of the plan.

Chapter 4: Existing Conditions examines the existing land use patterns; streets, sidewalks and trails; and comprehensive planning documents.

Chapter 5: Recommendations to Accommodate Biking and Walking focuses on recommending actions for creating a more walkable and bike-friendly region and for eliminating gaps in the existing network of on-street bicycle facilities, sidewalks and trails.

Chapter 6: Implementation presents the "how" compliment to the "what" of the goals and objectives and recommendations set forth in Chapters 2 and 5.

Appendix A: Existing Conditions provides further background information about the study area, the pedestrian environment and bicycle environment.

Appendix B: Survey contains a copy of the survey distributed across the study area at the beginning of the project and a summary of the 629 responses.

Appendix C: Summary of Public and Stakeholder Meetings provides a summary document from the earliest planning phase of the process, as well as comments from the public about the Draft Plan.

Appendix D: Plan Adoption contains the resolution by the Lexington Area MPO amending the 2030 Long Range Transportation Plan and the summary of public comments.

Appendix E: Bibliography provides a list of sources consulted during the preparation of this plan.

Chapter 2

Mission, Vision and Goals

Chapter 2.
Mission, Vision, and Goals

2.1 Mission

The mission of this plan is to provide a vision and strategies for bicycle and pedestrian mobility in Fayette and Jessamine Counties that expand and enhance opportunities for walking and biking.

2.2 Vision

Several methods were used to involve and engage residents of the two counties including public meetings with stakeholder groups such as the disabled community, cyclists and seniors; as well as a web-based survey. The planning team asked citizens to envision the future and to consider what role biking and walking will play. The team heard that the people of the two counties envision:

- Places where there is a priority on preserving the natural and cultural resources and traditions of the region.
- Places where there is a commitment to a quality of life that enriches the lives of all residents.
- Places that are designed to facilitate and encourage healthy lifestyles and behaviors.
- Places that work for everyone, including children, seniors, and persons with disabilities and/or impairments.
- Places where change (e.g. development, growth, etc.) is consistent with and helps support the community's vision.

2.3 Goals

The planning team translated the vision for the future into several goals that express the team's understanding of residents' needs and desires regarding biking and walking. The five goals are:

Goal 1: Balanced Transportation System

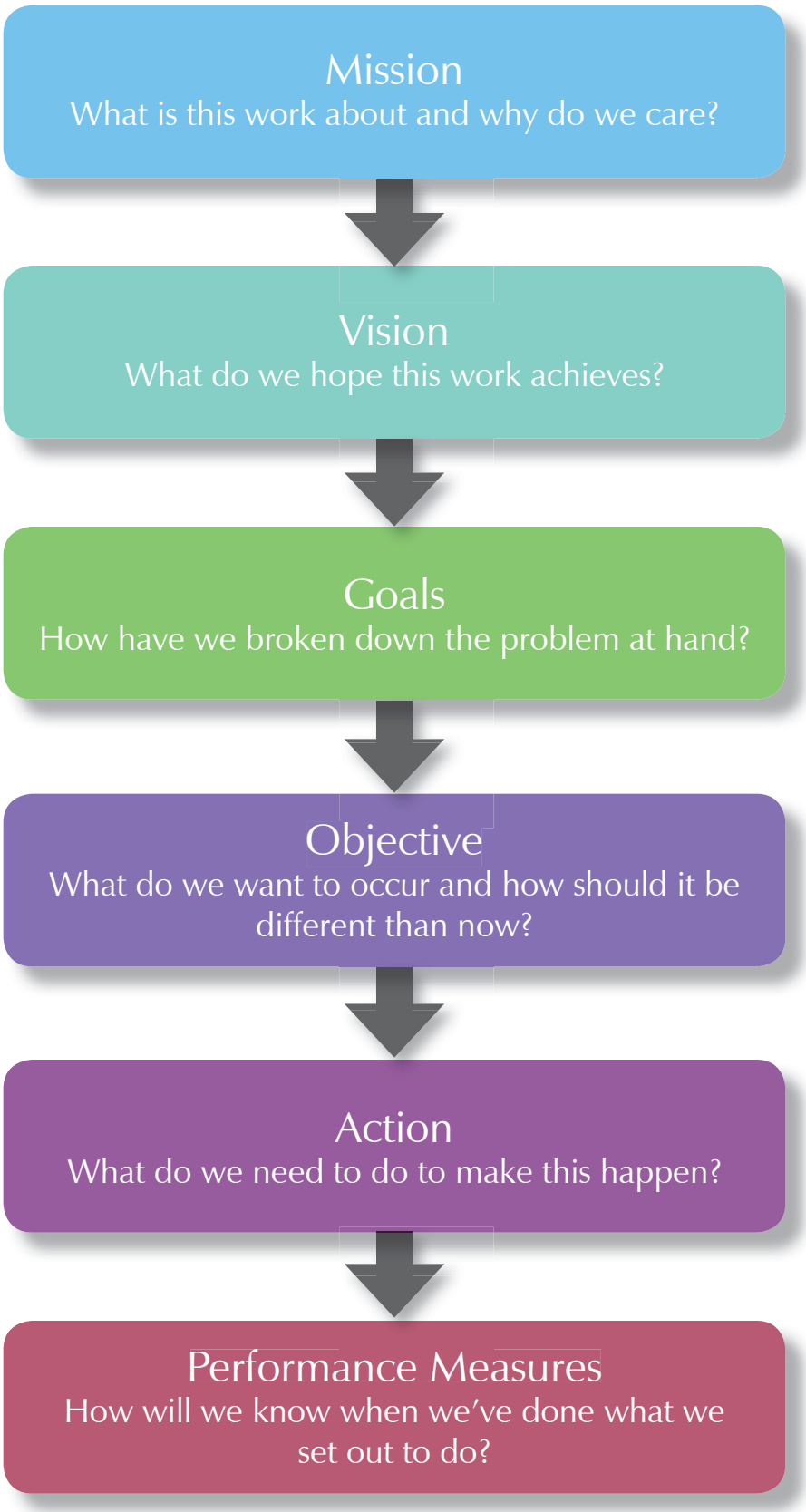
Goal 2: Sustainable Community Development

Goal 3: Safety and Security

Goal 4: Economic Vitality

Goal 5: Quality of Life and Active Living

Each goal has multiple objectives, which are described in terms of "outcomes" or the resulting situation. A list of recommended actions that are necessary to achieve the objectives are included in the Recommendations chapter. Lastly, performance measures, or indicators, listed in the Implementation chapter describe how we will measure whether the objectives have been met. The diagram on the next page graphically depicts the hierarchy of the mission, vision, goals, objectives, actions and performance measures.


Mission
What is this work about and why do we care?
Vision
What do we hope this work achieves?
Goals
How have we broken down the problem at hand?
Objective
What do we want to occur and how should it be different than now?
Action
What do we need to do to make this happen?
Performance Measures
How will we know when we've done what we set out to do?

Goal 1:
Balanced Transportation System

Provide people with a range of choices for travel and develop a system that accommodates all users, by providing safe, convenient and pleasant places for people of all ages and abilities to walk or bicycle.

Objectives:

Bike and Pedestrian Facilities

Develop a bike and pedestrian network that connects people to destinations both within and between Fayette and Jessamine Counties by creating a seamless system of on-road and off-road facilities.

Complete Streets

Develop "complete streets" that are safe, comfortable and convenient for people walking, biking and using public transit. Plan and construct all new streets with appropriate facilities for walking and bicycling. Retrofit existing streets to accommodate and/or better accommodate bicycling and walking.

Connectivity

Create an interconnected street and trail network to provide more route choices, reduce trip lengths and eliminate physical barriers to biking and walking.

Mode Choice

Develop a coordinated and seamless system of public transit, pedestrian, and bicycling services and facilities to provide alternatives to motor vehicle use.

Universal Access

Accommodate the transportation needs of all residents regardless of age and ability by designing and maintaining pedestrian facilities to provide access for children, seniors and persons with disabilities.

Transportation Equity

Ensure that bike and pedestrian facilities and programs adequately and equally serve all residents in the community.

Adequate Funding

Allocate transportation funds to 1) ensure that all road projects include appropriate accommodations for bicycling and walking facilities, and 2) an appropriate share of transportation funding goes to eliminating bike and pedestrian deficiencies.

Goal 2:
Sustainable Community Development

Develop walkable and bike-friendly neighborhoods that maximize transportation options and allow people to get everywhere they need to go on a daily basis by walking or biking.

Objectives:

Bike and Pedestrian Infrastructure

Include biking and walking facilities as basic infrastructure in all new development and redevelopment projects. Require the development of bike, pedestrian and trail facilities that connect residential areas, schools, parks and commercial centers.

Transportation and Land Use

Encourage compact, mixed-use development patterns that have been shown to increase walking and biking and can result in these modes being the preferred transportation choices for short-distance trips.

School Location and Access

Make it easy and safe for students to walk and bike to school by locating schools within walking distance of the student population they serve. Design schools sites to be pedestrian and bike-friendly.

Park and Recreation Facilities

Provide park and recreation facilities within easy walking and bicycling distance to neighborhoods. Provide bicycle and pedestrian facilities within parks. Connect local and regional parks with bike and pedestrian facilities.

Commercial and Employment Areas

Promote planning and design practices which locate shops, civic services, jobs and transit within walking and biking distance of neighborhood housing.

Site Design

Design school sites, recreation facilities, commercial centers and employment sites that are pedestrian-oriented and easily accessible by bicycle.

Goal 3:
Safety and Security

Create communities where people feel safe bicycling and walking and where the interactions of pedestrians, cyclists and motor vehicle operators are respectful and tolerant. Reduce the incidence of pedestrian and bicyclist injuries and traffic fatalities. Ensure proper maintenance of bike and pedestrian facilities.

Objectives:

Driver, Pedestrian and Cyclist Awareness

Ensure that all drivers, pedestrians and cyclists are aware of the rules of the road and the rights of other users.

Enforcement of Traffic Laws

Ensure that all drivers, pedestrians and cyclists obey the rules of the road and act carefully and responsibly.

Traffic Calming

Reduce motor vehicle operating speeds where you expect to see vehicle-pedestrian conflicts and in areas of high pedestrian use i.e. in neighborhoods, schools and commercial areas.

Safe Routes to School

Initiate and sustain a Safe Routes to School Program to reduce barriers and make it safer for children to walk and bike to school.

Eyes on the Street

Create a sense of safety for bicyclists and pedestrians by planning and designing neighborhoods and communities to have “eyes on the street”.

Maintenance of Facilities

Maintain sidewalks, trails, streets and roads to ensure safe use for pedestrians and bicyclists.

Goal 4:
Economic Vitality

Recognize biking and walking as essential activities that contribute to the economic health of our communities.

Objectives:

Expand and Enhance Tourism Opportunities

Expand and enhance opportunities for bicycle and pedestrian tourism. Connect major tourism destinations using a network of routes for biking and walking.

Promote and Market

Promote and market Fayette and Jessamine Counties as destinations for bicycle tourism.

Workforce Attraction and Retention

Promote the pedestrian and bicycle-friendly qualities of our communities to encourage workforce attraction and retention.

Downtown Revitalization

Contribute to the revitalization of the two counties' downtown areas by making walking and biking priority considerations.

Goal 5:
Quality of Life and Active Living

Improve the quality of life for our residents by promoting active lifestyles and recognize pedestrian and bicycle-friendly qualities as components of a more livable community.

Objectives:

Active Living by Design

Enhance public health goals and outcomes by making neighborhoods and communities places where people can routinely bicycle and walk for fitness, transportation and recreation. Consider public health outcomes in transportation planning, land use planning and site design.

Aging in Place

Provide opportunities for seniors to "age in place" and remain active, both physically and socially, by providing places to walk and good alternatives to driving. Consider the mobility of seniors in transportation planning and site design.

Child-Friendly Communities

Create child-friendly communities that encourage and enable children to bicycle and walk and to be more independent.

Active Commuting

Promote bicycling and walking to work and encourage employers to offer incentives for active commuting.

Public and Environmental Health

Partner with health and environmental organizations to promote the benefits of bicycling and walking.

Chapter 3

Community Input

Chapter 3.
Community Input

3.1 Community Input

The community involvement process consisted of several key strategies designed to encourage participation and feedback from the greatest possible number of people. Public outreach included a web-based survey, a 4-day series of public meetings and a series of stakeholder meetings. Information about the development of the plan and survey were also available at the Bike Lexington event in 2006 and 2007.

2006 Bike Lexington participant completes a survey

Survey

A questionnaire was developed at the beginning of the planning process to elicit feedback from the community regarding their preferences for biking and walking in Fayette and Jessamine Counties. The survey questions were developed to determine such things as:

- Their level of comfort and/or skill riding a bike;
- How frequently they walked and/or biked;
- Where they walked and/or biked;
- Whether they walked and/or biked for commuting, recreation or other reasons;
- Whether there were barriers for biking and walking;
- What kinds of enhancements would encourage people to bike and walk; and
- Comments about biking and walking not addressed by the survey.

The online survey was open for citizens to complete for approximately two months. The survey was available at a number of community locations and was distributed at a series of public meetings. Over 600 residents of Fayette and Jessamine Counties completed the survey. All responses were entered into a database and analyzed. The following are key points that can be concluded from the survey results.

General:

- The age distribution of respondents was fairly even, along with the division between male and female respondents. Most respondents lived in Lexington and were not part of a pedestrian or bicycle club.

Both bikers and walkers:

- Cited the desire to walk/bike more on trails.
- Reported the need for sidewalks and bike lanes on major roads.

When responding to questions about walking, most respondents:

- Rated the conditions for walking as fair to poor.
- Walk for recreation or exercise purposes three or more times per week.
- Rarely walk between home, school or other destinations.
- Cited distance as a deterrent to walking for purposes other than recreation.
- Primarily walk on the sidewalk.
- Indicated that not enough trails is the leading reason they do not walk more followed by the need for sidewalks, safer intersection crossings and reduced trip distances.

Bike Lexington 2007

When responding to questions about biking, most respondents:

- Were bicyclists of an intermediate skill level.
- Rated conditions for bicycling as poor.
- Were concerned about traffic and aggressive drivers.
- Bicycle primarily for recreation purposes and rarely between home, work, school or to other destinations.
- Ride on neighborhood streets, but would like to bicycle more on off-street trails and major roads.
- Cited concerns about traffic as the main reason why they don't bicycle more.
- Indicated that dedicated bicycle lanes, trails and paved shoulders would encourage them to bicycle more.
- Felt there were missing links and connections between existing bicycle facilities.

A small number of write-in responses revealed that some people do not walk or bicycle due to laziness or lack of time. Building our community and infrastructure in such a way that walking and biking are easily incorporated into people's daily routines could help increase physical activity levels by making it easy and convenient to bike and walk.

Public Meetings

The planning process required significant community input to understand how citizens view the walking and biking environment. Public meetings were held:

May 31, 2006: Jessamine County Public Library, Nicholasville

June 1, 2006: Northside Public Library, Lexington

June 2, 2006: Luce Activity Center at Asbury College, Wilmore

June 3, 2006: Joseph-Beth Booksellers, Lexington

Asbury College hosted the Wilmore public meeting in May, 2006.

The goal of the meetings was to initiate a discussion with the public about the bicycle and pedestrian environments in both counties and to receive input and feedback about the planning process. The purpose was to talk specifically about attendees' experiences walking and biking in their communities. Active participation and feedback was encouraged at all meetings. Survey forms and maps of Jessamine and Fayette Counties were available for attendees to provide their thoughts.

A sample of comments heard at the public meetings are listed below. A full summary of the public meetings is included in Appendix C.

- "I want to be able to walk to something if I can see it."
- "I'd like to see a paved trail between Nicholasville and the Fayette/Jessamine County line that runs parallel to Nicholasville Road."
- "I'd like to see a bike lane on Main Street in Nicholasville from one end of the bypass to the other."

- "The gaps in the sidewalks should be filled in. Put sidewalks in more places where there aren't any—have you tried walking on Nicholasville Road?"
- "My son is trapped in our neighborhood because there's no connectivity."
- "This effort (bike and pedestrian plan) needs to start with the disabled and aging people – what they need to get around."

Discussion after the Nicholasville meeting


North Lexington meeting


South Lexington meeting

- "Major roads/crossings are unfriendly—New Circle Road is a barrier."
- "There are lots of good places to walk; people just don't take advantage of the opportunities out there."
- "Enforcement is a big issue – especially in rural areas."

The Final Draft of the Master Plan was distributed throughout the region and on the MPO website. Comments from the public were solicited for 30 days prior to the Final Draft adoption by the Transportation Policy Committee on August 22, 2007.

3.2 Stakeholder Input

Interviews with key stakeholders were conducted to better understand the needs and concerns of specific user groups and organizations. An initial list of potential stakeholders was developed; stakeholders not represented on plan oversight committees such as the MPO's Bicycle and Pedestrian Committee (BPAC), the plan's Technical Oversight Committee (TOC) and the MPO's Transportation Policy Committee (TPC), were individually interviewed. The list of stakeholder meetings included:

- Fayette County Schools (June 2, 2006)
- Bluegrass Council of the Blind (June 17, 2006)
- Disabled community (June 23, 2006)
- Senior Citizens (July 12, 2006)
- Bluegrass Cycling Club (February 17, 2007)

Each of these groups had different insight into what a bicycle and pedestrian plan should contain, promote and be, in order to accommodate their needs. They were able to identify both specific facility needs (such as missing connections or places where repair is needed) as well as policy needs to improve service. All of the input gathered at these meetings was considered during the planning process and incorporated into the plan as much as possible. For additional information on input from these specific stakeholder groups, refer to Appendix C.

Tour of downtown Lexington reveals many inadequacies such as curb ramps that are not ADA compliant

3.3 Technical Input and Policy Oversight

Technical input and guidance was provided throughout the planning process by the Technical Oversight Committee (TOC) and the Bicycle and Pedestrian Advisory Committee (BPAC). The Transportation Policy Committee (TPC) provided policy oversight and guidance. Each of these groups and their role in the development of the plan is discussed in more detail below.

Technical Oversight Committee (TOC)

This committee provided technical guidance in the areas of planning, traffic, engineering and maintenance, and included representation from LFUCG, the University of Kentucky, the Kentucky Transportation Cabinet, Jessamine County, and the City of Nicholasville.

The TOC was instrumental in providing guidance on different elements of the plan, and the steps necessary for adoption and implemention.

Lexington Area MPO Transportation Policy Committee (TPC)

The TPC is the policy and decision-making body of the MPO and is comprised of representatives from Jessamine County, Wilmore, Nichloasville and the Lexington-Fayette Urban County governments. Presentations to the TPC were made at the beginning of the planning process, following the four initial public meetings, and to present the final draft of the plan.

Lexington Area MPO Bicycle and Pedestrian Committee (BPAC)

A sub-committee of the Lexington Area MPO, the BPAC advises the TPC about non-motorized transportation needs and projects. The committee was apprised of the progress on the plan at their monthly meetings to ensure that the group was informed and given the opportunity to provide input throughout the planning process.

To ensure good communication between all groups, the BPAC committee chair was a member of the TOC. Several other BPAC members also participated in other meetings.

Dave Elbon (left) 2006 BPAC chair and Scott Campbell (right) 2007 BPAC chair flank Dexter Porter at the November 2006 BPAC meeting at Asbury College

Chapter 4

Existing Conditions

Chapter 4.
Review of Existing Conditions

An assessment of existing conditions included an inventory of current use, bicycle and pedestrian facilities and related plans, policies and programs that affect bicycle and pedestrian travel in the region. The inventory revealed progress being made toward becoming a bicycle and pedestrian-friendly region – both "on the ground" and through the level of public and official support.

4.1 Bicycle and Pedestrian Trends

A review was conducted of bicycle and pedestrian travel in the region to determine how frequently people are bicycling and walking. The number, type and location of bicycle and pedestrian-related traffic collisions were also reviewed to identify roadways with unsafe conditions.

Bicycling and Walking in the Region

The total number of trips (for all purposes) made in the region by bicycling and walking is unknown; however, information on work-related bicycle and pedestrian trips is available through the U.S. Census. In Jessamine County, the number of walking commutes has continued to decline, from 5.5% in 1990 to 3.4% in 2000. In Fayette County, walking commutes have also declined, from 5.1 to 4.0%. Pedestrian commuting in the region exceeded the national and state averages of 2.7 and 2.1% in the year 2000.

Commutes by bicycle in Jessamine County increased slightly between 1990 and 2000 from 0.09% to 0.14%, while Fayette County saw a 40% increase from 0.35 to 0.57%. Bicycling in Fayette County exceeded the national and state averages of 0.44 and 0.17% in the year 2000. Figures depicting where commuters lived in 2000 are located in Appendix A.

The U.S. Census does not provide information on the number of trips made by bicycling or walking for recreation and for other utilitarian purposes, such as trips to the store, the park, or a friend's home. Studies show that these utilitarian trips represent four out of five trips, so a random sample travel survey is needed to accurately determine the total number of bicycling and walking trips in the region. While the survey conducted for this plan, as described in Chapter 3, provides insight into how often respondents bike and walk and for what purposes, the survey was self-selective and not representative of the overall region.

Pedestrian and Bicycle Crashes

Crash data was provided by the Lexington Area MPO for a three-year period from January 1, 2003, through December 31, 2005. The information was evaluated to determine trends during this period.

Fayette County / Pedestrian

- Motor vehicle crashes involving a pedestrian: 404
- Number of crashes with injury: 363
- Number of crashes with fatality: 11

Jessamine County / Pedestrian

- Motor vehicle crashes involving a pedestrian: 23
- Number of crashes with injury: 20
- Number of crashes with fatality: 1

Fayette County / Bicycle

- Motor vehicle crashes involving a cyclist: 182
- Number of crashes with injury: 132
- Number of crashes with fatality: 1

Jessamine County / Bicycle

- Motor vehicle crashes involving a cyclist: 13
- Number of crashes with injury: 9
- Number of crashes with fatality: 2

More information on crashes and crash conditions in each county is provided in Appendix A.

4.2 Walkability

Pedestrian-friendly communities share many characteristics that encourage walking, including pedestrian-oriented roadway design, site design and land use patterns. Walkable communities have convenient facilities (sidewalks, crosswalks and trails) that allow pedestrians to walk to destinations easily and safely.

Roadway Design

Pedestrian-scaled streets are designed to encourage appropriate traffic speeds and volumes, provide a buffer between pedestrians and traffic, and provide interest and comfort for the pedestrian (such as shade trees and pedestrian-scale lighting).

Traffic speeds dramatically affect a pedestrian's actual and perceived sense of safety. Pedestrians struck by a motor vehicle traveling at 40 miles per hour (mph) will be fatally injured 85% of the time. Reducing speeds to 30 mph reduces the risk of death to 45%. Only 5% of pedestrians struck by vehicles traveling at 20 mph are fatally injured. Therefore, it is desirable to reduce vehicle speeds in areas where pedestrians are present, especially in neighborhoods and near schools and parks.

Vehicle speeds are most influenced by roadway design rather than posted speed limits. A narrow, curvilinear street with on-street parking and street trees slows traffic and creates a pedestrian-friendly atmosphere. Neighborhood and residential collector streets that are wide and straight and have very little on-street parking encourage fast moving traffic. These streets frequently receive requests for traffic calming measures.

In response to traffic calming requests, LFUCG initiated a Neighborhood Traffic Calming Program in the year 2000. Engineering studies are required to determine if traffic calming is warranted and neighborhoods must contribute to the cost of installing the recommended calming measures. Funding for the program is approximately $40,000 annually. There are currently 50 active projects and many inquiries into the program each year.

In Fayette County, street trees and landscape buffers are required between the street pavement and sidewalk in residential areas. There is a provision for narrower streets in traditional neighborhood developments and the expansion area. Pedestrian-scale street lighting is not required, but is provided in the downtown area. A city-wide 25 mph speed limit has been initiated on local neighborhood streets, unless they are signed otherwise.

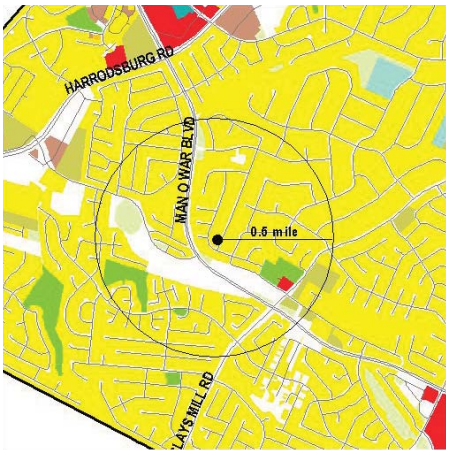
Development Patterns and Design

Land use patterns have a significant affect on walkability. Neighborhoods that are compact (higher in density) and have mixed land use have been shown to increase bicycling and walking rates. Such areas have neighborhood-oriented commercial centers and destinations including schools, parks and workplaces within walking distance to where people live. Examples of walkable and less walkable neighborhoods are shown in the figures below.

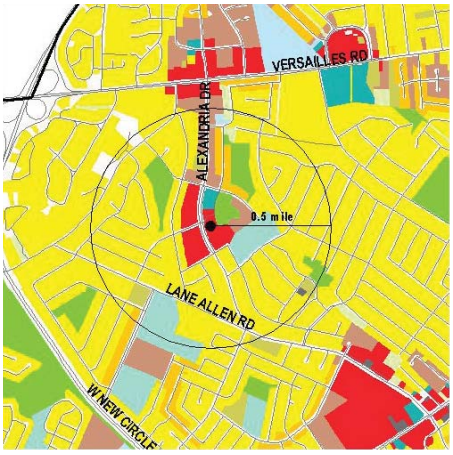
Shown above are Romany Road (left) and Hartland Shopping Center (right) areas, good examples of residential areas with neighborhood-oriented shopping centers and a mix of low and high density housing nearby.

In the Lexington Area MPO region, commercial development is particularly concentrated along the US 27 corridor, the major arterial connecting Fayette and Jessamine Counties. This corridor is auto-oriented with big-box developments and strip shopping centers that are inaccessible to pedestrians due to a lack of continuous sidewalks. There are also deep building setbacks, with large parking lots that separate building entrances from the street, sidewalks and transit stops.

Street patterns and connectivity also influence walkability. Pedestrians are sensitive to long trip distances and out-of-direction travel. Well-connected streets with short blocks provide pedestrians with more direct access to their destination and a variety of routes from which to choose. The two figures on the following page depict how different street patterns found in Fayette County can influence travel distance.



This single-family residential area in southwest Fayette County does not have access to neighborhood shopping. Palomar Shopping Center is nearby, but is oriented to Harrodsburg Road, a major arterial that acts as a barrier to pedestrians.



Gardenside Shopping Center is an example of a mixed neighborhood with schools, parks, professional offices and high and low density housing in close proximity. Many residences are within walking distance to shopping; however the commercial area is oriented more to the major collector street (Alexandria Dr.) than the neighborhood.

Pedestrian oriented shopping facility

Large parking lot separates pedestrian path from the front door of the business

Good and poor street connectivity: new development in northeast Fayette County on the left, development in southeast Fayette County on the right. The two starred properties in the right image are less than one-tenth of a mile apart, yet the walking distance, using the roadway system, is greater than one mile because of the preponderance of cul-de-sac street configurations.

Sidewalks

Sidewalks are needed for safe pedestrian travel on all roadways which allow pedestrian traffic. Studies have indicated that fewer pedestrian crashes occur along roadways with sidewalks on both sides of the street compared to streets with no sidewalks or sidewalks on one side only. The location of existing and missing sidewalks in Fayette and Jessamine Counties are depicted in figures 9 and 10.

Sidewalks should be of an adequate width, level, slip-resistant and free of obstacles to provide for safe travel, especially for seniors and people with visual and mobility impairments. A 2005 survey reviewed the condition of the sidewalks on 65% of Fayette County's roadways. The survey revealed that 15% of sidewalks were in poor condition, 40% were in fair condition and 44% were in good condition.

Table 1. Sidewalks in Fayette and Jessamine Counties

	Fayette County		**Jessamine County**	
	Arterial	Collector	Arterial	Collector
No sidewalks	38.1%	10.9%	57.9%	60.9%
Sidewalk on one side	14.9%	7.7%	3.5%	8.2%
Sidewalk on both sides	46.9%	81.3%	38.5%	31%

In Fayette County, 38.1% of arterial streets do not have sidewalks and 14.9% have sidewalks on only one side of the street. In Jessamine County 57.9% of arterials do not have sidewalks on either side of the street. Table 1 depicts the percentages of pedestrian accommodation on arterial and collector streets in each county.

In Fayette and Jessamine Counties, four-foot sidewalks are required in all new subdivisions. The Jessamine County/Wilmore Planning Commission also requires five-foot sidewalks on non-residential collector streets. Waivers to the sidewalk requirements may be granted by each jurisdiction's Planning Commission. Fayette County permits waivers in any development. The Jessamine Wilmore Planning Commission may grant sidewalk waivers in single-family residential develop-

Coordination is essential - this sidewalk leads directly to a fence around Crawford Middle School property

Sidewalk ends along an arterial road

ments. The Nicholasville Planning Commission allows sidewalk waivers in industrial developments.

Sidewalk maintenance is the responsibility of adjacent property owners in both Fayette and Jessamine County. Local governments are responsible for enforcing maintenance requirements. In Fayette County, the number of Code Enforcement Officers tasked with ensuring sidewalk maintenance has declined over the past five years to one individual. The reduction in staff has resulted in a complaint-driven enforcement process. Annual (or bi-annual) proactive sweeps of the city to ensure sidewalk maintenance are not possible, but are desirable.

Fayette County sidewalk in poor condition

Fayette County has established a sidewalk assistance program that reimburses property owners 50% of the cost of sidewalk replacement. Funding for the program has decreased dramatically over the last five years from approximately $300,000 to $75,000 annually.

Intersections

The ability and ease of crossing the street impacts the walkability of a community. Safe pedestrian crossings should be provided at intersections. Mid-block crossings should be provided where it is difficult for pedestrians to cross the street to reach key destinations (and where an intersection crossing is not provided nearby). Several recent national studies have provided guidance on appropriate treatments at mid-block crossings so that pedestrian safety is not compromised. Currently, neither LFUCG nor the Kentucky Transportation Cabinet typically install mid-block pedestrian crossings.

Large curb radii and multiple lanes of vehicular traffic increase the length of an intersection that a pedes-

Difficult intersection with crossing distance of 150 feet

Missing mid-block crosswalk between two trail segments in Beaumont subdivision

trian must successfully navigate. Curb extensions (or bulb-outs) and median refuges can shorten this span on busy streets. Lexington has curb extensions in the downtown area and in some newer developments. The intersection of Richmond Road and Chinoe Road is an example of a median that acts as a pedestrian refuge.

Median serves as a pedestrian refuge at intersection of Richmond and Chinoe Roads

Intersections and mid-block crossings should include crosswalks that are wide enough to accommodate pedestrian traffic; should be well-marked by signage and striping; signaled appropriately; and should be ADA compliant.

Intersection Audits

Sixty intersections were audited in 2006-2007. The intersections selected for evaluation were geographically distributed and representative of each of the following environments in each county:

- Suburban commercial
- Suburban non-commercial
- Urban commercial
- Urban non-commercial

The sample audits noted the presence and visibility of crosswalks; the presence of sidewalks; the presence of pedestrian signals; accessibility of pedestrian actuators; curb ramps and other factors. Thirty intersection audits were performed for each county. This represents a small number of all signalized intersections in each county. Table 2 below depicts the results of some of the data collected for the 60 intersections. Table 3 on the next page depicts the results of five criteria used to determine if curb ramps were ADA compliant. Assuming complicance equates to meeting all five criteria, it can be stated that, in general, curb ramps are not ADA compliant in either county.

Table 2. Intersection Audit Data for Fayette and Jessamine Counties

	Fayette County	Jessamine County
Percentage of signalized intersections with crosswalks	93.3%	75%
Crosswalk Condition		
Poor	22.1%	0%
Fair	30.9%	84%
Good	47.0%	16%
Average Crosswalk Distance		
Arterial Street	79.5 feet	68.2 feet
Collector Street	52.6 feet	57.7 feet
Local Street	50.2 feet	32.1 feet
Presence of Pedestrian Signals at Signalized Intersections	76.5%	50%
Presence of Accessible Pedestrian Signal Actuators	84.6%	100%
Percentage of Intersections that have Sidewalks on all Approaches	76.7%	33.3%
Percentage of Sidewalks that have Curb Ramps	88.5%	67.2%

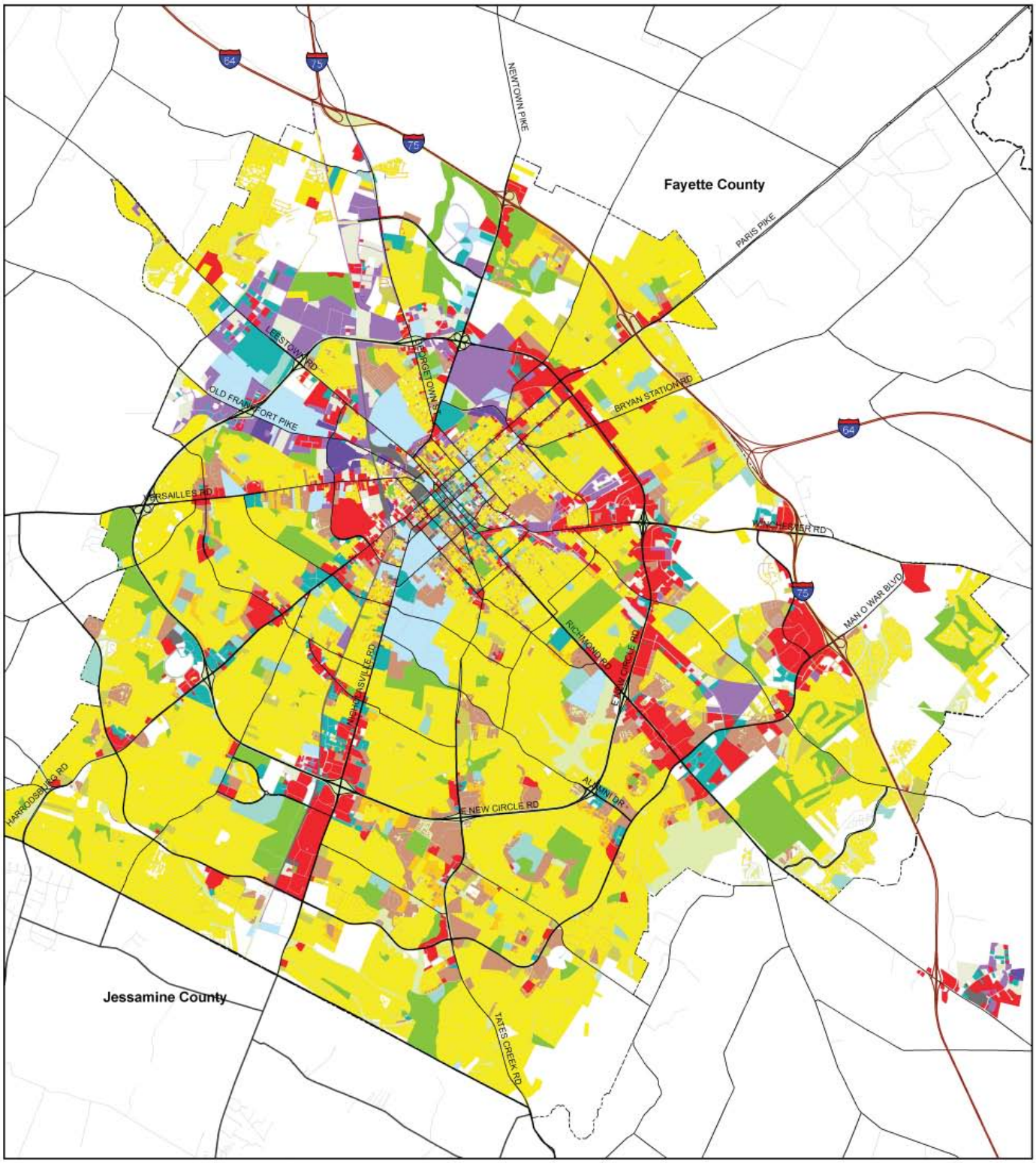
It should be noted that the presence of pedestrian crossing features, such as crosswalks, signals and curb ramps, may not be a direct indicator of whether the public perceives a location to be a safe crossing. Intersections located on major arterials such as Nicholasville Road at Reynolds Road and Man O War at Harrodsburg Road were found to have good pedestrian infrastructure. However, high traffic volumes, multiple travel lanes to cross, and aggressive or distracted drivers may lead people to feel unsafe.

The figures on the following pages depict some of the quantifiable existing conditions affecting the walkability of Fayette and Jessamine Counties. These figures consist of land use in Fayette and Jessamine Counties (figures 2 and 3); the availability of public transportation in Fayette County (figure 4); schools, community centers and libraries in Fayette and Jessamine Counties (figures 5 and 6); recreation areas in Fayette and Jessamine Counties (figures 7 and 8); absent pedestrian facilities in Fayette and Jessamine Counties (figures 9 and 10); and absent pedestrian facilities along major roads in Fayette and Jessamine Counties (figures 11 and 12). Figures showing the intersections audited in Fayette and Jessamine Counties are located in Appendix A.

Table 3. Compliance of Curbs with ADA Criteria

Number of Criteria Met	Fayette County	Jessamine County
0	5.1%	2.6%
1	2.8%	2.6%
2	9.0%	40.3%
3	19.2%	20.8%
4	53.7%	20.8%
5	10.2%	13.0%

Figure 2. Land Use in Fayette County Urban Service Area



Legend

- Urban Service Area
- Single Family
- Duplex housing
- Townhomes
- Multi-family housing
- Lodging/Group quarters
- Professional Office
- Commercial
- Mixed use
- Light Industrial
- Heavy Industrial
- Warehouse
- Places of Worship
- Public/Semi-public
- Schools
- Greenspace
- Parking lot
- Recreation
- Vacant lot
- Interstate
- Arterial/Collector
- Other Road

Source: KYTC, KYGEONET, NTAD (2005) and LFUCG (2006)

NORTH

Miles: 0, 2, 4

Kilometers: 0, 2, 4

Figure 3. Land Use in Jessamine County

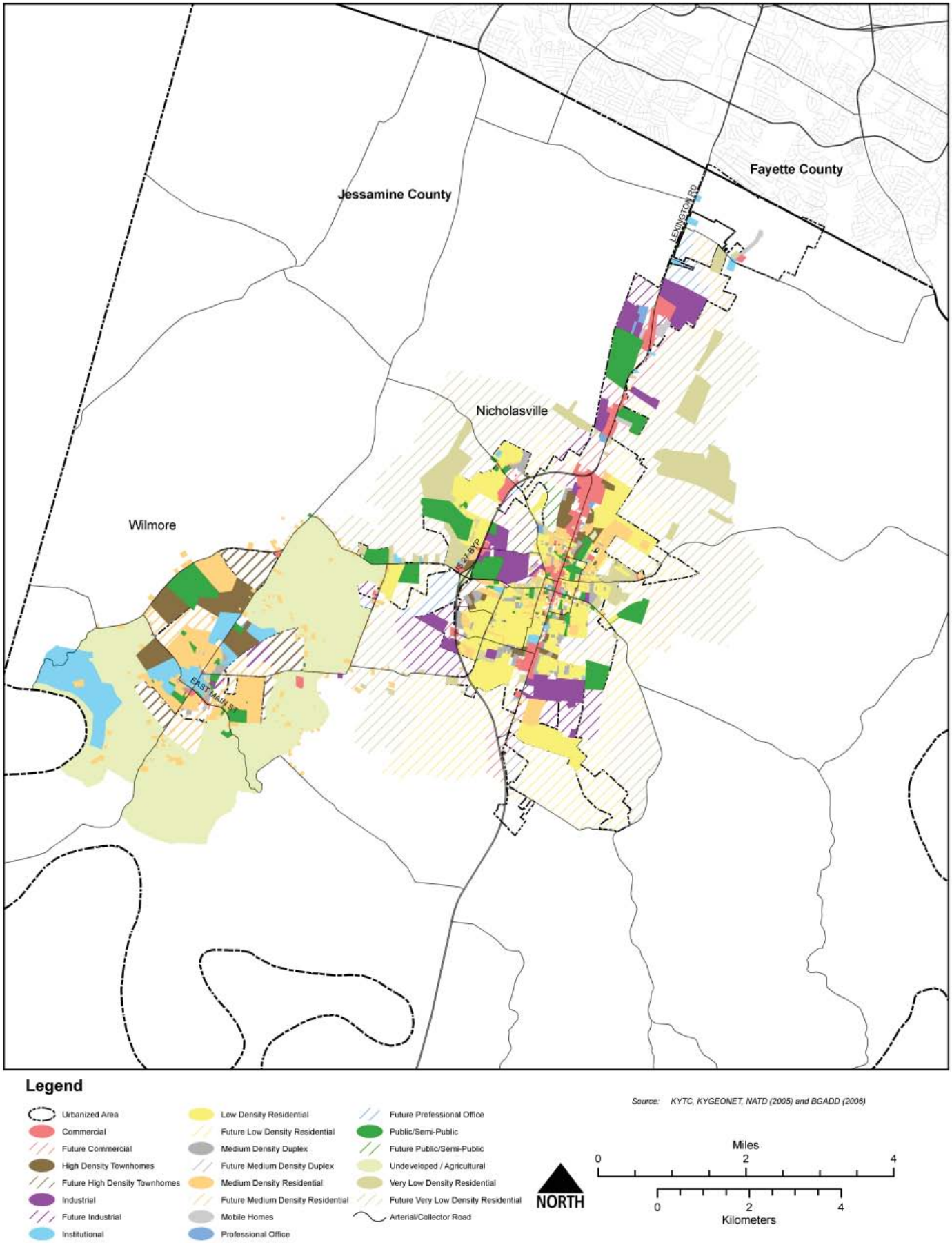
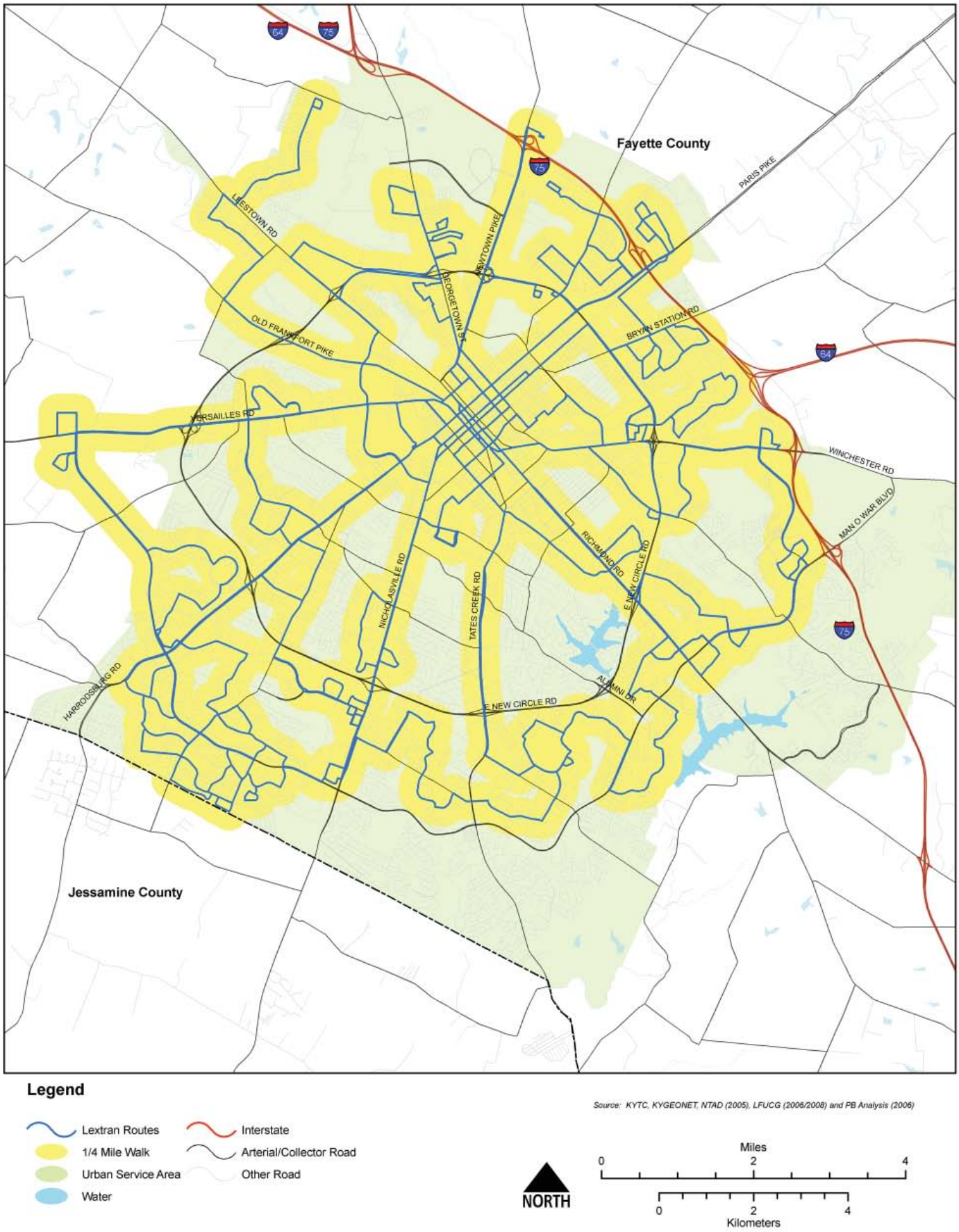


Figure 4. Public Transportation in Fayette County



Legend

- Lextran Routes
- 1/4 Mile Walk
- Urban Service Area
- Water
- Interstate
- Arterial/Collector Road
- Other Road

Source: KYTC, KYGEONET, NTAD (2005), LFUCG (2006/2008) and PB Analysis (2006)

NORTH

Miles: 0, 2, 4

Kilometers: 0, 2, 4

Figure 5. Schools, Community Centers, and Libraries in Fayette County

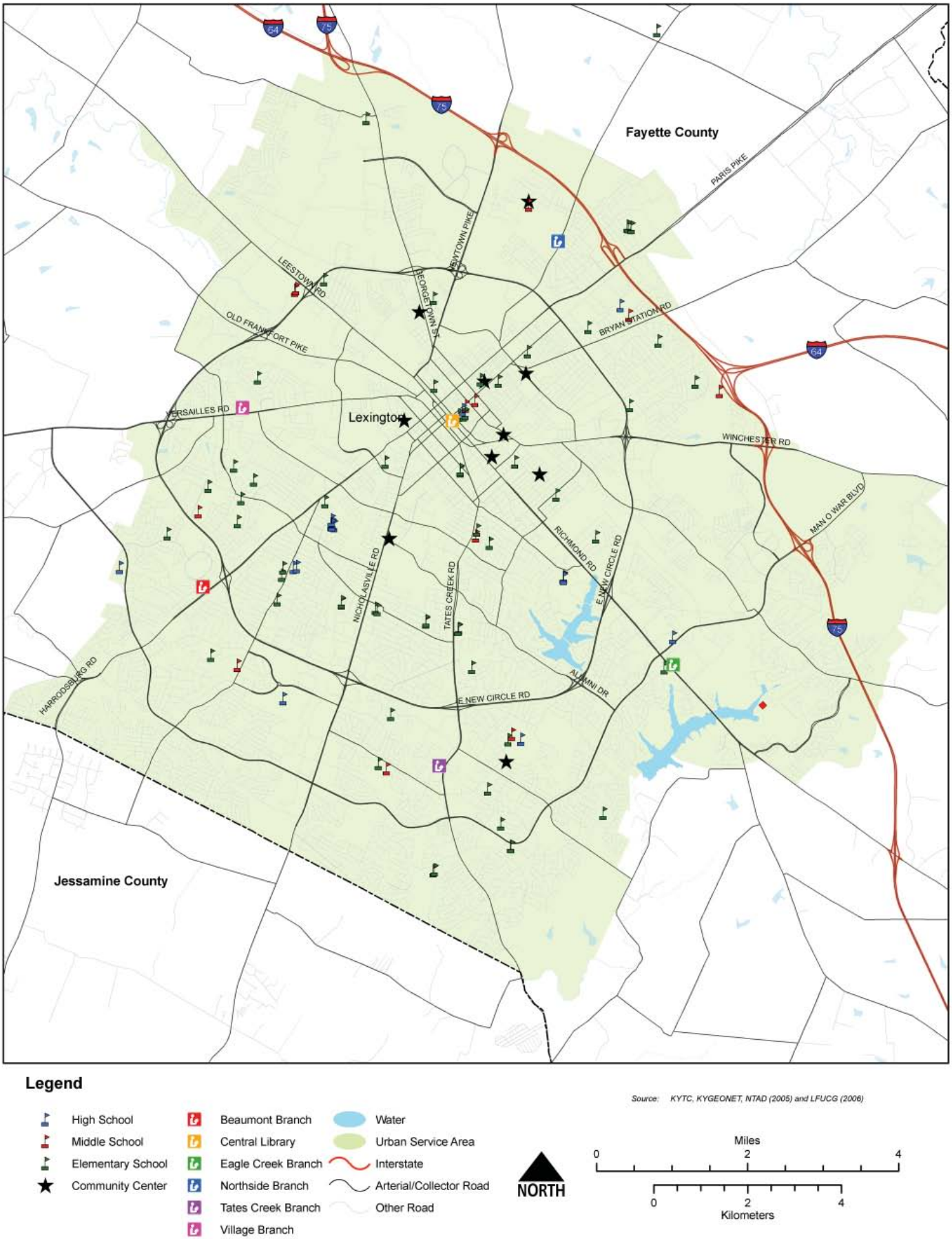


Figure 6. Schools, Community Centers, and Libraries in Jessamine County

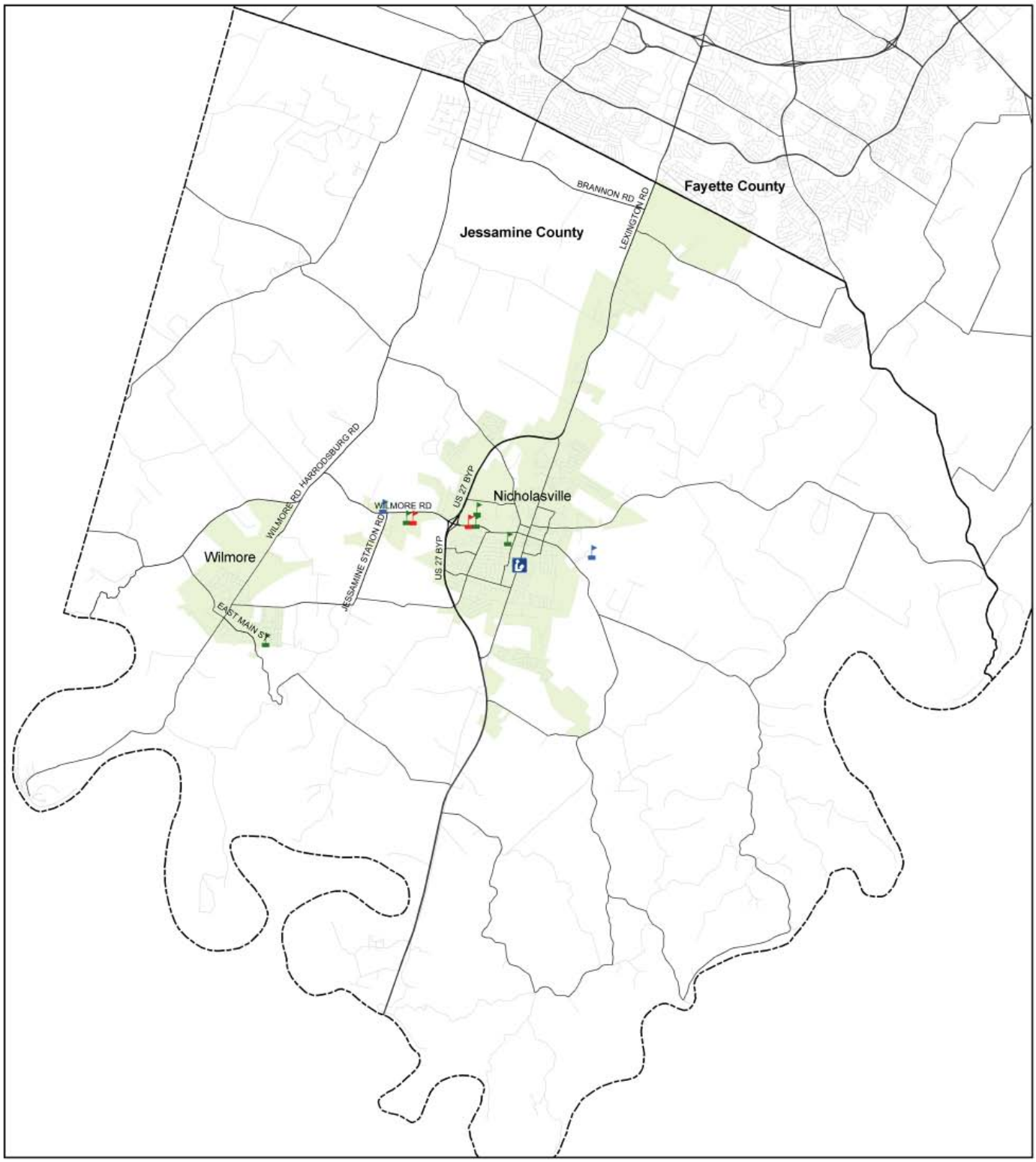


Figure 7. Recreation Areas in Fayette County

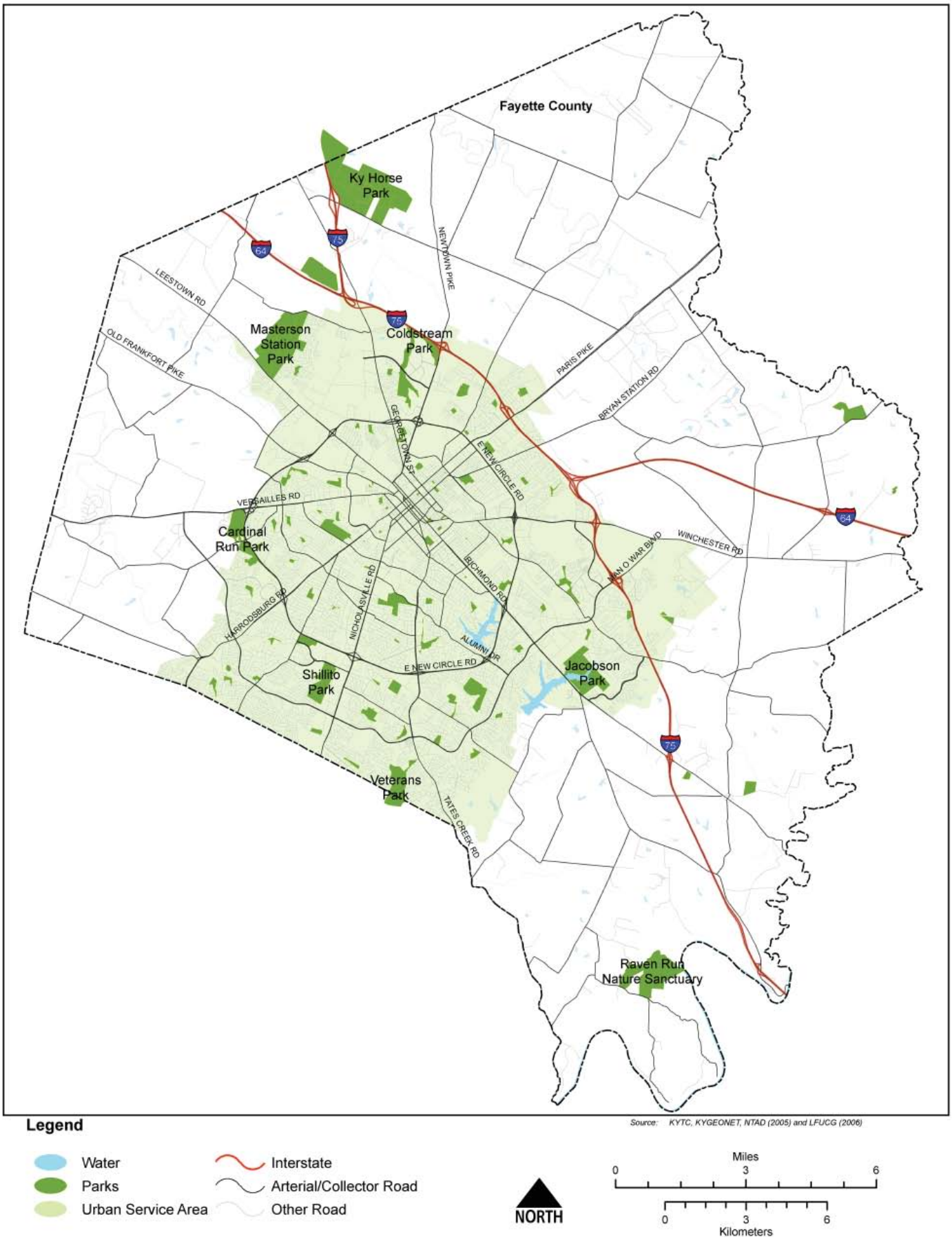


Figure 8. Recreations Areas in Jessamine County

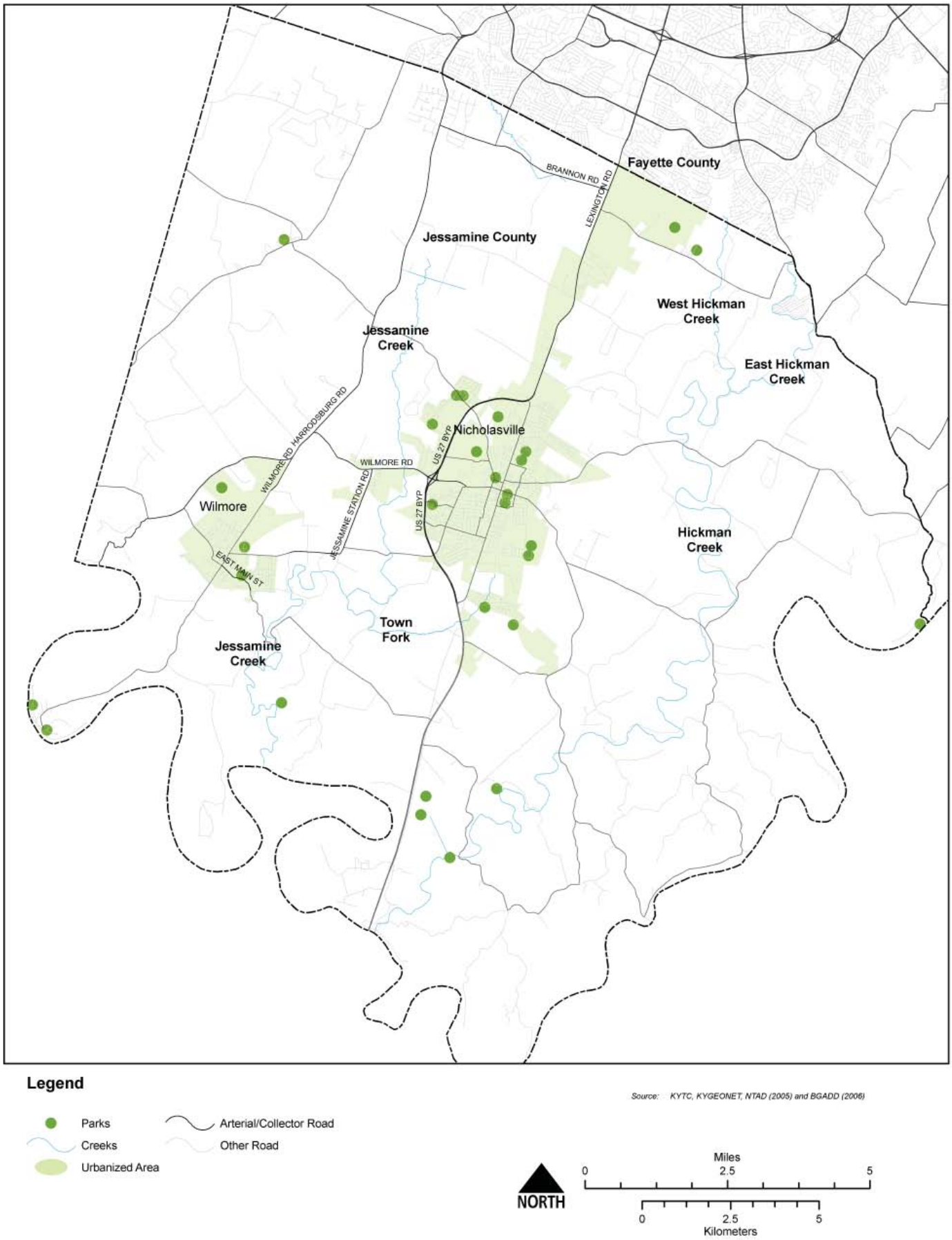


Figure 9. Absent Pedestrian Facilities in Fayette County

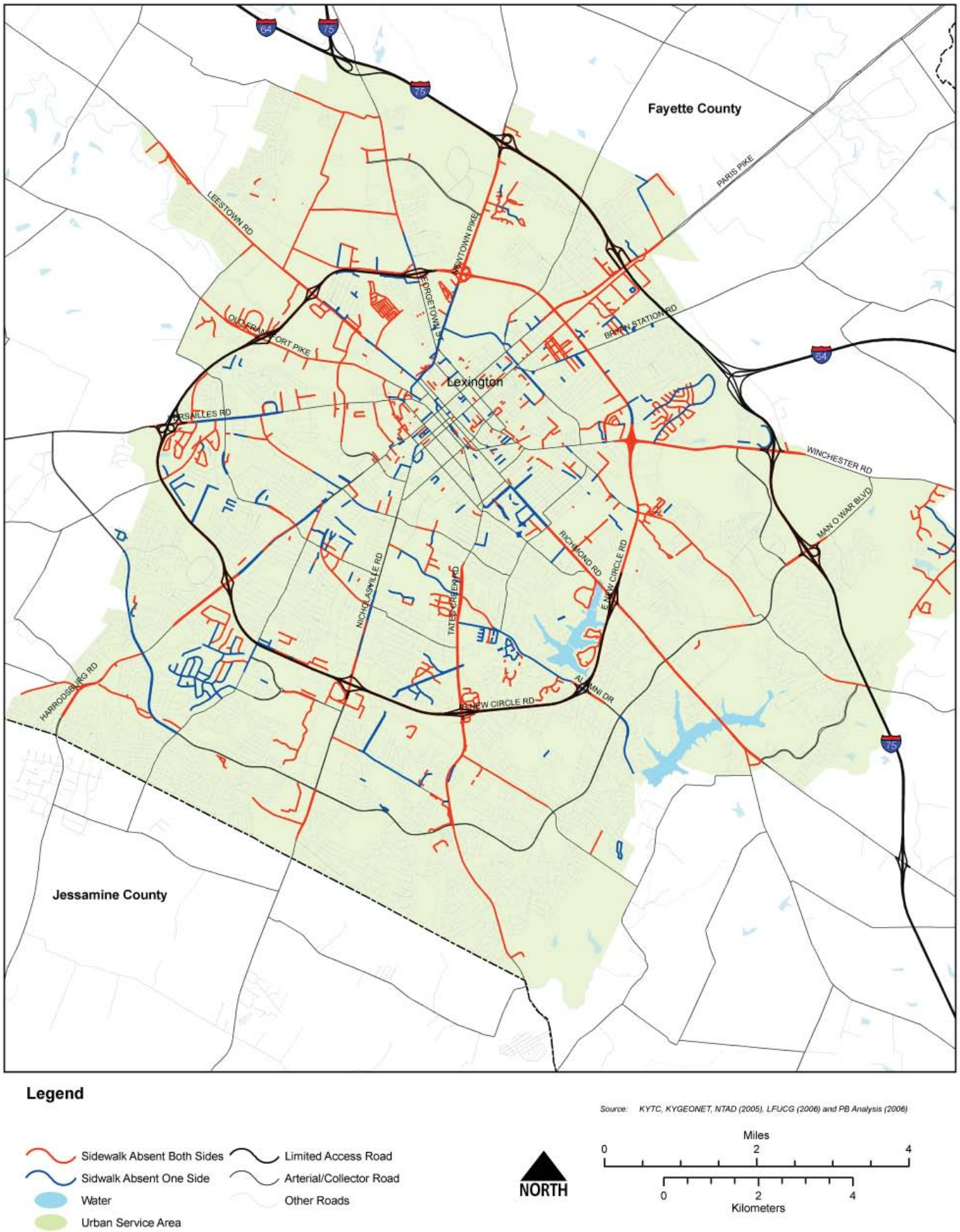
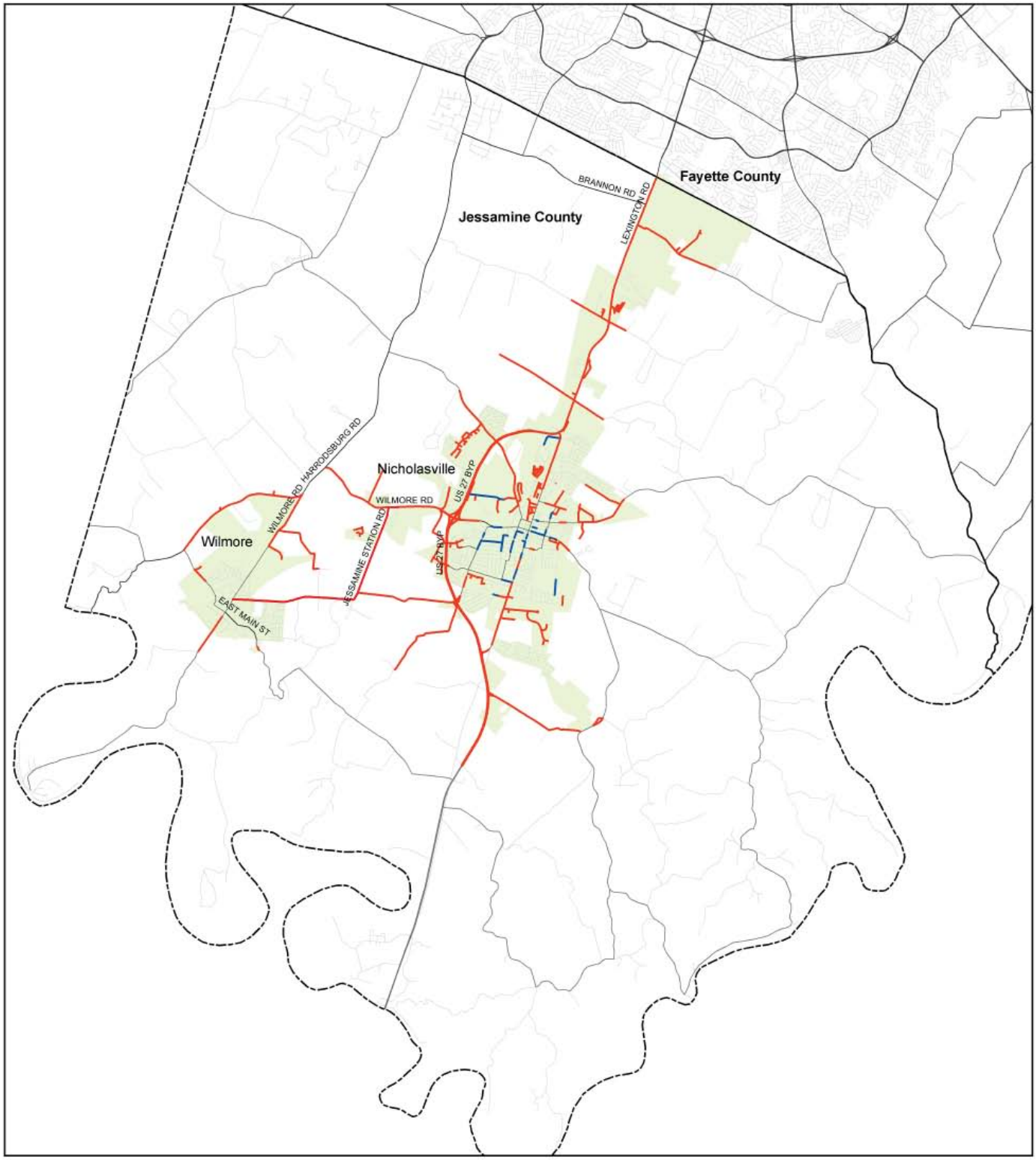


Figure 10. Absent Pedestrian Facilities in Jessamine County



Legend

- Sidewalk Absent on Both Sides
- Sidewalk Absent on One Side
- Urbanized Area
- Arterial/Collector Road
- Other Road

Source: KYTC, KYGEONET, NTAD (2005), BGADD (2006) and PB Analysis (2006)

NORTH

Miles: 0, 2.5, 5

Kilometers: 0, 2.5, 5

Figure 11. Absent Pedestrian Facilities Along Major Roads in Fayette County

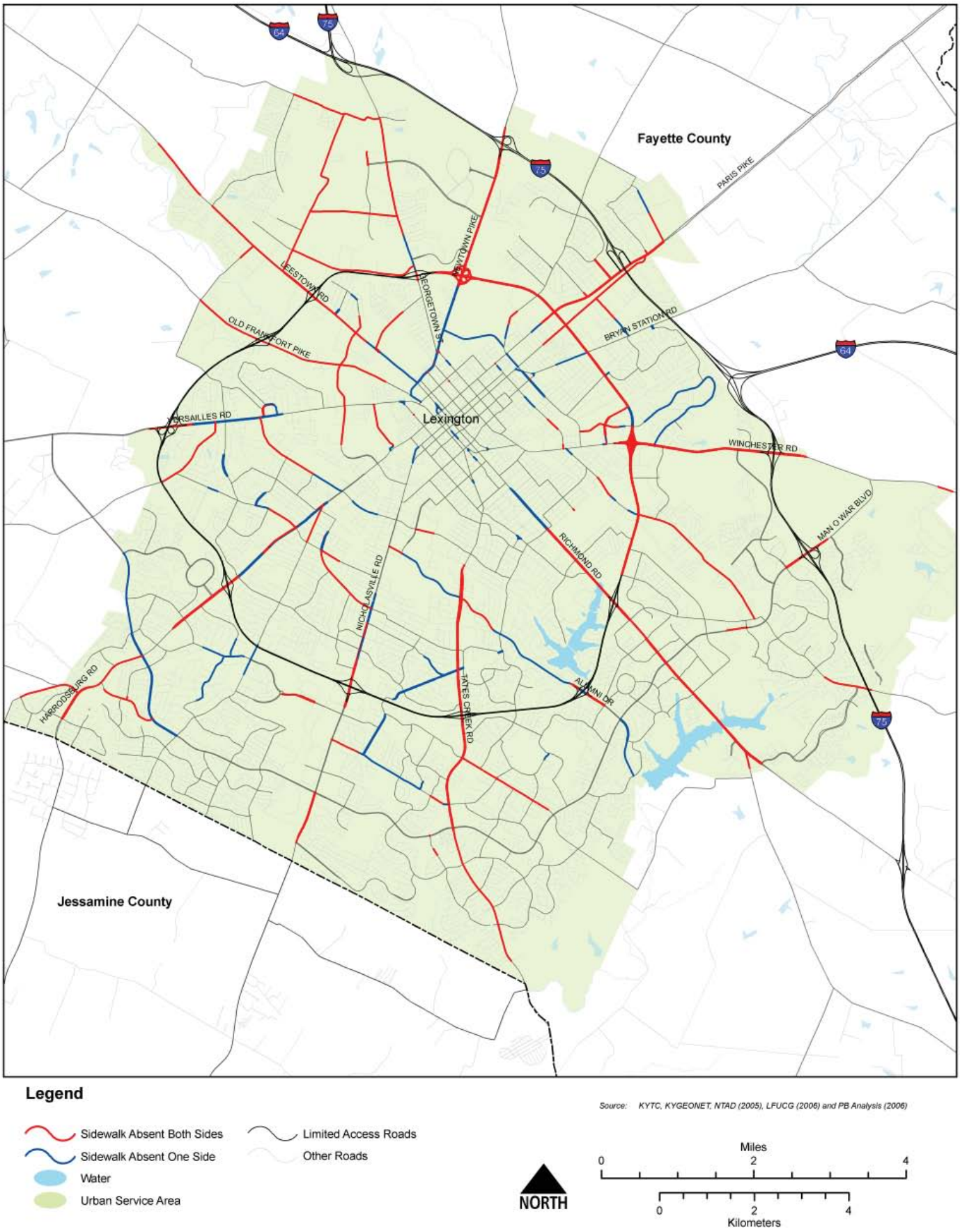
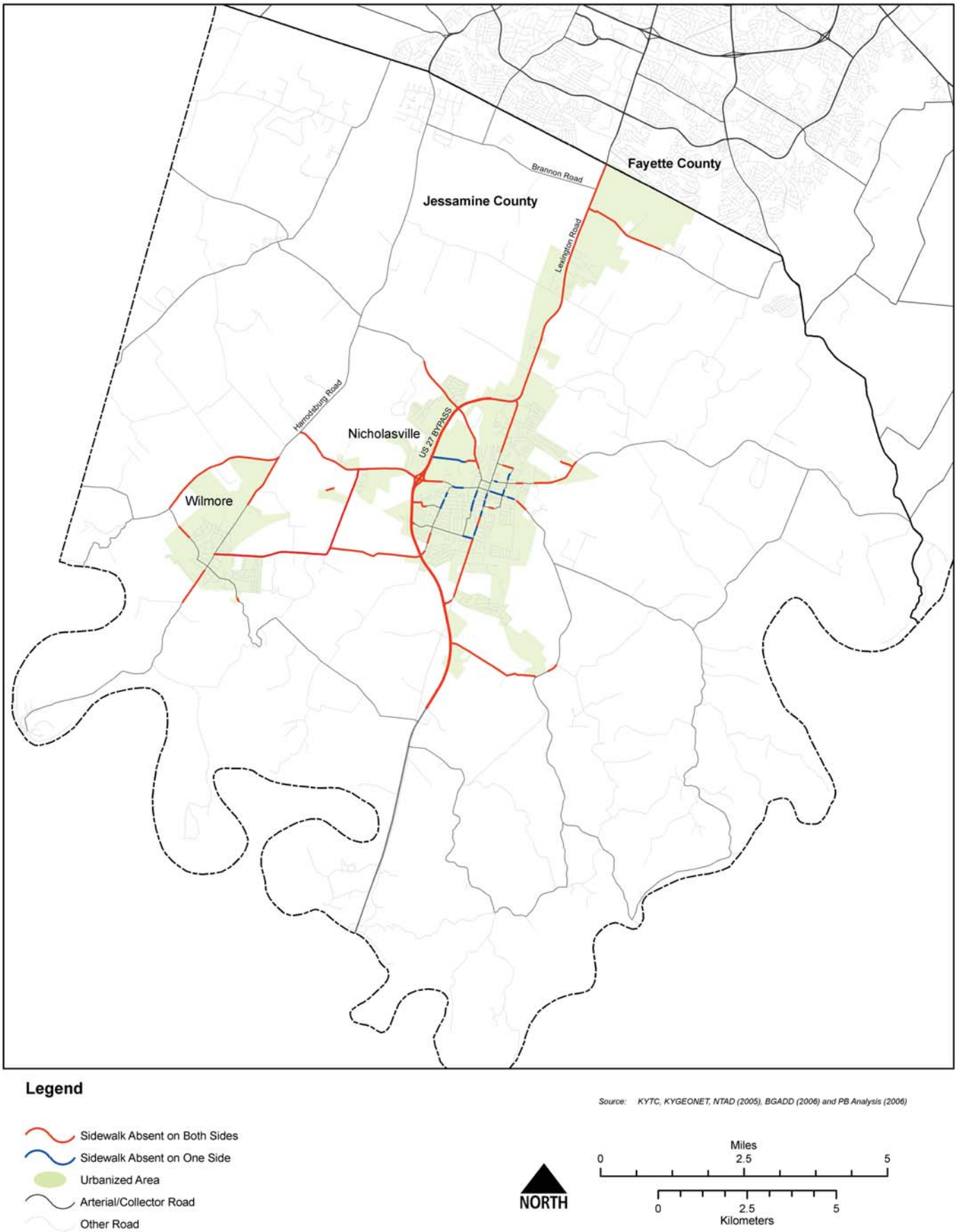


Figure 12. Absent Pedestrian Facilities Along Major Roads in Jessamine County



4.3 Bikeability

A bicycle-friendly city ensures safe bicycle access for cyclists of various skill levels and for various types of cycling through off-road trails and on-road bike facilities. Different types of bicycle riding are encouraged throughout the community, including bicycling for recreation, utilitarian trips and transportation. Bicycle-friendly communities provide adequate bicycle parking and have public transit systems that accommodate bicyclists. Bicyclists are easily detected at roadway intersections and can negotiate them safely.

An assessment of existing conditions for bicycling in the MPO region follows.

Types of Bicyclists

The American Association of State Highway and Transportation Officials (AASHTO) classifies bicyclists into three categories: A, B and C. Each category describes a bicyclist's skill and comfort level, as well as the types of bike facilities that will best accommodate their needs:

- **A - Advanced** or experienced riders generally use bicycles as they would a motor vehicle. They ride for convenience and speed and want direct access to destinations with minimum detours or delay. They are typically comfortable riding in motor vehicle traffic.
- **B - Basic** or less confident adult riders may use their bikes for transportation purposes, but prefer to avoid roads with fast and busy motor vehicle traffic. Basic riders are comfortable riding on lower volume streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes.
- **C - Children**, riding on their own or with their parents, may not travel as fast as their adult counterparts but still require access to key destinations in their community. Residential streets with low motor vehicle speeds, linked with shared use paths, and busier streets with well-defined pavement markings, can accommodate children without encouraging them to ride in the travel lane of major roadways.

Types of Bicycle Riding

- **Commuting** – Describes bicycle trips to work. Commuter cyclists generally desire direct routes to their destination and very little delay. They require secure bicycle parking and may desire showers and/or changing stations at their place of work.
- **Utilitarian** – Describes bicycle trips to destinations other than a place of work. Bicyclists riding to the store, park or other public facility also require direct access to destinations, but may be more tolerant of some out-of-direction travel and delay. Secure bicycle parking is needed at their destination.
- **Recreational / touring** – Describes bicycle trips for recreation, exercise or tourism. Longer routes are desirable and may include both urban and rural areas. Longer loops and linear routes, and signed (on-road or off-road) routes traversing several counties and/or states is desirable.

Types of Bicycle Facilities

The different types of bicycle facilities, as defined by AASHTO, are listed below. Table 4 on the following page depicts a comparison of the types and lengths of bike facilities in Fayette and Jessamine Counties.

- **Shared roadways** – Most bicycle travel currently occurs on these roadways. Signing or striping for bicycle use may be unnecessary for safety, or improvements may be needed before bikeway designation would be appropriate. Unsigned paved shoulders, wide curb lanes, neighborhood streets and rural roads are shared roadways.
- **Signed shared roadways** – Signage may be used to provide continuity to other bicycle facilities or designate preferred routes through high demand corridors.
- **Bike lanes** – Bike facilities established with appropriate pavement markings and signage along street corridors. Bike lanes delineate roadway space for bicyclists. They afford more predictable movements by both drivers and cyclists.

- **Shared use paths** – Trails may offer opportunities not provided by the road system. Trails are designed with bicyclist safety in mind, but other users such as pedestrians and joggers are likely to use these facilities. Recreational walking paths are not classified as shared use paths.

Winchester Road Shoulder

Squires Road Shared Use Path

Euclid Avenue Bike Lane

Table 4.
Bike Facilities in Fayette and Jessamine Counties

	Fayette County		**Jessamine County**	
	Existing	Funded	Existing	Funded
Shared roadway				
paved shoulder	15 mi.	7 mi.	18 mi.	1 mi.
wide curb lanes	un-known	n/a	un-known	n/a
Signed routes	4 mi.	0 mi.	0 mi.	0 mi.
Bike lanes	12 mi.	24 mi.	0 mi.	0 mi.
Shared use path	8 mi.	12 mi.	1 mi.	5 mi.

One type of facility will not fit all riders. Ideally, all cyclists, from experienced to novice, should be accommodated for all types of trips, whether for commuting or touring. By law, bicycles are considered a vehicle and have the same rights to the streets as motorized vehicles. Bicycle facilities may be added to certain roadways to add comfort and safety for cyclists, to encourage bicycling by those less inclined to ride with traffic, and where traffic volumes or street geometrics create hazardous conditions.

Existing and funded bike facilities in Fayette County are shown in figure 16. Existing and funded bike facilities in Jessamine County are shown in figure 17.

Bicycle Level of Service

Since there are very few existing bike facilities in Fayette and Jessamine Counties, most bicycling takes place on roadways without designated facilities. A Bicycle Level of Service (BLOS) study was conducted in 2004 on all major streets in Fayette County to determine which ones are currently considered suitable for bicycle riding and which streets are most in need of improvement. The BLOS was determined for arterials and collector streets; local streets are considered to be suitable for bicycling due to low traffic speeds and volumes. The BLOS ratings were used in developing the bicycle facility needs presented in Chapter 5 of this plan.

Table 5. BLOS Ratings

BLOS A	Best Conditions	Excellent
BLOS B		Good
BLOS C		Adequate - Need Some Improvement
BLOS D		Difficult or Hazardous to Cycle, Require Significant Improvement
BLOS E		
BLOS F	Worst Conditions	

Bicycle Level of Service is described according to a letter rating system ranging from BLOS 'A' (best conditions) to BLOS 'F' (worst conditions). Table 5 at left depicts this system graphically. The BLOS of a roadway is primarily dependent on traffic volume, motor vehicle speed, width of the outer-most travel lane, the presence or absence of bike facilities, the presence of on-street parking and pavement condition. Segments with an excellent or good BLOS are rated A or B and are considered bikeable for A and B riders. Segments with a BLOS C are considered adequate for bicycling, but may need some minor improvement. Segments with a poor BLOS (BLOS D, E, F) may be difficult or hazardous to cycle, and will require significant improvements to improve their condition. Tables 6 and 7 depict (respectively) the BLOS ratings for arterial and collectors roads in Fayette and Jessamine Counties.

Figure 13 displays the BLOS for the urban service area of Fayette County; figure 14 depicts the BLOS for downtown Lexington. Figure 15 depicts the BLOS for Jessamine County. Many roads in the downtown areas and along most major arterials have poor BLOS ratings (below a BLOS D).

Table 6. BLOS for Fayette County

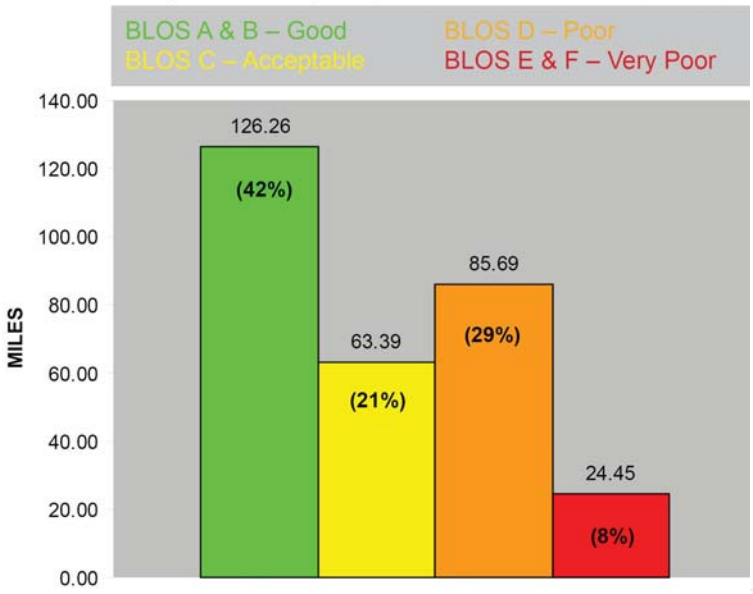


Table 7. BLOS for Jessamine County

Figure 13. Bicycle Level of Service In Fayette County

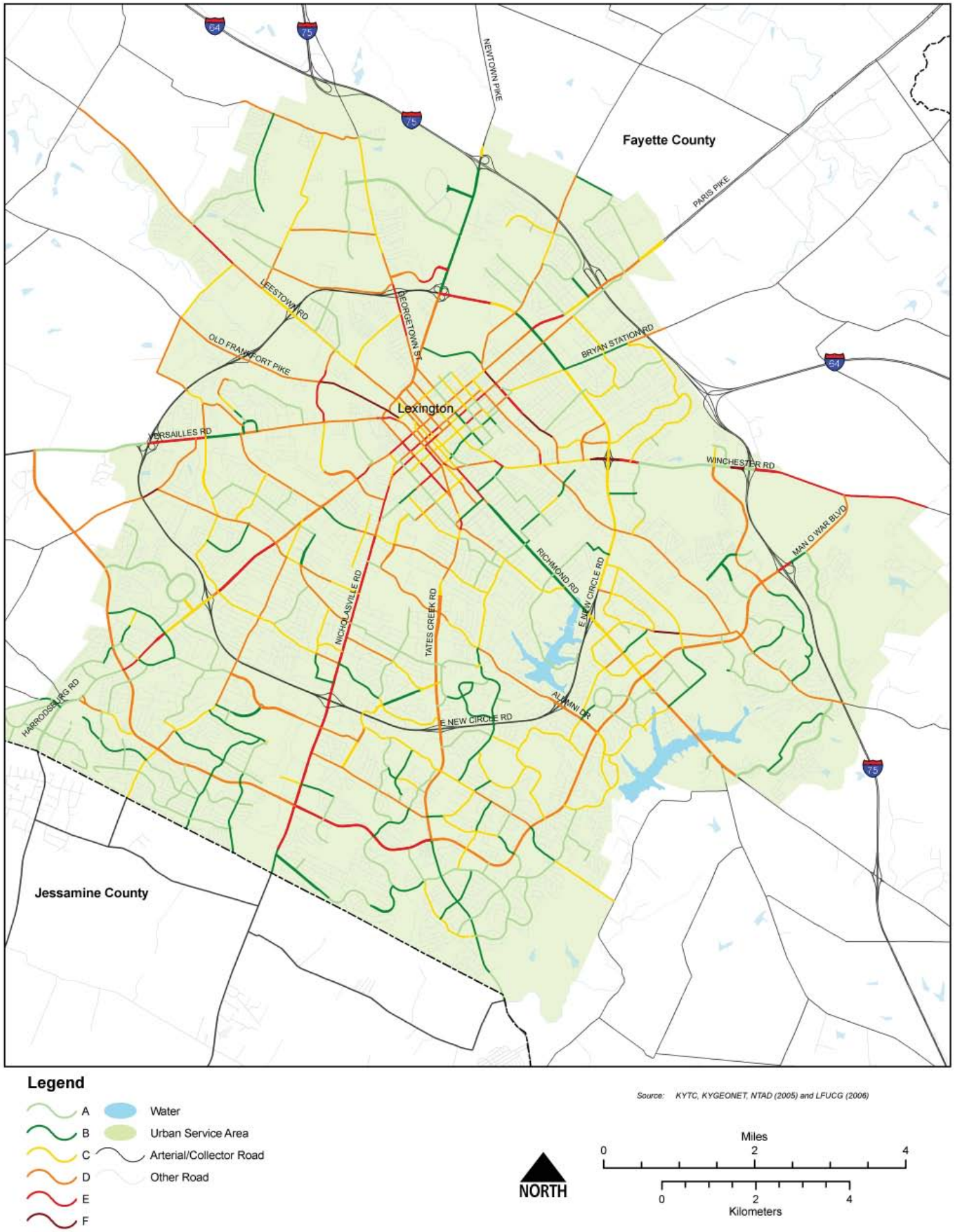


Figure 14. Bicycle Level of Service in Downtown Lexington

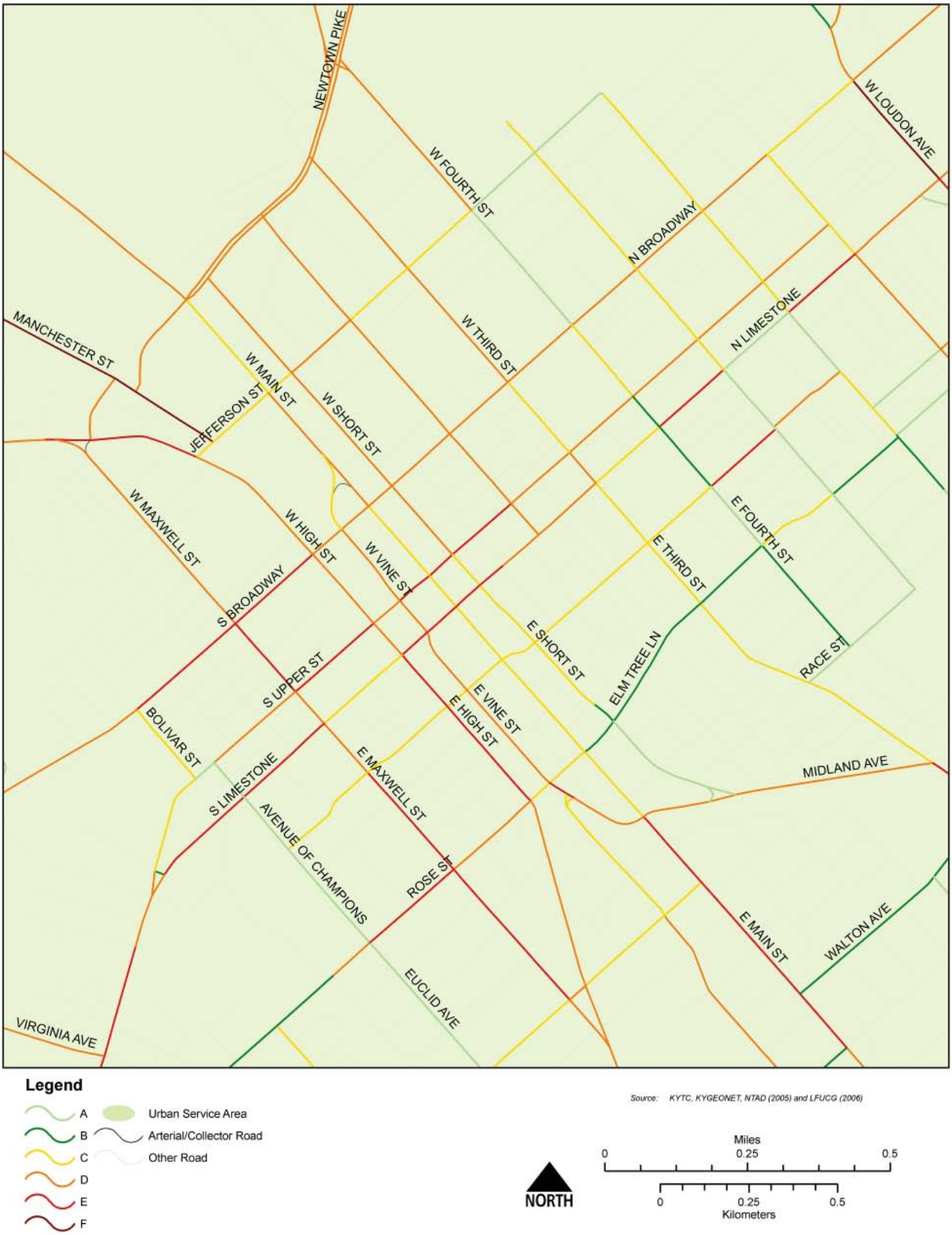


Figure 15. Bicycle Level of Service in Jessamine County

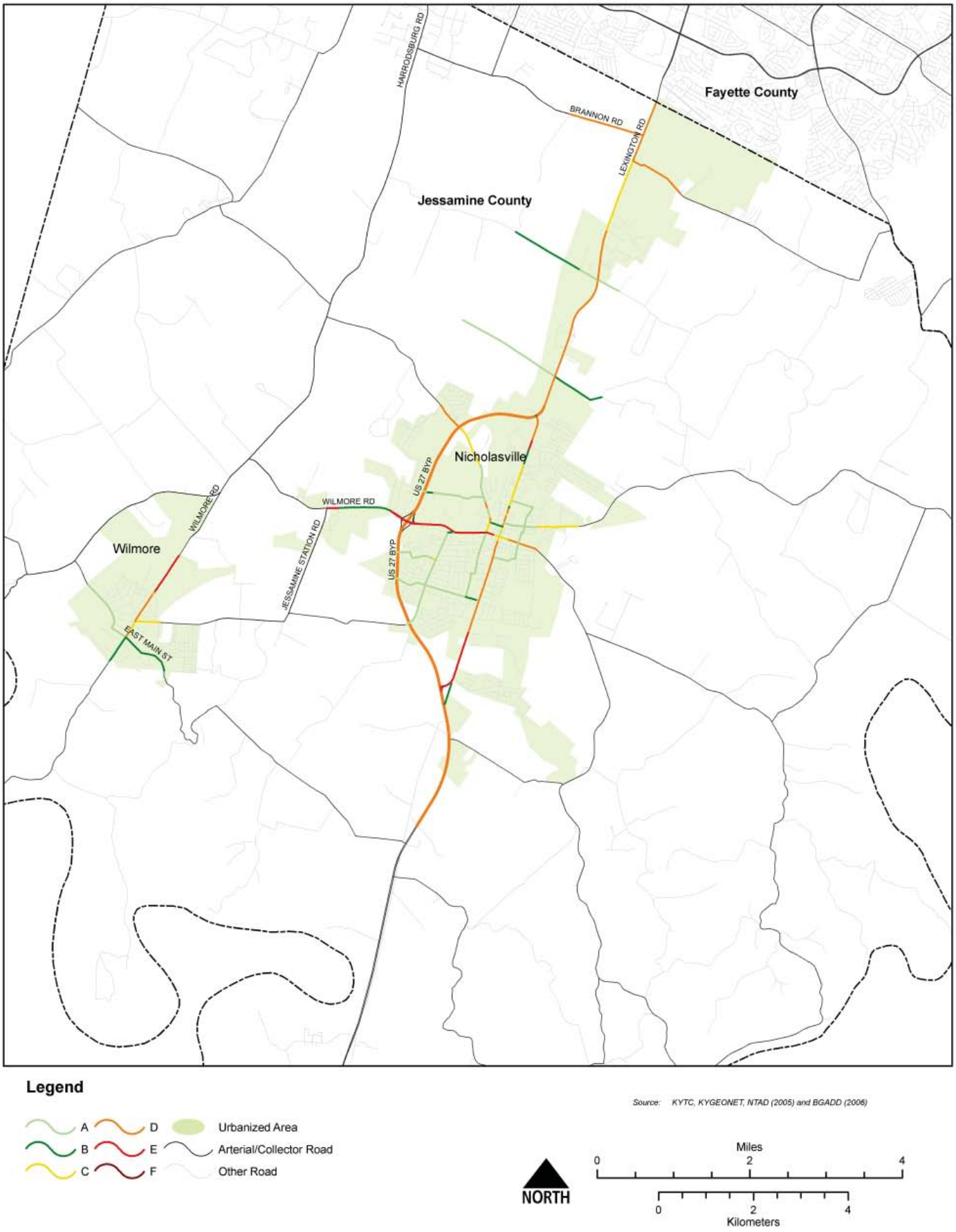


Figure 16. Existing and Funded Bicycle Facilities in Fayette County

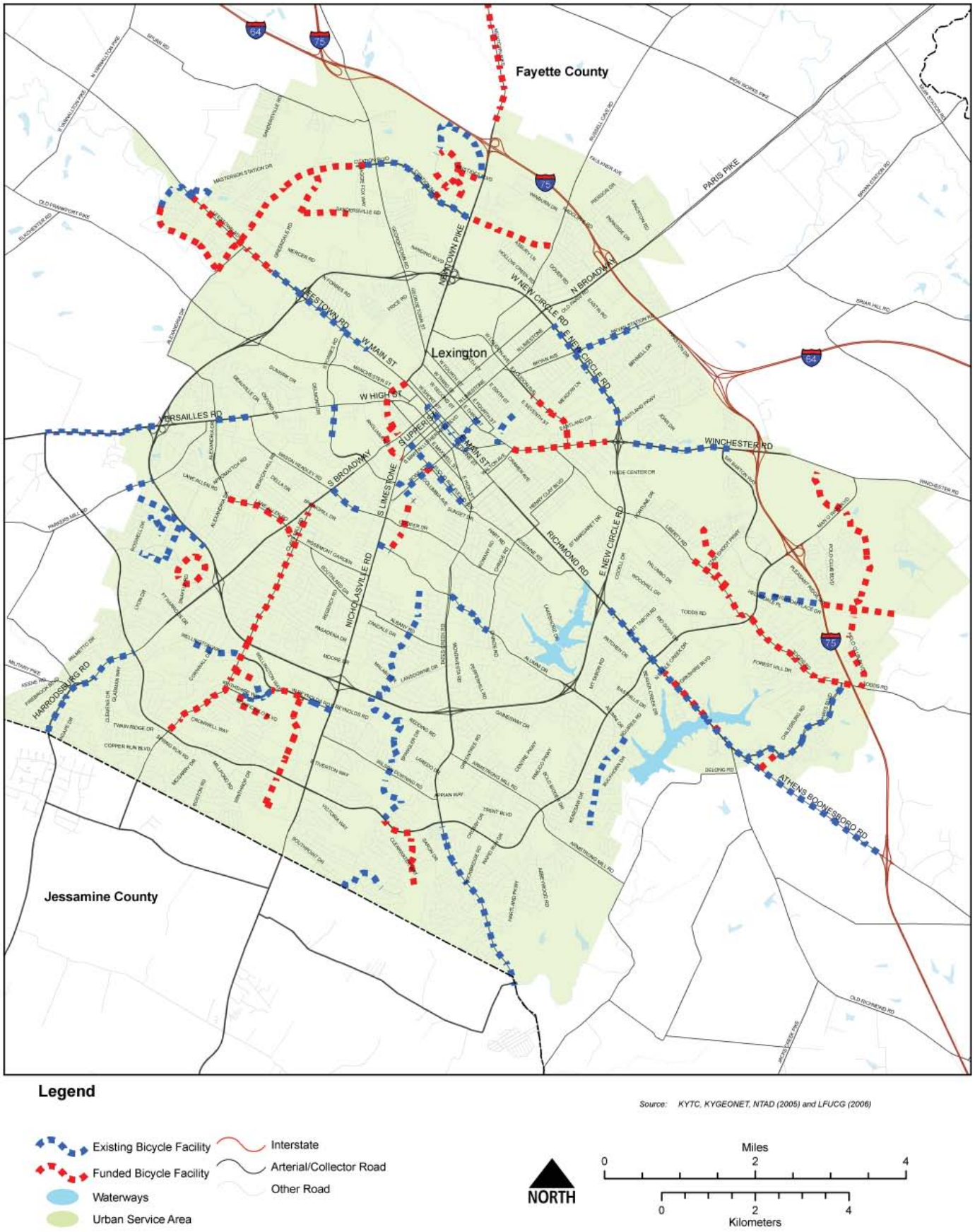
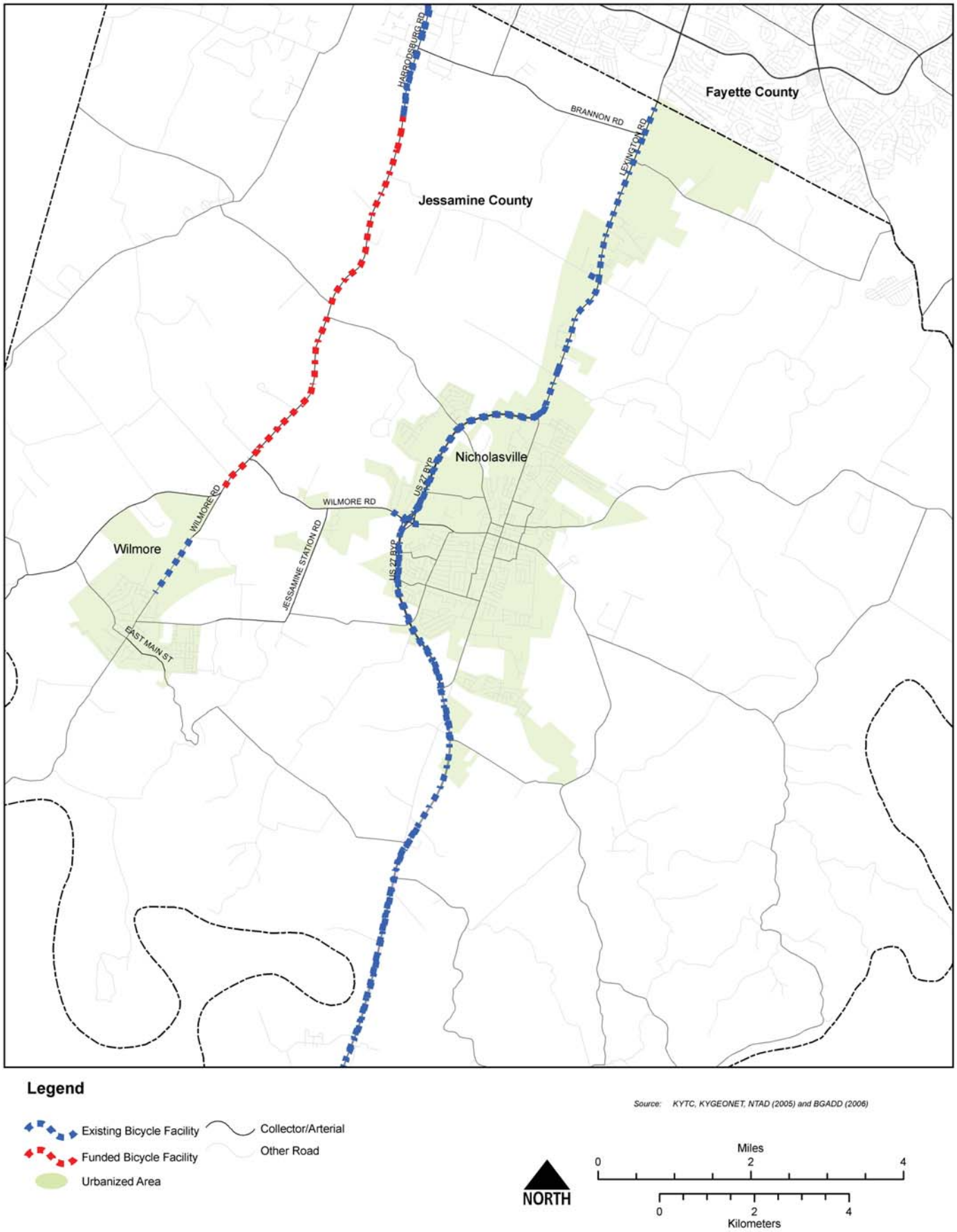


Figure 17. Existing and Funded Bicycle Facilities in Jessamine County



4.4 Transit

Every transit trip begins and ends with a walking trip. Good pedestrian access is essential to a good transit system. Lextran, the transit agency in Fayette County, has 14 fixed transit routes throughout the city. Many of those routes lack sidewalks. Many transit routes (even those with sidewalks) are not accessible to people with disabilities. Most transit routes also lack shelters and benches at bus stops.

People are typically willing to walk ¼ to ½ mile (or five to ten minutes) to and from bus stops. A ten minute bicycle ride can extend the transit service area considerably. Integrating bicycling and transit increases the number of destinations that can be reached from a transit stop. All Lextran buses can accommodate two bicycles on racks attached to the front of the buses.

Jessamine County does not currently have fixed-route transit; however there is interest in creating a transit route from Nicholasville to Lexington via US 27.

Transit buses in Fayette County are equipped with a rack to hold two bicycles

Bus stop on Harrodsburg Road

4.5 Document Review

A review of planning documents that are applicable to bicycle and pedestrian planning and implementation in the MPO region are listed below.

Lexington Area MPO 2030 Long Range Transportation Plan

The Long Range Transportation Plan is required by federal regulations and is updated every three to five years. The purpose of the document is to provide a multimodal transportation plan that addresses the future needs of the MPO area. The Long Range Transportation Plan states that bicycle and pedestrian facilities should be incorporated into all new roadway construction, reconstruction and resurfacing projects. The development of a bicycle and pedestrian plan was also recommended to ensure bicycle and pedestrian needs are identified and supported on a long-term basis.

LFUCG Greenway Master Plan

This 2002 plan identifies the importance and need for greenways and recommends a county-wide network of on-road bicycle/pedestrian facilities and off-road greenway trails. There are 20 primary trails and associated secondary trails and rural road bike routes that all interconnect into a comprehensive network. Tertiary trails are not mapped, but they are described as neighborhood trails that connect neighborhoods together and to the primary and secondary routes. The Greenway Plan is an element of the Fayette County Comprehensive Plan. Greenway land is required to be dedicated to LFUCG within the Expansion Area; however, trails are not required to be built by the developer. All primary and secondary trails identified in the Greenway Master Plan are incorporated into this plan.

Comprehensive Plans

Comprehensive Plans direct a community's land use decisions and include a transportation element. By Kentucky statutes, comprehensive plans must be updated every five years. There are three comprehensive land use plans in the study area:

Jessamine County / City of Wilmore Comprehensive Plan

This 2004 plan addresses the future growth of Jessamine County and the City of Wilmore. An objective of the transportation element of the plan was the promotion of "adequate and safe pedestrian

ways and bike routes." A conceptual Greenway / Trail Plan for Jessamine County was also included in the plan. The conceptual plan is incorporated into this plan.

Nicholasville Comprehensive Plan

This 2002 plan states the desire for enhancements to the community that include:

- interconnections such as bikeways;
- to "locate neighborhood commercial areas to allow for maximum accessibility by pedestrians and bicyclists";
- to "develop a plan for a bike path and bikeway system throughout the city, in coordination with master plans for recreation, schools, and roads"; and
- to "minimize pedestrian and automotive conflict via well designed pedestrian and bicycle facilities".

Lexington-Fayette County Comprehensive Plan Update (2006/2007)

The LFUCG Comprehensive Plan Update sets the following bicycle and pedestrian goals:

- Provide a balanced and coordinated multimodal transportation system;
- Encourage the use of all viable modes of transportation;
- Enhance existing downtown open spaces and improve pedestrian connections;
- Promote human-scale, bicycle and pedestrian-friendly neighborhoods;
- Develop residential blocks or patterns that provide a well-organized and compete system of vehicular, pedestrian and bicycle-friendly facilities and have human scale architectural or urban design features and community focus or common area;

The transportation element of the comprehensive plan also includes a discussion of key land use issues and policies that should be addressed to create a bicycle and pedestrian-friendly community. The plan refers to and encourages the implementation of the Long Range Transportation Plan and the related Bicycle and Pedestrian Plan once adopted by the MPO.

University of Kentucky Campus Bicycle Plan

The Campus Bicycle Plan was developed in June 2005. The purpose of the plan is to "increase the safety and mobility of students and employees who bicycle, and to encourage more bicycle travel." A major goal of the plan is to decrease auto trips and to increase the percentage of bicycle trips to campus from the current estimate of 1 percent (+/-) to 7 percent of trips. Key recommendations include an on-road and off-road campus bike network, additional bicycle parking, bike safety education and the provision of incentives to encourage bicycling to campus. The project, policy and program recommendations in this plan have been reviewed to ensure compatibility with the Campus Bicycle Plan to allow for a seamless bicycle and pedestrian network between the University and the rest of Fayette and Jessamine Counties.

Federal and State Documents

In 2002, the Kentucky Transportation Cabinet adopted a policy requiring the agency to "consider the incorporation of bicycle and pedestrian facilities on all new or reconstructed state-maintained roadways in existing and planned urban and suburban areas." The policy requires state transportation projects to comply with local bicycle and pedestrian plans to the greatest extent possible.

The U.S. Department of Transportation and the Federal Highway Administration have also adopted a bicycle and pedestrian accommodation policy and have issued guidance on the design of streets and highways to accommodate bicycles and pedestrians (see: http://www.fhwa.dot.gov/environment/bikeped/design.htm). This policy is summarized in the following statement:

"Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction and transportation facilities, except where bicycle and pedestrian use are not permitted." (23 U.S.C. 217(g)(1)

Taken together, these state and federal policies speak to a clear conclusion: if the desired outcome is that most people in the region can bicycle and/or walk on a regular, routine basis, then the plans, policies and programs that set the direction for the region must be adapted to ensure that all actions serve to provide and enhance opportunities to bicycle and walk.

Chapter 5A

Policy Recommendations

Chapter 5.
Recommendations to Accommodate Biking and Walking

The need and public desire for improved bicycle and pedestrian accommodations were documented in Chapters 3 and 4. This chapter focuses on recommendations ranging from facility construction to local and regional support of bicycle and pedestrian programs, policies and regulations. The following recommendations have been developed based on public input, goals and objectives and the inventory and analysis of existing conditions.

5.A Policies, Programs and Regulations for Bicycle and Pedestrian Travel

The following actions are considered necessary to make our region more bicycle and pedestrian-friendly and to achieve the goals and objectives outlined in Chapter 2.

5.A.1 Balanced Transportation System

In recent years, the term "complete streets" has come to define how a well-balanced transportation system is created. Completing the streets means constructing and retrofitting our transportation corridors so that travel by bike, on foot and using public transit is just as desirable and convenient as driving a vehicle. Complete streets result in public right-of-ways that serve all citizens in a community whether they are young, old, able-bodied or not.

Greenway trails that are well-integrated with on-street bike and pedestrian facilities also contribute to a balanced, convenient and desirable non-motorized transportation system. Trail facilities provide connections not offered by the roadway system and can reduce trip length. Trail facilities connect key destinations and also offer bicycling and walking opportunities in natural and scenic environments.

The following actions are considered necessary to achieve a balanced transportation system:

General

- Adopt a "complete streets" policy and develop design standards to ensure all urban streets are built to appropriately accommodate pedestrians and bicyclists (and transit users if applicable).
- Develop a decision-making model for road improvement projects that considers a constant or reduced level of service for motor vehicles to improve the level of service for bicycling, walking and transit.
- Revise street design standards to incorporate bicycle and pedestrian-friendly design elements (such as street trees, buffer strips, pedestrian-scale lighting, etc.)
- Revise subdivision regulations to ensure appropriate bicycle and pedestrian facilities are constructed on roadways in and adjacent to new developments, including state maintained roadways.
- Include appropriate bicycle and pedestrian accommodation in all municipal, county and state roadway construction and reconstruction projects.
- Develop a strategic plan to bring all urban streets and intersections into compliance with the Americans with Disabilities Act (ADA).
- Ensure bicycle and pedestrian facilities and improvement projects are geographically distributed equitably across neighborhoods and regional communities.

On-road Bike Facilities

- Accommodate bicyclists on all urban arterial and major collector streets. Bike lanes should be used to the greatest degree possible; however, other bike facilities may be appropriate due to street geometrics, safety, traffic volumes, etc.
- Provide bicycle facilities on minor collector streets if traffic volumes, safety, connectivity or expected users warrant such a facility.

- Provide paved shoulders on all rural primary roads. Shared use paths may be constructed in addition to shoulders to accommodate cyclists who prefer not to ride on the roadway.
- Install signage on select rural secondary roads based upon bicycle use, safety, destinations and connectivity to adjacent counties.
- Identify and map bike routes that use low-volume streets to promote bicycling to less-skilled bicyclists. Complete small improvements that will enhance safety or connectivity along these routes where necessary.

Sidewalks

- Provide sidewalks of an appropriate width on both sides of all urban streets, except for limited access highways, lanes or alleys.
- Provide a minimum sidewalk width of five feet in residential areas and six feet in commercial areas (or widths compatible with existing sidewalks in infill and redevelopment areas).
- Provide a minimum sidewalk clearance width of 8 feet in downtown areas, increasing the width accordingly for street furniture, street trees, sidewalk cafés or other obstacles.
- Build, retrofit and maintain all sidewalks to ADA standards.
- Establish design standards, city ordinances and enforcement responsibility to ensure sidewalks are unobstructed by signage, utilities, street furniture and other obstacles.
- Establish and fund a sidewalk retrofit program for Fayette and Jessamine Counties.

Off-road Trails

- Fund and build shared use trails according to adopted greenway / trail plans.
- Develop and adopt a greenway / trail plan in Jessamine County.
- Develop a regional trail plan in partnership with surrounding counties.
- Develop walking paths in neighborhoods, parks and other public spaces.
- Develop hiking and mountain biking trails in the region.
- Ensure all trails and walking paths are built to meet ADA guidelines to the greatest degree possible.

Intersections and Crosswalks

- Develop and adopt design standards for accommodating pedestrians and bicyclists at urban intersections.
- Provide for bicycle and pedestrian detection and signal actuation at intersections; ensure adequate clearance times are provided.
- Reduce pedestrian delay at intersections, particularly in high pedestrian activity areas.
- Provide 'countdown' signals and 'advanced walk' timing in pedestrian activity areas.
- Provide pedestrian refuge medians or islands along roadways and at intersections that exceed 70 feet in width.
- Develop a policy and design standards for the installation of mid-block pedestrian crossings.
- Complete an inventory and develop an action plan for bringing urban intersections into ADA compliance.

Transit

- Retrofit transit routes with sidewalks.
- Ensure all bus stops, sidewalks and intersections along transit routes are ADA compliant.
- Provide bus shelters and pedestrian amenities along transit routes.
- Continue providing bike racks on all transit buses.
- Install secure bike parking at the transit center and at appropriate transit stops such as transfer points.

5.A.2 Sustainable Community Development

A person's decision to bike or walk is influenced by many factors. The presence or absence of facilities is one consideration, however, the way in which communities are developed and designed significantly impacts whether people will choose to bike and walk.

Pedestrians and bicyclists are sensitive to their surrounding environment. They dislike long trip distances and desire streets and pedestrian ways that connect them to nearby destinations as directly as possible. Pedestrians also desire streetscapes that provide visual interest, shade trees and adequate separation from traffic.

Sustainable community design principles ensure that transportation options are maximized by providing opportunities for people to get everywhere they need to go on a daily basis by walking, biking or public transit. Sustainable development practices include a mix of land uses, a variety of housing types, and higher densities that make communities more compact and walkable. Neighborhood-oriented retail and commercial centers are provided so that stores and services are located near to where people live. Schools and parks are located and designed so that it is easy for neighborhood children to walk or bike to them.

Such development patterns use land resources more efficiently, can improve air and water quality and reduce energy consumption. Sustainable communities also possess many other characteristics that appeal to bicyclists and pedestrians such as greenspace and natural areas, pedestrian-oriented store fronts, tree-line streets and active civic spaces.

The following actions are based upon sustainable development principles and will result in community development patterns and designs that encourage bicycling and walking:

Development Patterns

- Incorporate a mix of land uses in new developments and infill projects that place retail, schools, parks and professional services in close proximity to where people live to reduce the length of regular, routine trips.
- Create incentives to encourage compact, higher density residential developments as needed to support neighborhood-oriented commercial development and to encourage transit use.
- Create neighborhood-oriented "town-centers" in new developments.
- Investigate opportunities for "town-center" development in Small Area Plans and large infill-redevelopment projects.
- Develop street connectivity standards and requirements for bicycle and pedestrian connections where streets cannot be constructed, at mid-block locations and at dead-end streets and cul de sacs.

School Location and Access

- Encourage the development of school sites that are central to neighborhoods and away from high speed, high volume streets.
- Require the connection of neighborhoods to school sites with multiple access points, sidewalks, trails, bicycle-friendly streets and safe street crossings in new developments.
- Review existing neighborhoods for opportunities to construct sidewalks and trail connections to schools.
- Design school sites that provide safe access and give preference to students arriving by bike or walking; provide bicyclists and pedestrians with adequate separation from vehicular parking and drop-off areas.
- Encourage schools to provide adequate bicycle parking.

Park and Recreation Facilities

- Follow the national recommended standards for neighborhood park locations and size.
- Locate neighborhood parks away from high speed, high volume roadways
- Require the connection of neighborhoods to parks with multiple access points, sidewalks,

trails, bicycle-friendly streets and safe street crossings in new developments.

- Review existing neighborhoods for opportunities to construct sidewalks and trail connections to parks.
- Connect major community and regional parks with the regional bicycle, pedestrian and trail network.
- Construct walking paths, mountain bike and shared use trails in public parks.

Commercial and Residential Design

- Develop pedestrian-oriented design guidelines and incentives for commercial and retail developments such as reduced setbacks, rear parking and window store-fronts.
- Reduce on-site parking requirements for pedestrian and bicycle-friendly commercial developments.
- Require bicycle and pedestrian connections to commercial sites from adjacent neighborhoods in new developments.
- Review existing neighborhoods for opportunities to construct sidewalks and trail connections to commercial areas.
- Require on-site provisions for the safe movement of pedestrians within parking lots, between public buildings, and from public buildings to the street.
- Develop bicycle parking standards for retail, commercial and employment sites.
- Develop pedestrian-oriented design guidelines and incentives for residential developments such as reducted setbacks, garage setbacks, alleys and front porches.

5.A.3 Safety and Security

To successfully increase travel by these modes, bicyclists and pedestrians need a sense of safety and security. Safety can be enhanced through the design and proper maintenance of bicycle and pedestrian facilities. A sense of security is created when the interactions between bicyclists, pedestrians and motor vehicle operators are respectful and tolerant. This can be achieved, in part, through public education and enforcement and can contribute to reduced crashes and fatalities involving bicyclists and pedestrians.

The following actions are considered necessary to achieve improved safety and security for bicyclists and pedestrians.

Design

- Ensure roadway design manuals include standards for safe and accessible pedestrian ways and bicycle facilities.
- Design and construct all shared use trails to meet standards established by the American Association of State Highway Transportation Officials (AASHTO).
- Build and retrofit streets with bicycle-friendly drainage grates, beginning with bike routes and streets with bike lanes.
- Consider the safety and comfort of bicyclists in the placement of rumble strips on roadways. Utilize bicycle-friendly rumble strips where they are necessary for vehicle safety.
- Incorporate pedestrian-friendly design, such as street lighting and windows facing the sidewalk, to increase 'eyes on the street' and enhance pedestrian safety.
- Consider adopting "Crime Prevention through Environmental Design" guidelines, published by the National Crime Prevention Council.

Education

- Conduct educational campaigns to increase public awareness of the rules of the road for bicyclists, pedestrians and motor vehicle drivers.
- Develop and implement a "Share the Road" campaign.
- Include bicycle and pedestrian safety information in driver tests and distribute information with drivers license renewals.

- Develop guidelines and install 'Share the Road' signage at appropriate locations based upon bicycle use, safety and bike route continuity.

Enforcement

- Provide training on bicycle and pedestrian traffic laws to local police departments.
- Issue citations to bicyclists, pedestrians and drivers who disobey traffic laws.
- Ensure motor vehicle operators who disobey the rules of the road and injure pedestrians and bicyclists are charged and prosecuted.
- Strictly enforce speed limits in high pedestrian activity areas, including school zones.
- Improve the quality of police reporting for bicycle and pedestrian crashes.

Maintenance

- Maintain all streets and trails to provide safe passage for bicyclists and pedestrians.
- Increase street sweeping schedules on roadways with bike lanes, paved shoulders and bike routes.
- Establish and fund a trail maintenance program in Fayette County.
- Conduct systematic reviews of sidewalk maintenance needs with the same frequency, or at the same time as roadway condition reviews.
- Conduct a public education campaign to inform property owners of sidewalk maintenance responsibilities.
- Provide adequate funding for the Fayette County Sidewalk Maintenance Assistance Program.
- Establish a Sidewalk Maintenance Assistance Program in Nicholasville, Wilmore and Jessamine County.
- Maintain crosswalk striping as necessary and with the same frequency as roadway striping.
- Install or repair curb ramps during all roadway resurfacing projects as required by the Americans with Disabilities Act.
- Create an easy-to-use system for the public to report sidewalk, bikeway, trail hazards and maintenance needs.
- Establish clear procedures and responsible agencies for the maintenance of pedestrian and bicycle facilities.
- Establish requirements for maintaining safe bicycle and pedestrian access within the public right-of-way during private and public construction projects. Establish permitting and enforcement procedures to ensure requirements are followed.

Traffic Calming

- Design streets to encourage driving speeds that do not exceed posted speed limits.
- Require new developments to have street patterns and geometrics that have been shown to reduce vehicle speeds. Require the installation of traffic calming devices in developments where planned streets are not likely to discourage speeding.
- Establish criteria for the retrofiting of existing neighborhoods with traffic calming devices.
- Work with city departments impacted by traffic calming features to determine acceptable designs and installations.
- Maintain and/or increase funding for the Fayette County Traffic Calming Program as necessary
- Consider establishing a Traffic Calming Program in Jessamine County.

Safe Routes to School (SR2S)

- Initiate and sustain SR2S programs throughout the region to identify and eliminate barriers to walking and bicycling to school.
- Develop a SR2S coalition and develop a strategic plan for region-wide implementation of SR2S programs.
- Develop guidance on the SR2S program and provide technical assistance and support to local school and neighborhood efforts.

5.A.4 Economic Vitality

A bicycle and pedestrian-friendly region can greatly impact our economic vitality. Vibrant downtowns are pedestrian-friendly downtowns, with high activity levels and many businesses and restaurants. Walkable and bike-friendly communities are routinely recognized and marketed as communities with a high quality of life that attract and retain businesses and professionals.

Bicycling and walking facilities can also expand and enhance tourism opportunities. The contribution to tourism that regional bicycle trails, tours and events can make has been well-documented in many communities.

The following actions are considered necessary to expand and enhance the economic vitality of our region through bicycling and walking initiatives:

Downtown Revitalization

- Establish design guidelines and initiate projects to enhance the pedestrian-friendliness of downtown Lexington, Wilmore and Nicholasville.
- Develop walking tours and bicycling tours of downtown areas and other places of interest.
- Develop and implement pedestrian wayfinding signage in downtown areas.

Tourism

- Connect key tourist sites in the region with bicycle and trail facilities to attract residents and tourists.
- Partner with adjacent counties to sign and promote a regional system of on-road rural bicycle routes.
- Coordinate with adjacent counties to develop and promote multi-regional greenway trails.
- Partner with nonprofit organizations and cycling clubs to develop and promote bicycle touring events.

Marketing

- Identify partners and opportunities to promote the bicycle and pedestrian-friendly qualities of the region to prospective businesses and residents.
- Work to achieve national recognition as a "Bicycle-Friendly Community".
- Incorporate bicycle touring opportunities in state, regional and national tourism promotional materials.
- Work with realtors and economic development partners to promote pedestrian and bicycle-friendly facilities and activities.

5.A.5 Quality of Life and Active Living

Walkable and bicycle-friendly communities provide a high quality of life for all citizens by providing opportunities for greater mobility, by encouraging active lifestyles and by improving environmental quality. Many communities are now considering social, environmental and public health impacts during land use and transportation decision-making processes for the following reasons:

- Walkable communities allow children, seniors and people with disabilities to have greater independence and provide opportunities for them to be more socially and physically active.
- Studies have shown higher rates of bicycling and walking, and lower rates of overweight and obesity, in walkable and bicycle-friendly communities
- Environmental impacts to air, land and water are minimized through land use patterns and transportation systems that are less oriented to automobile use and more oriented to bicycling, walking and transit use.

The following actions will contribute to improved quality of life and more active lifestyles:

Impact Assessment and Decision-Making

- Establish environmental and health impact assessment models for land use planning and transportation decision-making.
- Conduct outreach and consider the transportation needs of seniors, children, persons with disabilities, and working people in need in transportation, land use planning and site development.
- Promote and support "aging in place" transportation initiatives.
- Survey residents and/or monitor physical activity levels and public health impacts in relation to bicycling and walking.
- Monitor air-quality and respiratory-related diseases in correlation with automobile and alternative transportation use.

Promotion and Education

- Develop and print maps and educational materials to promote bicycling and walking.
- Partner with public health agencies to promote walking and bicycling for health, transportation and recreation.
- Partner with environmental professionals and non-profit organizations to promote sustainable land use and transportation decision-making.
- Encourage employers to promote and support "active commuting" by providing employees with incentives such as reduced health care costs, parking discounts, showers, lockers and secure bicycle parking.
- Encourage employers to support "Live Where You Work" programs that give incentives to employees to live within close proximity to their jobs.
- Partner with public health agencies, non-profit organizations, bicycle clubs and advocates to conduct community events that promote bicycling and walking.

Chapter 5B

Project Recommendations

5.B Physical Improvements for Bicycle and Pedestrian Travel

The following physical improvements are considered necessary to make our region more bicycle and pedestrian-friendly and achieve the goals and objectives outlined in Chapter 2.

5.B.1 Complete Streets

Bicyclists and pedestrians should be appropriately accommodated on all public streets. Corridors that lack bike facilities and sidewalks should be retrofitted. Intersections along urban roadways should be bicycle and pedestrian-friendly. Action should also be taken to minimize the "barrier effect" that major roadways create for bicyclists and pedestrians trying to reach destinations across these corridors and to provide mid-block crossings where appropriate.

The type of accommodation for bicycling and walking may be different for each roadway depending on the context (urban, rural, residential, commercial) and classification of the street (local, collector or arterial). Roadway classification defines the level of access and mobility that a facility is intended to provide and dictates roadway design, traffic volume, vehicle speeds and street geometrics.

5.B.2 Local Streets and Minor Collectors

Most local and minor collector streets are residential streets that safely accommodate bicyclists and pedestrians. The sidewalk inventory did reveal that some of these streets have missing sidewalk segments. Although local and minor collector street improvements were not prioritized for the purposes of this plan, local governments should establish programs to retrofit these streets with pedestrian facilities. Priority should be given to roadways that provide access to transit, schools, parks and other key destinations.

Bike lanes should not be installed on local and minor collector streets in residential areas. Bike route signage may be provided along these streets to provide continuity to other bike facilities.

Local and minor collector streets should be designed to encourage traffic speeds and volumes that are compatible with pedestrian activity and to discourage future requests for traffic calming measures. In residential areas, speeds should not exceed 20 to 25 mph and traffic volumes should not exceed 1,500 vehicles per day.

5.B.3 Major Collector and Arterial Streets

Major collector and arterial streets provide a greater degree of mobility and connect the majority of destinations throughout the community and region. Transit routes are typically located along these corridors. Bicyclists and pedestrians desire safe and convenient access along these corridors, just as drivers do. Higher degrees of bicycle and pedestrian accommodation are generally needed for the safety and comfort of bicyclists and pedestrians traveling on these major roadways (such as designated facilities, greater separation from traffic, etc.) Arterials and major collectors are the focus of the improvement plans described in the following sections.

5.B.4 Complete Streets Plans

The Complete Streets Plans for Fayette and Jessamine Counties are depicted in figures 18 and 19. They show the arterials and major collector streets in each county that will need to accommodate bicyclists and pedestrians in order to provide the greatest level of access for these modes throughout the region. A limited number of minor collector and local streets are shown for connectivity purposes. Figures 20 and 21 indicate which of these roadways are currently providing adequate or inadequate bicycle and pedestrian access. Streets are considered 'adequate' if there is a sidewalk present and if the bicycle level of service is equal to an A, B or C. 'Adequate' streets are not included in the Improvement Plan outlined below; however, those streets with a bicycle level of service of B or C should be reviewed for minor improvements that can increase safety and the bike-ability of that roadway (such as bicycle-friendly drainage grates, signage and striping).

5.B.5 Complete Streets Improvement Plans

The Complete Streets Improvement Plans for Fayette and Jessamine Counties are shown in figures 22 and 23. The road segments identified in the Improvement Plans are major roadways rated as 'inadequate' for bicycle and pedestrian travel. These segments generally lack sidewalks and/or have a bicycle level of service of D, E or F.

Figure 18. Complete Streets Plan for Fayette County (Arterials and Major Collectors)

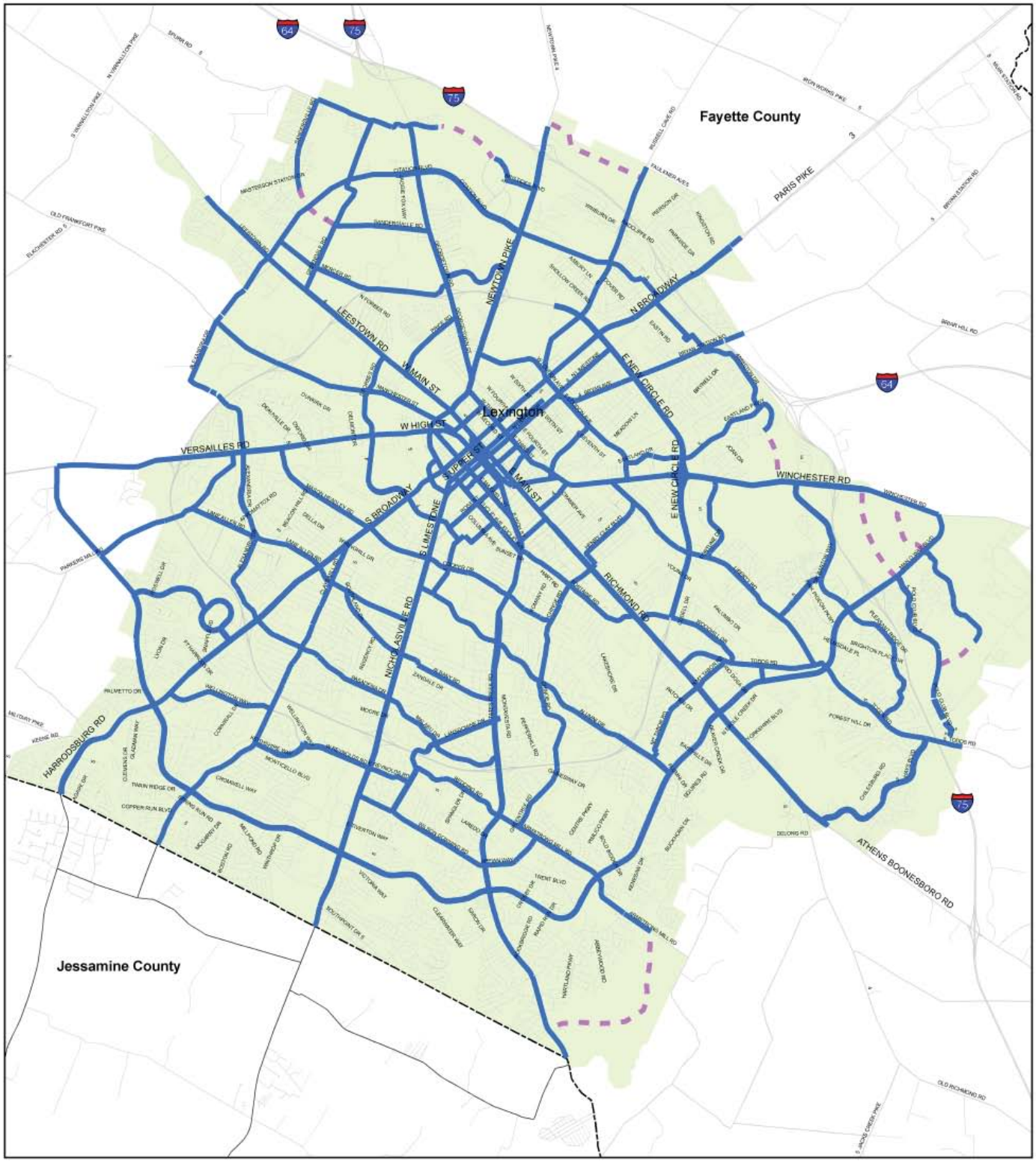


Figure 19. Complete Streets Plan for Jessamine County (Arterials and Major Collectors)

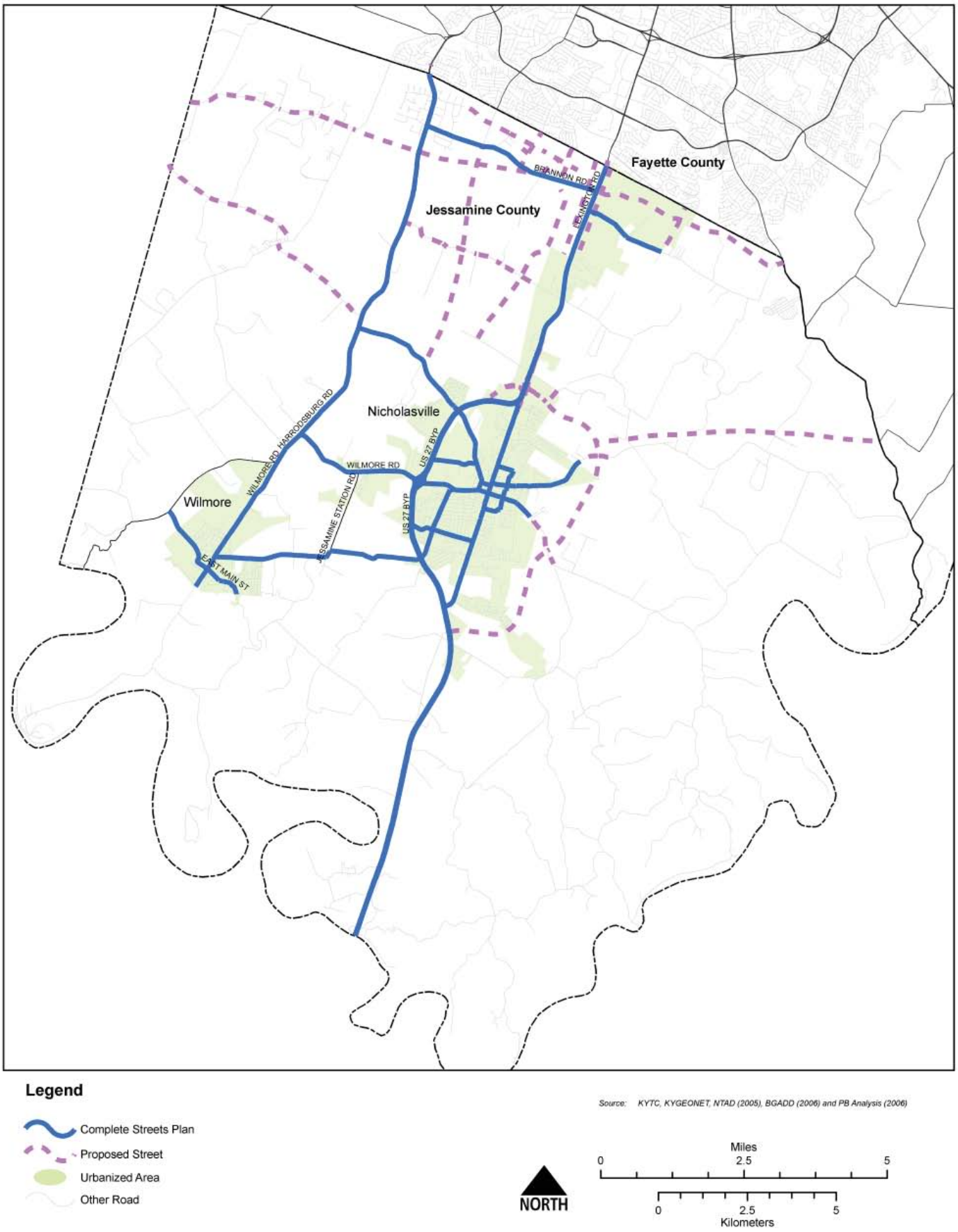


Figure 20. Arterials and Major Collectors in Fayette County with Adequate and Inadequate Accommodation for Pedestrians and Bicyclists

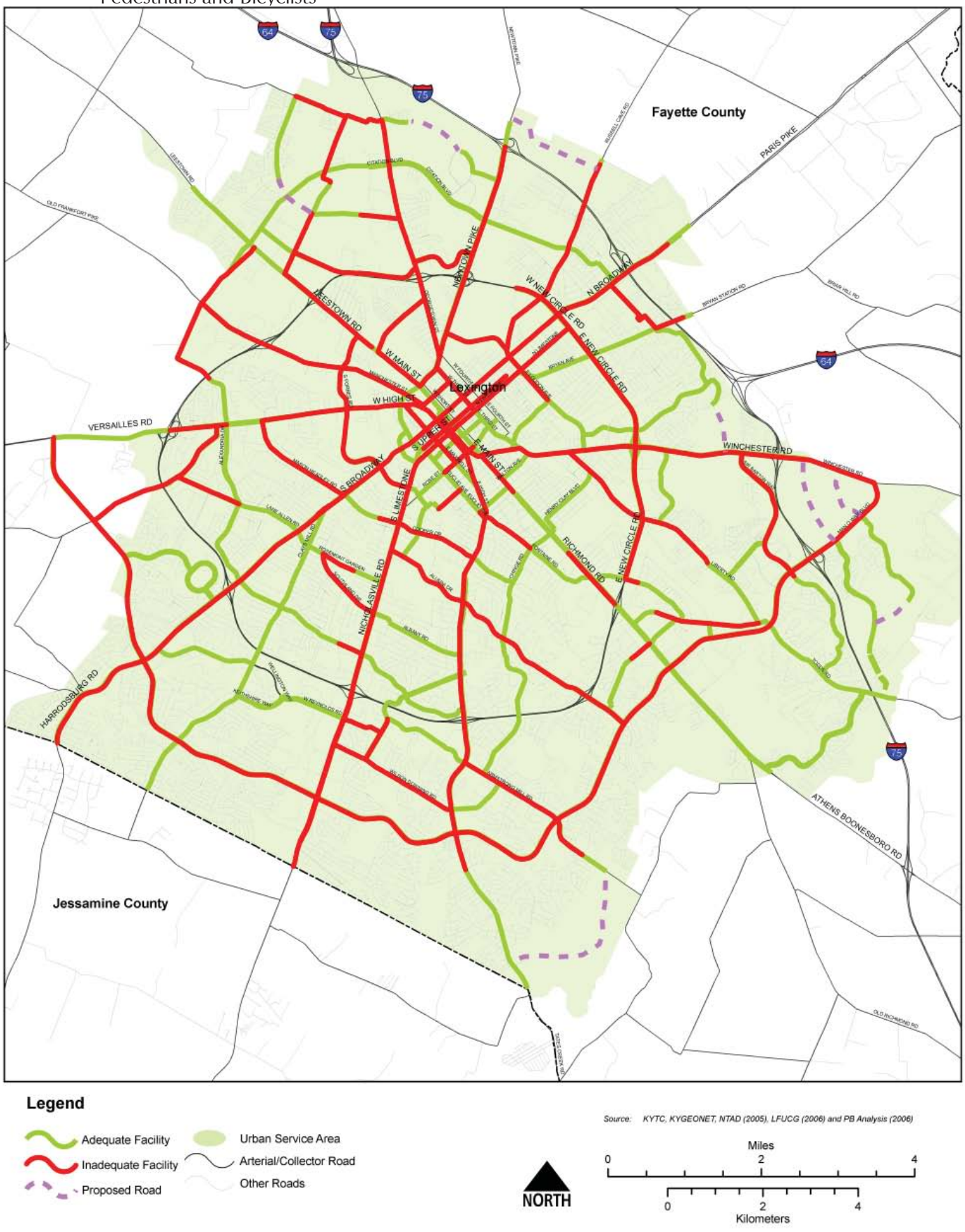


Figure 21. Arterials and Major Collectors in Jessamine County with Adequate and Inadequate Accommodation for Pedestrians and Bicyclists

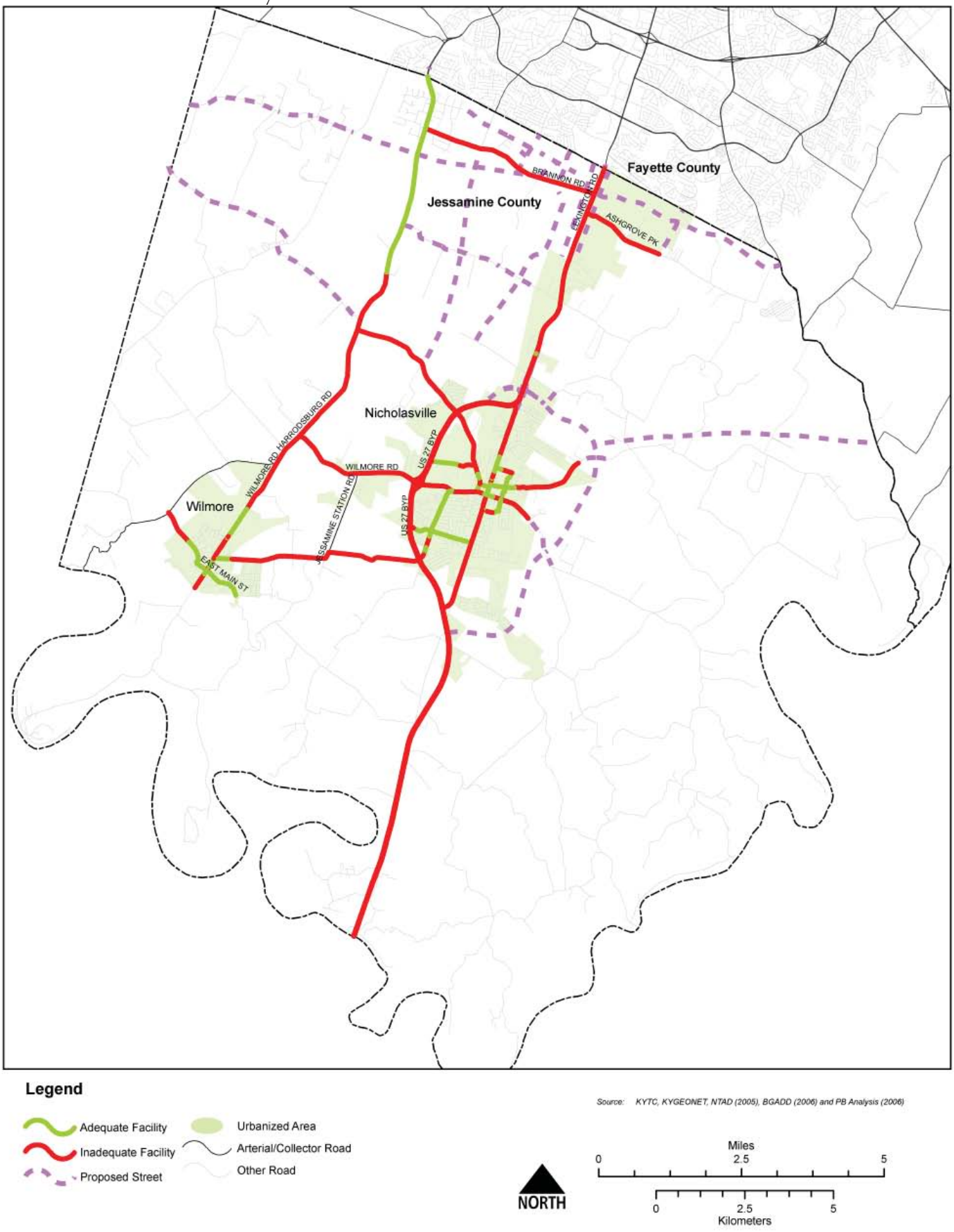


Figure 22. Complete Streets Improvement Plan for Fayette County

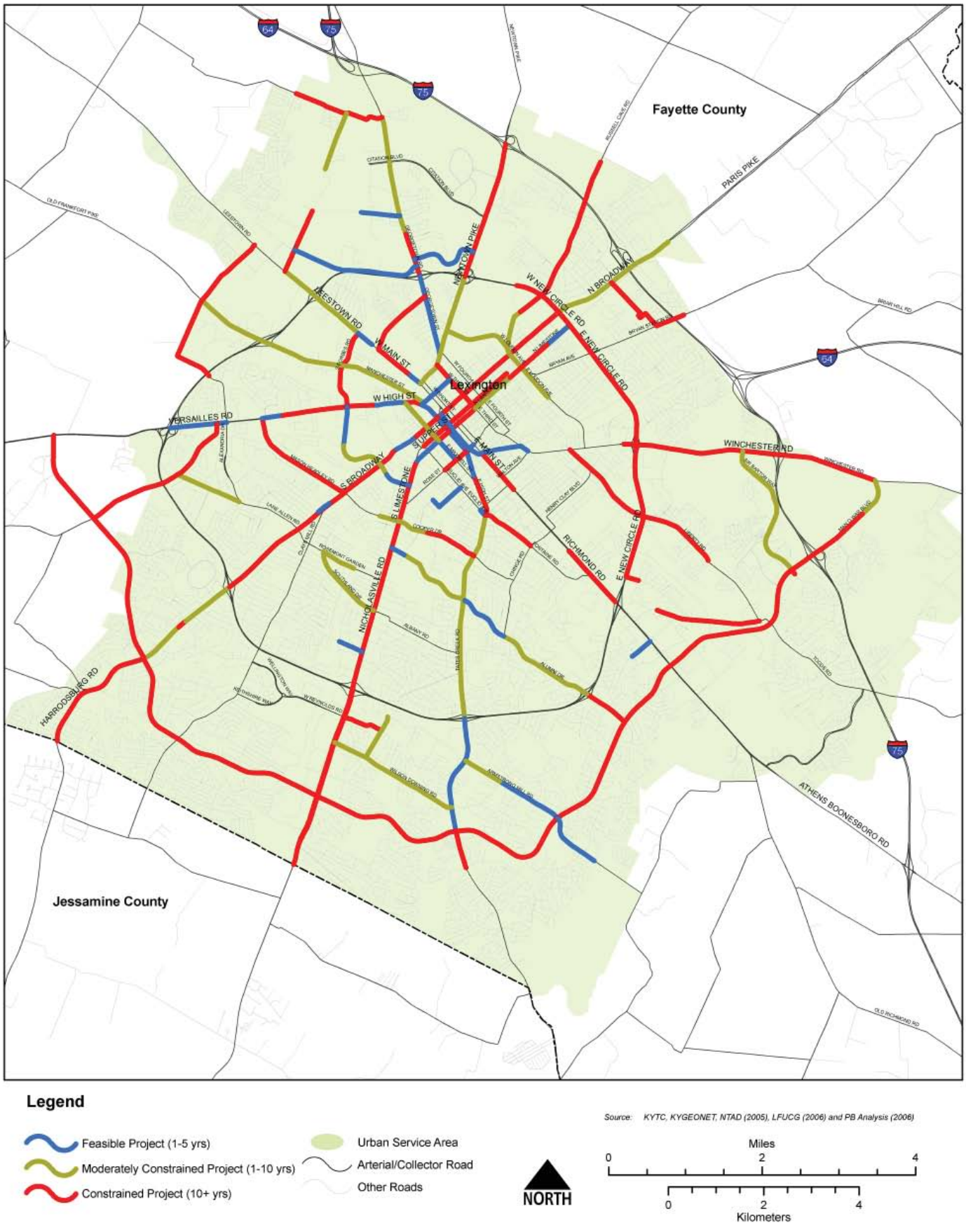
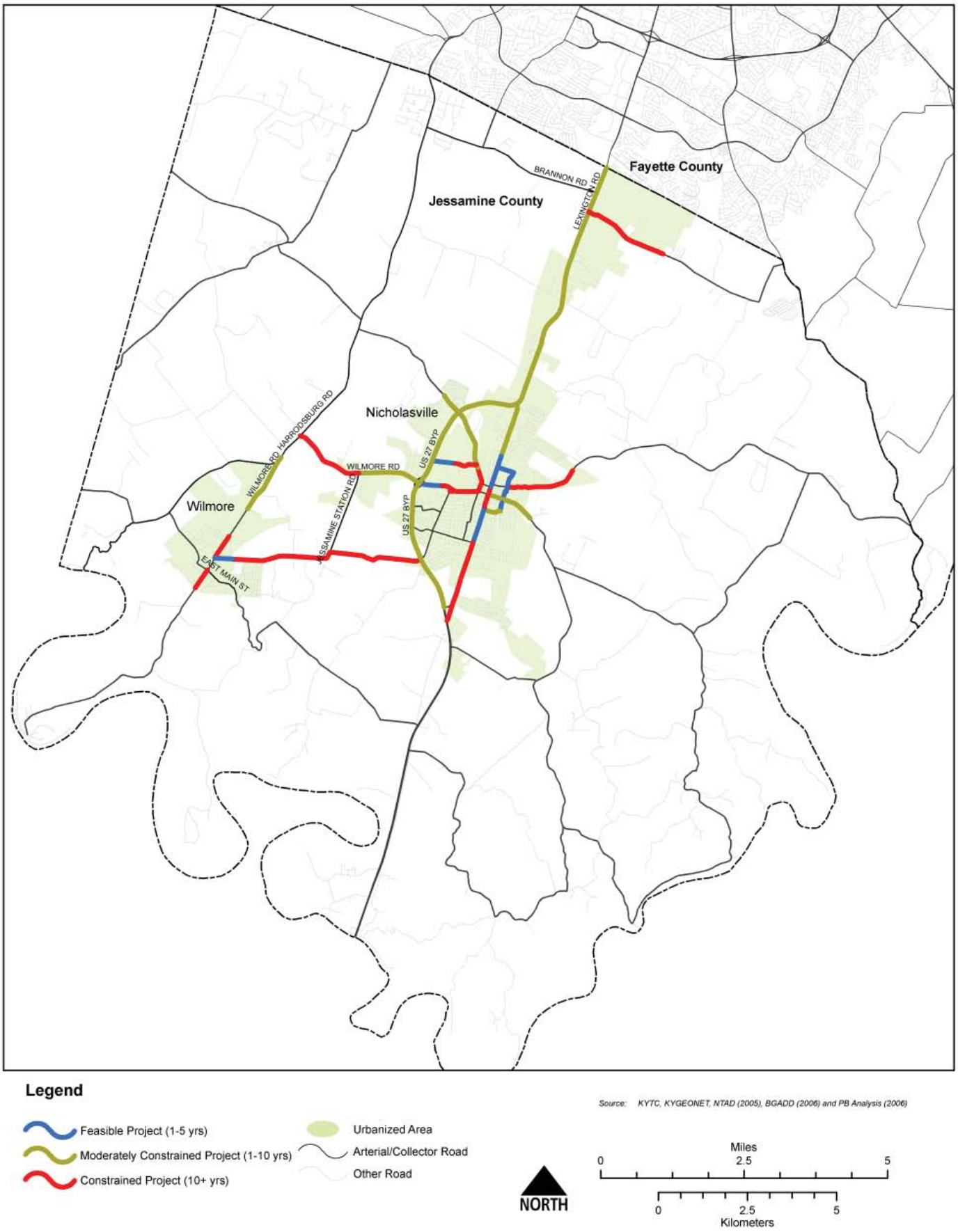


Figure 23. Complete Streets Improvement Plan for Jessamine County



5.B.6 Project Feasibility

Projects shown in the Improvement Plan are classified by feasibility. Feasibility was determined by field review and was based on factors such as existing pavement widths; right-of-way widths; property acquisition needs; the location of utilities, trees or other barriers; drainage and slope; on-street parking demand and other factors. Obvious barriers to project implementation were noted during the field reviews, however, more detailed engineering studies will be required for projects identified in this plan.

'Feasible' projects have few constraints and are recommended for short-term completion (one to five years). 'Moderately constrained' projects are more challanging and are recommended for completion on a mid-term basis (one to ten years). 'Constrained' projects are recommended for completion on a long-term basis (10+ years). A complete list of all feasible, moderately constrained and constrained projects is located at the end of this chapter in tables 8, 9 and 10. Major transportation improvement projects identified in the 2030 Long Range Transportation Plan provide ideal opportunities to implement 'constrained' bicycle and pedestrian projects. The 2030 Transportation Plan roadway improvement projects should be evaluated and prioritized in relation to bicycle and pedestrian needs and priorities.

5.B.7 Project Prioritization

The priority of projects presented in the Complete Streets Improvement Plans for Fayette and Jessamine County (and the Trail Plans on the following pages) were evaluated based upon the criteria listed below.

- **Access & Planned Projects** – Projects were ranked higher if the property is already owned by a government agency. Projects associated with planned capital improvements or transportation projects in the 2030 Long Range Transportation Plan also ranked higher.
- **Safety** – Projects ranked higher if known safety issues exist. This included high traffic volumes, dangerous intersections, poor bicycle level of service, high crash frequency or the absence of sidewalks.
- **Connectivity** – Projects ranked higher if they will extend the length of an existing or funded facility. Higher scores were assigned to projects that will link to (rather than extend) adjacent facilities. Projects also scored higher if they are part of an existing bike/pedestrian plan including the Greenway Master Plan and University of Kentucky Bicycle Plan. Higher scores were assigned to projects that provide connectivity to transit routes.
- **Destinations** – Projects ranked higher if shopping, schools, parks, employment centers, tourist attractions or civic destinations exist along the route. Projects also received higher scores, but to a lesser degree, for destinations nearby (within ¼ to 1 mile).

These criteria and a point value for each are shown on the Project Scoring Sheet found on the following page. A Project Scoring Sheet was completed for each project to assign a numerical value to the projects. Numerical scores were arranged from high to low and grouped into three categories (high, medium and low priority). Generally, projects should be implemented according to priority unless other opportunities for completion come about (such as a roadway resurfacing project, an adjacent private or public improvement, unforeseen funding sources, etc.)

5.B.8 Project Implementation

It is recommended that all 'feasible' projects be implemented within a five-year time frame. The general priority of projects, as shown in the project table, should be followed, except in cases where there are opportunities to combine bike/pedestrian improvements with other capital improvement projects (such as bike lane installation and crosswalk/curb ramp improvements completed in conjunction with resurfacing projects).

Many of the 'moderately constrained' and 'constrained' projects will require additional study to further establish feasibility, design alternatives and project costs. High priority projects in each of these categories represent those that will have the greatest impact on safety and connectivity. Design and cost studies should be conducted in the near-term for the high priority projects that are constrained, but integral to achieving a cohesive network of facilities.

5.B.9 Greenway Trail Plans

Greenway trails provide enjoyable opportunities for bicycling and walking away from traffic and can create important connections between on-road facilities. Greenway trails for Fayette and Jessamine County are shown in figures 24 and 25. These plans were developed from the Fayette County Greenway Master Plan and Jessamine County Concept Greenway/Trail Plan. Proposed trails follow each

Project Scoring Sheet

Facility Name: **From:** **To:**

Segment # **Engineering:** **Type:**

(Feasible, Moderately Feasible, Constrained) (Ped, Bike, Bike/Ped, Trail)

	Yes (#)	Measure				Yes (#)	Name
Access & Planned Projects (1 point)					**Destinations On Route (1 point)**		
Property/easement available (Off-Rd)		Length			Commercial/Professional/Workplace		
Assoc CIP		Date			Downtown		
Assoc 2030 project		Date			Higher Education (1.5 points)		
					Public School		
Safety: Pedestrian (1 point)			**One Side**	**Both sides**	Private School		
Sidewalk absent		Length			Library, Post Office, other Civic		
Intersections difficult to cross		#			Tourist Attraction		
High Vol Traffic		ADT			Park, Recreation		
Documented ped crashes		# crashes			Community or Senior Center		
Other					Trailhead		
Safety: Bicycle (1 point)							
BLOS		D-F			**Destinations in Area (0.5 points)**		
Documented bicycle crashes		# crashes			Commercial/Professional/Workpl .25 mile		
Safety: Trail (0.5 point)					Other transit stops in .25 mi if none on rt		# Stops
Midblock crossings (count all)					Within 1 mi. of higher education		
					Within 1 mi. school		
Connectivity (Routing) (1 point)					Library, P.O.,other civic 0.5 mi.		
Transit stops on route		# Stops			Tourist Attraction .25 mi		
Transit stop w/o sidewalk on route		# Stops			Neighborhood park/recreation .25 mi		
Extends existing/funded facility 1 side					Community park/recreation 1 mi		
Extends existing/funded facility 2 sides					Community or Senior Center 1 mi		
Links to an existing/funded facility					Trailhead 1 mi		
Links to existing/funded multi-county facility							
Is a multi-county facility							
Extends a 2030/CIP proposed facility							
UK Bike Plan (5 points)							
			Type GW	**Greenway Name**			
Extends existing/funded greenway facility							
Is a proposed greenway facility							
Links to a proposed greenway facility							
Links to proposed multi-county facility							

Figure 24. Greenway Trails Plan for Fayette County

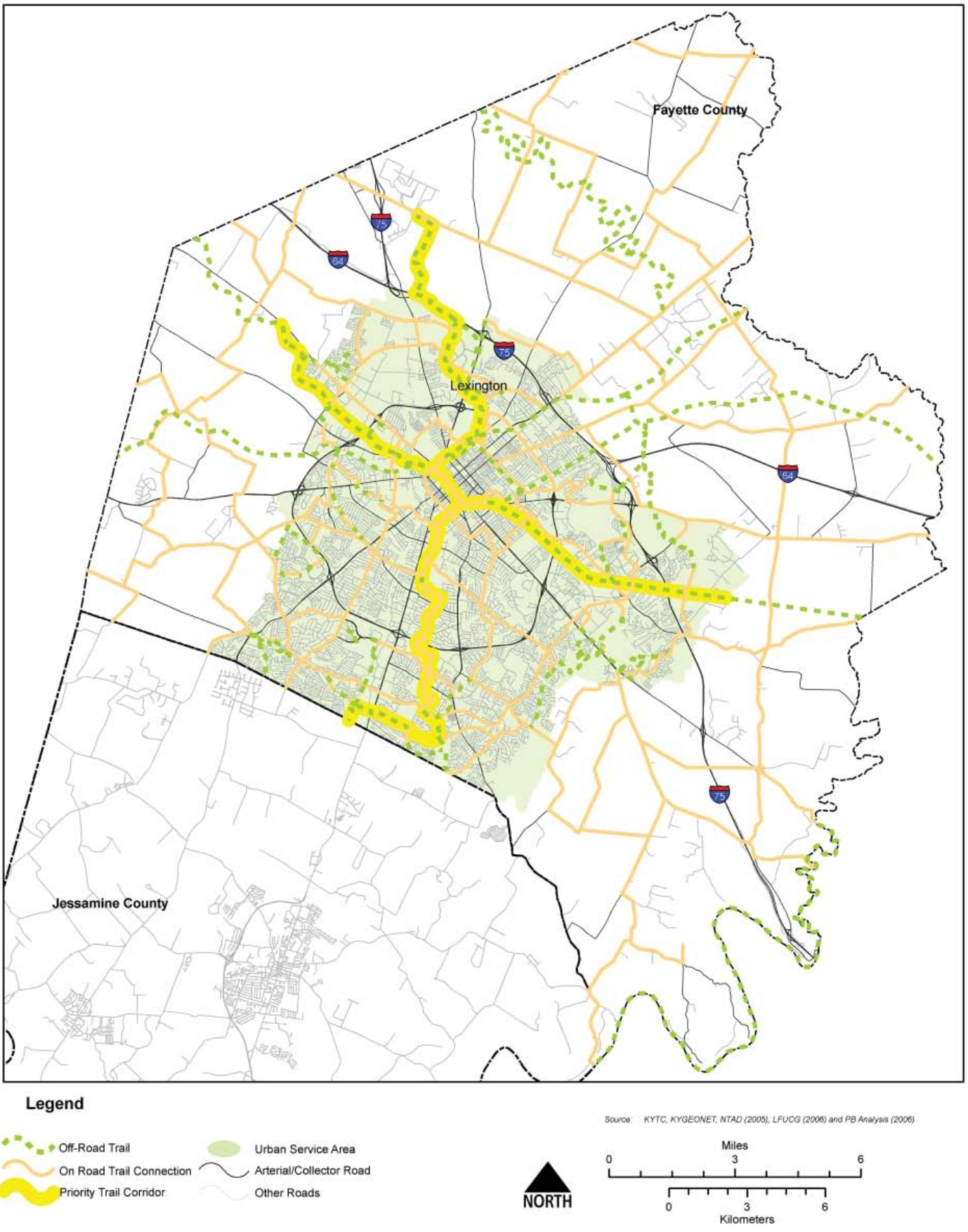


Figure 25. Greenway Trails Plan for Jessamine County

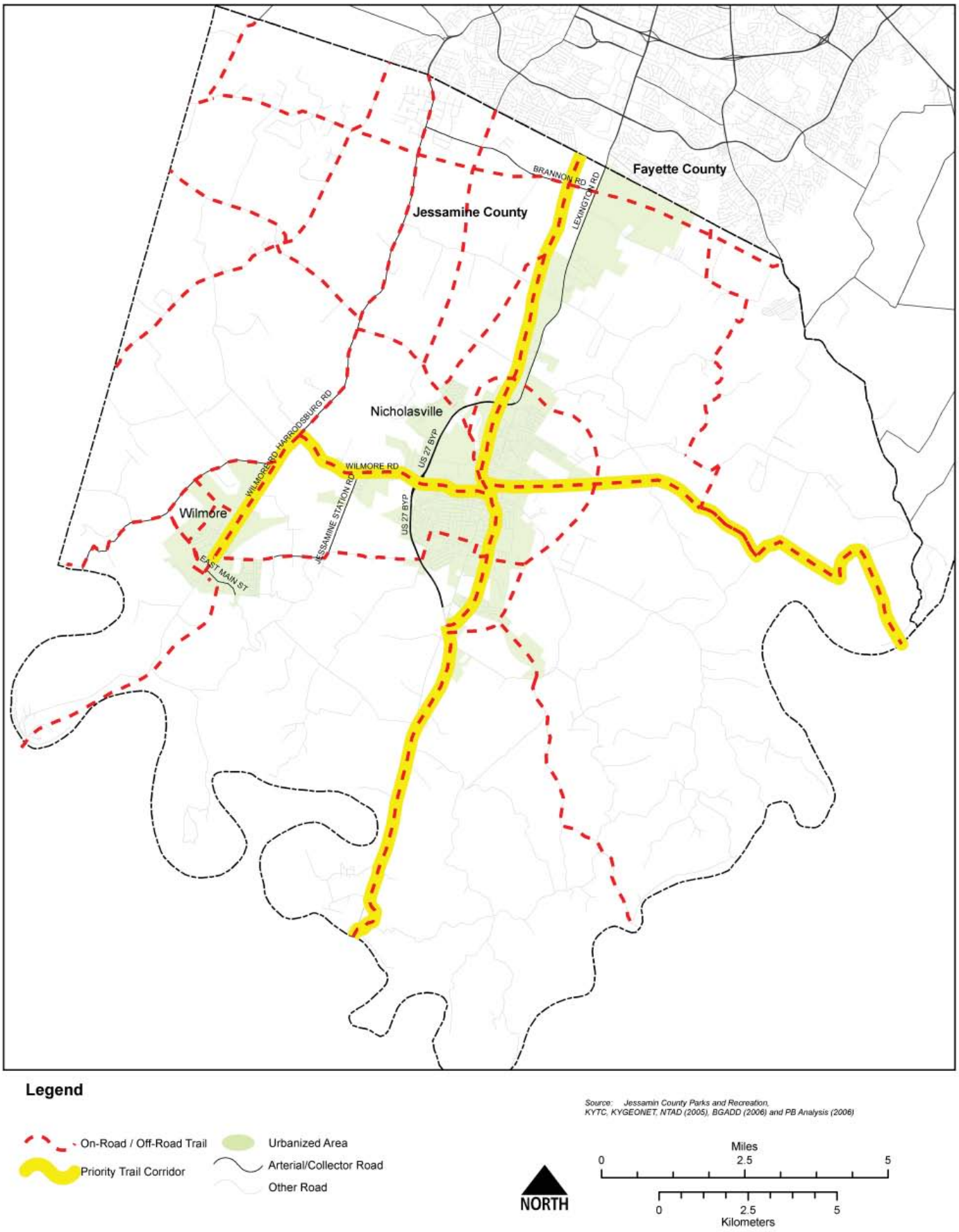
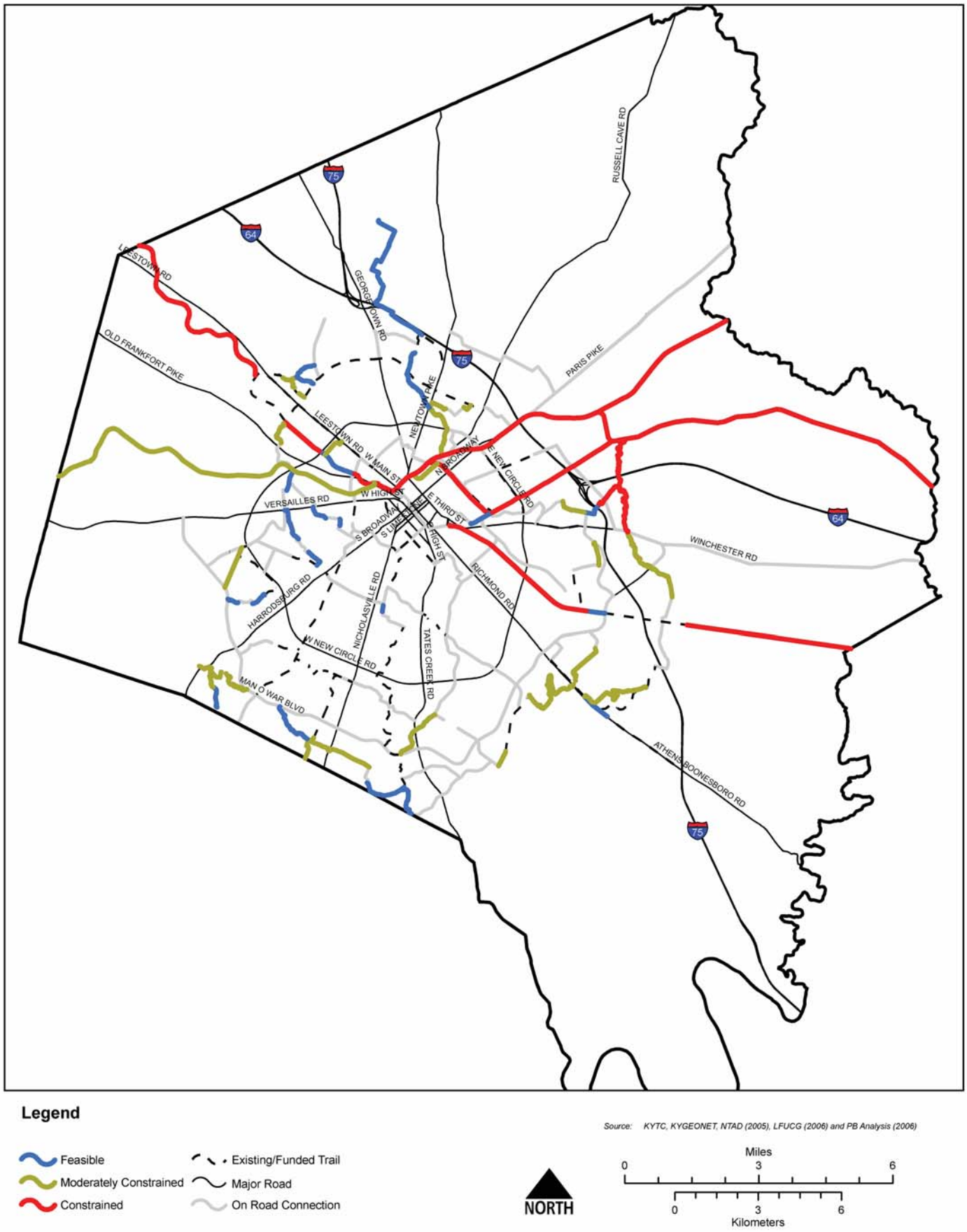


Figure 26. Feasibility of Trail Projects for Fayette County



master or concept plan to the greatest degree possible, except where alternative routes have been recommended for those segments determined during this planning process to be extremely constrained.

5.B.10 Trail Feasibility

The feasibility of trail segments in Fayette County, presented in figure 26, were examined by field review and determined using similar criteria listed for roadway projects. The feasibility of Jessamine County trail segments was not established during this planning process. The Jessamine County network is considered conceptual at this time and will require further development and investigation at the local level to determine feasible trail alignments.

5.B.11 Trail Prioritization

Priority corridors, shown in yellow, were identified during this planning process. Priority corridors were recommended for implementation based upon public input and the cross-county and regional opportunities they present for bicycle and pedestrian travel. The corridors create north-south and east-west connections in Fayette and Jessamine County. The corridors contain trail segments that are both relatively feasible and segments that are considered more constrained.

Fayette County trail segments were prioritized based upon similar criteria as listed above for roadway projects. Trail segment priorities are shown in tables 8, 9 and 10 with roadway projects. A similar prioritization process should be completed for Jessamine County trail projects once specific trail alignments are established.

5.B.12 Trail Implementation

Greenway trail projects typically re-establish abandoned right-of-ways or establish new public right-of-ways along stream or utility corridors. Like roadway projects, most trails require an engineering design phase and right-of-way acquisition. Few projects are prepared to move directly to construction.

Trail projects determined to be 'feasible' and considered ready for final design and construction should be funded and built within a five-year time frame. Project priorities established in tables 8, 9 and 10 should be followed. Studies to determine feasibility, trail alignment, land acquisition needs, design and project costs should be completed on priority trail segments within the 'moderately constrained' and 'constrained' project categories. Performing necessary design work will identify project needs and make them stronger candidates for competitive grant funding often utilized for off-road trail construction.

5.B.13 Tertiary Greenway Trails and Recreational Walking Paths

Walking paths and tertiary (i.e. neighborhood-level) greenway trails also contribute to creating a more walkable and bicycle-friendly community. While this Bicycle and Pedestrian Master Plan primarily addresses commuter and cross-county greenway trails, the benefit of neighborhood trails and recreational walking paths should not be overlooked. These trails contribute to the transportation network by providing neighborhood connectivity to parks, schools, shopping centers and the county-wide bike network. They also create opportunities for people to recreate and engage in physical activity close to where they live. Any opportunities to construct trails in parks, near schools and in newly developing neighborhoods, should be explored by local governments within the MPO region. These projects should be planned, prioritized and funded based on similar criteria outlined for trail projects in this plan.

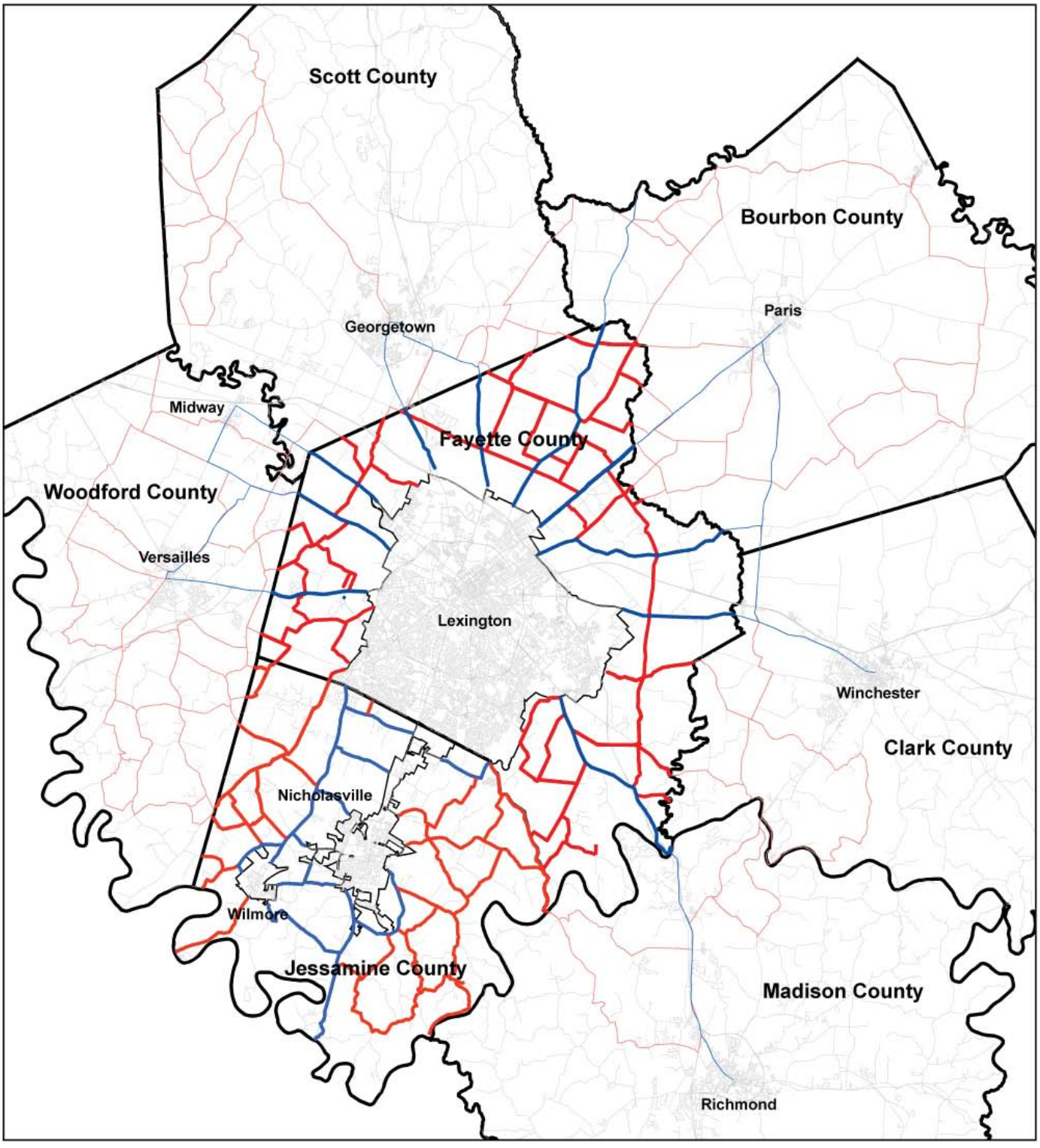
5.B.14 Regional Rural Bike Routes

The Bluegrass Region is lauded as one of the most scenic and beautiful places in the country for bicycling and there are many opportunities to promote and market the region as a destination for bicycle tourism. The scenic terrain, view sheds, rolling hills, horse farms and small towns (such as Wilmore, Midway and Georgetown) are attractive to day-long and weekend bicycle tourists alike.

Currently, most bicycling takes place on low-volume rural roads throughout the region. Bicyclists typically ride 25 to 100 miles during one-day or two-day trips. The routes that are currently utilized by local bicyclists were identified during this planning process. Rural bike routes in Fayette and Jessamine Counties are shown in figure 27.

A regional effort to identify and officially designate a system of rural bike routes and tours (similar to driving tours) should undertaken. Joint marketing efforts should also be developed to promote the region to bicyclists across Kentucky, in adjacent states and at the national level. It is anticipated that designating and promoting these routes would be relatively low-cost and could contribute significantly to local economies through tourism dollars generated by bicyclists staying at local hotels and bed and breakfasts, visiting eateries and shops, and seeking entertainment in local towns and cities.

Figure 27. Regional Rural Bike Routes



Legend

- Commuter Routes - Fayette / Jessamine Counties
- Commuter Routes - Outside of Fayette / Jessamine Counties
- Recreational Routes - Outside of Fayette / Jessamine Counties
- Recreational Routes - Fayette / Jessamine Counties

Source: KYTC, KYGEONET, NTAD (2005), LFUCG (2006), Bluegrass Cycling Club, Pedal The Planet, Public Meetings, and PB Field Review

NORTH

Miles
0 5 10

0 7.5 15
Kilometers

Table 8. Feasible Projects - High Priority and Medium Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
HIGH PRIORITY				
	S Limestone	Scott Street	Maxwell Street	Bike/Ped
	Vine Street	S Broadway	Main Street	Bike
	Rose Street	Vine Street	Main Street	Bike
	Alumni Drive	University Drive	Nicholasville	Ped
	Veterans Trail	University Drive	Bellefonte Drive	Trail
	Tates Creek Road	New Circle Road	Man O War Blvd.	Bike/Ped
	High Street	Woodland Avenue	Jefferson Street	Bike/Ped
	Cane Run Trail	Iron Works PB	Newtown Pike	Trail
	Midland Avenue	Main Street	Third Street	Bike
	Virginia Avenue	Export Street	S Limestone	Bike
	Wolf Run Trail	Lane Allen Road	Cardinal W Primary	Trail
	E Maxwell Street	Limestone	Rose Street	Bike/Ped
	Jefferson Street	W Main Street	Third Street	Bike
	Georgetown Road	Newtown Pike	New Circle Road	Bike/Ped
	Woodland/Hilltop Avenue	University Drive	Euclid Avenue	Bike
	Phoenix Trail	Seventh Street	Midland Avenue	Trail
	Picadome Trail	Lafayette Primary	Cardinal W Primary	Trail
MEDIUM PRIORITY				
	Euclid Avenue	S Ashland Avenue	High Street	Bike
	Jefferson Street	W High Street	W Main Street	Bike
	S Elkhorn Trail	Man O War Blvd.	Lafayette Trail	Trail
	Alumni Drive	Chinoe Road	Tates Creek Road	Ped
	Red Mile Road	Versailles Road	Horseman's Lane	Ped
	Veterans Trail	Veterans Park		Trail
	Big Sandy Trail	Man O War Blvd.	Liberty Road	Trail
	Cane Run Trail	Existing Trail in Park	Newtown Pike	Trail
	Beaumont Trail	Existing	Man O War Blvd.	Trail
	N Limestone	Withers Avenue	New Circle Road	Bike/Ped
	Mercer Road	Georgetown Road	Greendale Road	Bike
	Armstrong Mill Road	Man O War Blvd.	Appian Way	Bike/Ped
	S Broadway	Bolivar Street	Angliana Avenue	Bike
	Lakeside Trail	Lakeside Richmond Road	Chilesburg Road	Trail
	Winchester Road	Third Street	Walton Avenue	Bike
	Leestown Road	Buchanan Street	Newtown Pike	Bike

Table 8. Feasible Projects - Low Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
LOW PRIORITY				
	Versailles Road	Alexandria Drive	New Circle Road	Bike
	Eastland Trail	Executive Drive	I-75	Trail
	Harrodsburg Road	Della Drive	Shaker S RD	Ped
	Town Branch Trail	New Circle Road	Forbes Road	Trail
	Leestown Road	Forbes Road	Thompson Road	Bike
	Mt Tabor Road	Patchen Drive	Richmond Road	Bike/Ped
	Versailles Road	Angliana Avenue	Pine Street	Bike
	Armstong Mill Road	Man O War Blvd.	Kenesaw Drive	Bike
	Cardinal Waverly Trail	Valley Park	Valley Park	Trail
	Nandino Blvd.	Georgetown Road	Newtown Pike	Bike
	S Elkhorn Trail	Brookridge Drive	Veterans Park	Trail
	Masterson Hills Trail	Sandersville Road	Masterson Primary	Trail
	Sandersville Road	Norfolk-Southern RR	Georgetown Road	Bike/Ped
	Versailles Road	Mason Headley Rd	Oxford Circle	Bike
	Dogwood Park Trail	Dogwood Park		Trail
	Pasadena Drive	Nicholasville Road	Regency Road	Bike

Table 9. Moderately Constrained Projects - High Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
HIGH PRIORITY				
	Alumni Drive	Tates Creek Road	University Drive	Bike
	Cooper Drive	Nicholasville Road	PBS Drive	Bike/Ped
	Tates Creek Road	Montclair Drive	New Circle Road	Bike/Ped
	Newtown Pike	Main Street	Loudon Avenue	Bike/Ped
	Virginia Avenue/Red Mile Road	Horsemans Lane	Export Street	Bike/Ped
	Wilson Downing Rd.	Tates Creek Road	Nicholasville Road	Bike/Ped
	E Loudon Avenue	Shropshire Avenue	N Broadway	Bike/Ped
	Tates Creek Road	Fontaine Road	Montclair Drive	Bike
	West Hickman Trail	Veterans Park	Armstrong Mill Road	Trail
	N Limestone	Third Street	Seventh Street	Bike
	Newtown Pike	Loudon Avenue	New Circle Road	Bike/Ped
	Liberty Park Trail	Existing	Sir Barton Way	Trail
	Waller Avenue	S Limestone	Crescent Avenue	Bike
	W Loudon Avenue	N Broadway	Newtown Pike	Bike/Ped
	Manchester/ McConnell Trail	Town Branch Trail	New Circle Road	Trail
	Cardinal Waverly Trail	Cardinal Run Park	Man O War Blvd.	Trail
	Armstrong Mill Road	Appian Way	Tates Creek Road	Bike/Ped
	Leestown Road	Greendale Road	Forbes Road	Ped

Table 9. Moderately Constrained Projects - Medium Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
MEDIUM PRIORITY				
	Mapleleaf Trail	Richmond Road	Man O War Blvd.	Trail
	Sir Barton Way	Winchester Road	Man O War Blvd.	Bike
	Coolivan Park Trail	Castlewood Primary	Constitution Primary	Trail
	W Maxwell Street	Versailles (High St.)	Limestone	Bike/Ped
	Southland Drive	Nicholasville Road	Rosemont Garden	Bike/Ped
	Citation Trail	Alexandria Drive	Manchester Tr.	Trail
	N Broadway	New Circle Road	Kingston Road	Bike/Ped
	Masterson Station Trail	Masterson Station	Citation Blvd.	Trail
	Lane Allen Road	Alexandria Drive	Parkers Mill Road	Bike/Ped
	Manchester Street	Driscoll Street	Forbes Road	Bike/Ped
	Harrodsburg Road	Man O War Blvd.	Cave Hill Lane	Bike/Ped
	Georgetown Road	Oakwood Drive	Spurr Road	Ped
	Harrodsburg Road	Ft. Harrods Drive	New Circle Road	Ped
	Manchester Street	Jefferson Street	Driscoll Street	Bike
	Russell Cave Road	Loudon Avenue	Park Place	Bike/Ped
	Cane Run Trail	Coldstream Park	Constitution Trail	Trail
	Rosemont Garden	Southland Drive	Edison Drive	Bike/Ped
	Squires Trail	Summerhill Drive	Armstrong Mill Road	Trail

Table 9. Moderately Constrained Projects - Low Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
LOW PRIORITY				
	S Elkhorn Road	Man O War Blvd.	Old Harrodsburg Road	Trail
	Easthills	Squires existing	Lakeside Primary	Trail
	Citation Village	Citation Blvd.	Masterson Primary	Trail
	Alumni Dr.	New Circle	Chinoe Road	Bike/Ped
	Lakeside	Jacobson Park	Hays Blvd.	Trail
	Eastland Drive	Executive Dr.	Eastland Parkway	Trail
	Lansdowne Drive	Redding Rd.	E Reynolds Road	Bike
	Green Acres Park	Newtown Pike	Dawson Springs	Trail
	Sharkey Way	Treatment plant	Town Branch Trail	Trail
	Manchester/ McConnell	New Circle Road	County line	Trail
	S Elkhorn Road	Nicholasville Rd.	Brookridge Dr.	Trail
	S Elkhorn Road	Lafayette Trail	Nicholasville Rd.	Trail
	Old Frankfort Pike	Forbes Road	Alexandria Dr.	Bike/Ped
	Lafayette	S Elkhorn Trail	County line	Trail
	N Elkhorn Road	Hayes Blvd.	Winchester Road	Trail
	Greendale Road	Citation Blvd. Extension	Spurr Road	Bike
	Man O War Blvd.	Winchester Rd.	Blackford Pkwy	Bike/Ped
	Dogwood Park	S Elkhorn Rd.	Dogwood Park	Trail

Table 10. Constrained Projects - High Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
HIGH PRIORITY				
	Rose Street	Euclid Avenue	Vine Street	Bike/Ped
	N Broadway	Main Street	Northland Drive	Bike/Ped
	Constitution Trail	Phoenix Trail	Paris Pike Trail	Trail
	S Limestone	Alumni Drive	Scott Street	Bike/Ped
	Big Sandy Trail	Liberty Road	Phoenix Trail	Trail
	Man O War Blvd.	Sir Barton Way	Armstrong Mill Road	Bike
	Town Branch Trail	Forbes Road	Rupp Arena	Trail
	Harrodsburg Road	New Circle Road	Lane Allen Road	Bike/Ped
	Harrodsburg Road	Lane Allen Road	Mason Headley Road	Bike/Ped
	Forbes Road	Leestown Road	Versailles Road	Bike/Ped
	S Upper Street	Main Street	Winslow Street	Bike
	N Limestone	Seventh Street	Withers Ave.	Bike/Ped
	W Third Street	Newtown Pike	N Limestone	Bike/Ped
	N Limestone	Main Street	Third Street	Bike
	S Broadway	Main Street	Bolivar Street	Bike
	Newtown Pike	New Circle Road	I-75	Bike/Ped
	E/W New Circle Road	Winchester Road	Old Paris Road	Ped
	Nicholasville Road	New Circle Road	Man O' War Blvd.	Bike/Ped
	Liberty Road	New Circle Road	Winchester Road	Bike/Ped
	Man O War Blvd.	Armstrong Mill Road	Nicholasville Road	Bike
	Phoenix Trail	Seventh Street	Briar Hill Trail	Trail
	S Limestone	Maxwell Street	Main Street	Bike
	Man O War Blvd.	Nicholasville Road	Harrodsburg Road	Bike
	Castlewood Trail	Phoenix Trail	Constitution Trail	Trail
	N Upper Street	Main Street	Third Street	Bike
	Cooper Drive	PBS Drive	Tates Creek Road	Bike

Table 10. Constrained Projects - Medium Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
MEDIUM PRIORITY				
	Russell Cave Road	Park Pl.	Winburn Drive	Bike/Ped
	S Broadway	Angliana Avenue	Mason Headley Road	Bike/Ped
	E Main Street	Hanover Avenue	Vine Street	Bike
	Versailles Road	Oxford Circle	Forbes Road/Red Mile Road	Bike/Ped
	E New Circle Road	Woodhill Drive	Winchester Road	Ped
	N Broadway	Northland Drive	New Circle Road	Bike/Ped
	Nicholasville	Southland Drive	New Circle Road	Bike/Ped
	Man O War Blvd.	Harrodsburg Road	Versailles Road	Bike
	Nicholasville Road	Alumni Drive	Southland Drive	Bike/Ped
	W New Circle Road	Old Paris Road	Boardwalk	Bike/Ped
	Todds Road	Liberty Road	Catera Trace	Bike/Ped
	E High Street	Euclid Avenue	Woodland Avenue	Bike/Ped
	Richmond Road	New Circle Road	Shriners Lane	Ped
	Liberty Road	Grafton Mill Lane	New Circle Road	Bike/Ped
	Parkers Mill Road	Lane Allen Road	Man O War Blvd.	Bike/Ped
	Mason Headley Road	Versailles Road	Harrodsburg Road	Bike/Ped
	Price Road	Leestown Road	Georgetown Road	Bike/Ped
	Briar Hill Trail	Constitution PT	County line	Trail
	High Street	Jefferson Street	Pine Street	Bike
	Fontaine Road	High Street	Chinoe Road	Bike
	Harrodsburg Road	County Line	Man O War Blvd.	Ped
	Parkers Mill Road	Versailles Road	Lane Allen Road	Bike/Ped
	N Upper Street	Third Street	Seventh Street	Bike
	Alexandria Drive	Citation Blvd Extension	Viley Road	Bike/Ped

Table 10. Constrained Projects - Low Priority

	STREET/TRAIL	FROM	TO	FACILITY TYPE
LOW PRIORITY				
	Bryan Station Road	Hermitage/Anniston Drive	Preakness Drive	Bike/Ped
	Greendale Road	Sandersville Road	Leestown Road	Bike/Ped
	Man O War Blvd.	Blackford Pkwy.	Sir Barton Way	Bike/Ped
	Georgetown Road	New Circle Road	Oakwood Drive	Bike/Ped
	Hermitage/ Wickland/Winston	Old Paris Road	Bryan Station Road	Bike/Ped
	Tates Creek Road	Man O War Blvd.	Hartland Pkwy/ Saron Dr.	Ped
	Town Branch Trail	Alexandria Drive	New Circle Road	Trail
	Versailles Road	Forbes Road/Red Mile Road	Angliana Ave	Bike
	Winchester Road	Helm Street	Elkhorn Road	Ped
	Spurr Road	Georgetown Road	Sandersville Road	Bike
	Constitution Trail	Paris Pike Trail	County Line	Trail
	E Reynolds Road	Lansdowne Drive	Nicholasville	Bike
	Leestown Road	Price Road	Buchanan Street	Bike
	Alumni Drive	Man O War Blvd	New Circle Road	Bike
	Pleasant Ridge Drive	Plaudit Pl.	Man O War Blvd.	Bike
	Big Sandy Trail	Deer Haven Pk.	County Line	Trail
	Harrodsburg Road	Cave Hill Ln	Ft. Harrods Drive	Bike/Ped
	Town Branch Trail	Bracktown Road	County line	Trail
	N Elkhorn Trail	Winchester Road	Briar Hill Road	Trail
	Woodhill Drive	Codell Drive	New Circle Road	Bike
	Winchester Road	Elkhorn Road	Man O War Blvd.	Ped
	Russell Cave Road	Winburn Drive	Urban Service Boundary	Bike/Ped
	Eastland Trail	I-75	N Elkhorn Primary	Trail

Chapter 6

Implementation

Chapter 6.
Implementation

This chapter presents implementation strategies for the Bicycle and Pedestrian Master Plan ranging from planning, funding, project implementation and public support. It also presents ways in which the MPO and local governments can gauge the success of bicycle and pedestrian efforts.

6.1 Planning Strategies

Lexington Area Metropolitan Planning Organization

As the transportation planning and funding agency for Fayette and Jessamine County, the MPO is integral to successfully implementing the Bicycle and Pedestrian Master Plan. Two key documents are developed by the MPO and need to fully incorporate the recommendations presented in this plan:

MPO Long Range Transportation Plan (LRP)

The Bicycle and Pedestrian Master Plan will be adopted as an element of the LRP; however, strategies to fully integrate bicycle and pedestrian projects into the transportation planning process should be evaluated and reemphasized in the LRP (scheduled for update in 2008). For example:

- A "complete streets" approach to transportation planning should be the foundation of the LRP.
- Prioritization of roadway improvement projects should favor projects that will enhance bicycling, walking and transit.
- Projects intended to decrease vehicular demand on the roadway system (bicycle, pedestrian, transit, etc) should be given equal consideration to roadway capacity expansion projects.

MPO Transportation Improvement Program (TIP)

The TIP is updated every two years and identifies transportation projects that will receive state and federal funding for the following 4-year time frame. During TIP updates, the MPO should consult the Bicycle and Pedestrian Master Plan and Bicycle Pedestrian Advisory Committee to determine priority projects for inclusion in the TIP.

Local Planning Jurisdictions

Support from local planning jurisdictions is critical to successful implementation of this Master Plan. First, local planning commissions can require the provision of bicycle and pedestrian infrastructure in new development and redevelopment projects to proactively eliminate the need for costly retrofit projects in the future. Second, bicycling and walking rates are directly influenced by land use patterns and community designs regulated by local planning commissions.

The MPO should work with local planning agencies and commissions to:

- Adopt the MPO Bicycle and Pedestrian Master Plan as an element of local comprehensive plans.
- Develop and adopt Greenway/Trail Plans as elements of local comprehensive plans.
- Require that greenway trails be built during development, or assess exactions in lieu of construction for use by local governments for trail construction at a later date.
- Revise Subdivision Regulations to require the construction of "complete streets" during new development.
- Incorporate more walkable and bicycle-friendly development patterns in local land use plans as described in Chapter 5.
- Revise zoning ordinances and/or develop design guidelines to provide for more bicycle and pedestrian-friendly site designs as described in Chapter 5. Consideration should be given to the development of form-based zoning codes which can be more conducive to pedestrian-friendly development.

- Work with local school district planners to develop neighborhood-oriented schools that encourage bicycling and walking.

6.2 Project Implementation Strategies

Shared Use Trail Projects

Trail projects constructed in existing neighborhoods can be challenging due to a lack of publicly owned property or opposition from adjacent property owners. The acquisition of property or easements requires coordination, public support and funding. Environmental constraints can also complicate projects constructed in floodplains or other environmentally sensitive areas. The timing of trail construction projects can be impacted if constraints are not identified early in the process. For example, LFUCG has previously received funding for trail projects through grant sources before engineering design studies have been completed. In some case, this has resulted in funding shortages and extended project completion schedules that may jeopardize grant funds.

The Greenway Master Plan recommends that trail corridor master plans be completed for all primary trails to determine alignments, identify constraints and opportunities. Preliminary engineering and design work is also necessary for all trail segments (primary, secondary or tertiary trails) to ensure that safe facilities are built in a cost-effective manner.

The following recommendations will aid in trail implementation:

- Complete trail corridor master plans for the North-South and East-West Corridors in both Fayette and Jessamine County.
- Provide engineering and design funding for high priority trail projects through MPO or local government sources.
- Do not pursue or allocate construction or right-of-way funds for trail projects until design phases are complete and accurate cost estimates can be obtained.
- Identify the agency(ies) responsible for trail project coordination and construction in Jessamine County and/or Nicholasville.
- Assign or establish a Greenway/Trails Coordinator position at LFUCG, as recommended in the LFUCG Greenway Master Plan. The coordinator should oversee greenway development and management including planning, property acquisition, construction, etc. The position should also coordinate public relations, marketing and fundraising.

On-Road Projects

There are many low-cost ways in which bicycle and pedestrian improvements can be made to existing roadways. The cost of adding bike and pedestrian facilities during roadway widening and reconstruction projects is relatively small compared to overall project costs. Resurfacing projects may also provide opportunities for bicycle and pedestrian improvements through bike lane striping, wide curb lane striping and the addition of enhanced crosswalks and curb ramps.

However, it should be noted that most roadways in the region will never be widened and streets are generally only resurfaced every 10-15 years. In cases where no roadway improvements are scheduled in the near future, independent bicycle and pedestrian projects will be necessary for successful plan implementation.

The following recommendations will aid in the implementation of on-road projects:

- Include appropriate bicycle and pedestrian facilities in all local and state roadway construction and reconstruction projects.
- Allocate funds to begin engineering and design work for high priority (standalone) bicycle and pedestrian projects as identified in Chapter 5.
- Review local and state resurfacing projects for potential pedestrian improvements such as curb ramp installation/repair and improved crosswalk markings.
- Review local and state resurfacing projects for potential bicycle improvements such as bike lanes, wide curb lanes, bicycle detection devices and bicycle-friendly drainage grates.
- Include cost estimates for bicycle and pedestrian improvements in resurfacing budget requests.

- Conduct a bike lane restriping study for all projects identified as potentially 'feasible' in Chapter 5.
- Restripe bike lanes on roadways not scheduled for resurfacing within five years if determined to be feasible and if no known safety impacts exist.

6.3 Policy Implementation Strategies

Implementing plan recommendations will require the involvement of many individuals, organizations, government agencies and decision-making bodies. It is important for all stakeholders to be knowledgeable of our community goals and the solutions presented for making our region more bicycle and pedestrian-friendly. Each party must understand their role in achieving these goals and should be held accountable for improvements needed in their respective areas. It is therefore recommended to:

- Develop a 'Plan of Action' for Fayette and Jessamine Counties. This working document should include the recommended actions set-forth in this plan, the responsible party (individual, division, government official, etc.), next steps and any known barriers to moving forward. The document should be used to guide the work of appropriate agencies, committees or organizations. The document will also help the MPO evaluate progress made over time and may serve as a public information tool.
- Conduct training sessions on improving the bicycle and pedestrian-friendly qualities of our community. Make these available to professional staff and appropriate committees, boards, commissions or councils.
- Build public and government support for needed policy changes by conducting an education campaign on the benefits of bicycle and pedestrian-friendly communities.

6.4 Funding Strategies

Communities may use a wide array of funding sources for bicycle and pedestrian projects ranging from local, state and federal dollars to private or corporate donations. There are often rules and procedures that must be followed to obtain and utilize each funding source. A discussion of these sources and recommendations for their use follows.

Local Funds

Local funding sources that may be utilized for bicycle and pedestrian improvements include:

- **General funds** - Tax revenue allocated annually through local government budgeting processes.
- **County & Municipal Road Aid Funds (MAP)** - State gas-tax funds allocated by the state and budgeted annually through city or county governments.
- **Municipal bond fund** - Bonds available to local governments for capital improvement projects. For example, Fayette County allocated $2 million for trail projects in FY 2008 using bond funds.

Funds for bicycle and pedestrian facilities are currently included in many local budgets, particularly when improvements are incidental to other capital or maintenance projects. However, independent bicycle and pedestrian improvement needs exist as well. Departments responsible for such improvement projects must anticipate the needs and be aware of priorities so that funds can be requested during annual budgeting processes. For instance, the following LFUCG agencies may be responsible for project identification, prioritization and funding requests for the following:

- **Division of Parks & Recreation** - Walking/bike path construction and/or maintenance.
- **Division of Engineering** - Sidewalk installation, shared use trail construction, roadway widening for bike lane installation.
- **Division of Streets, Roads & Forestry** - Curb ramp repair/installation, bicycle and pedestrian improvements incidental to resurfacing.

- **Division of Traffic Engineering** - Crosswalk markings, bike lane pavement markings, pedestrian signals, mid-block crossing improvements.
- **Division of Planning** - Bicycle and pedestrian plans and studies, public information materials.
- **Division of Code Enforcement** - Sidewalk Maintenance Assistance Program, sidewalk enforcement funding.
- **Division of Police -** Bicycle and pedestrian enforcement activities and personnel.

Due to the extensive number of divisions responsible for implementing bicycle and pedestrian improvements, an annual process for identifying bicycle and pedestrian needs and priorities should be developed and coordinated to ensure that funding requests are submitted and allocated appropriately.

State/Federal Funds

State and federal transportation funds are administered through the KY Transportation Cabinet and local MPOs. To be eligible for funding, projects must be included in local and state long range transportation plans. As an adopted element of the Lexington Area MPO Long Range Transportation Plan, all projects identified in the Bicycle and Pedestrian Master Plan are eligible for the following main funding sources:

- **Surface Transportation Program (STP)** The majority of transportation projects are funded with STP funds that are allocated by the state through the State 6-Year Highway Plan. STP funds have traditionally been used for the construction, reconstruction and maintenance of roadways. These projects benefit bicyclists and pedestrians if facilities are included in the scope of projects. Stand-alone bicycle and pedestrian projects are eligible, but have not typically received funding through this source in the past.
- **Surface Transportation Program (Lexington) (SLX)** - The Lexington Area MPO receives an annual allocation of STP funds (called SLX) that can be used for transportation projects at the discretion of the MPO. Due to more local control, these funds are an ideal funding source for stand-alone bicycle and pedestrian projects.

Federal transit funds that are apportioned to local transit agencies and include:

- **Federal Transit Administration (FTA) funds** - Urbanized Area Formula Transit Grants and Transit Enhancements that may be used for improving bicycle and pedestrian access to transit.

A number of federal transportation grant programs are also administered by the KY Transportation Cabinet and Governors Office for Local Development. Grant funds generally require that local governments provide funding for 20 to 50% of project costs. The following grant programs provide funding for bicycle and pedestrian projects:

- **Safe Routes to School (SR2S)**
- **Transportation Enhancement (TE)**
- **Congestion Mitigation & Air Quality Improvement (CMAQ)**
- **Recreational Trails Program (RTP)**
- **Land and Water Conservation Fund (LWCF)**
- **Scenic Highways and Byways**
- **Hazard Elimination Safety (HES) Grants**
- **Transportation Community and System Preservation (TCSP)**

Funding through these grant programs is awarded on a competitive basis throughout the state. Funding agencies receive 10 to 20 times more requests than funds are available. Therefore, while these sources can supplement local and other state/federal funds for bicycle and pedestrian projects, they should not be relied upon as the main funding source for such projects.

Federal funds administered through grants have specific rules, regulations and reporting requirements. Projects constructed with federal grant funds typically take two to three years to reach completion.

Grant applications for federal funds are strongest when projects have been prioritized and supported by local governments. Localities must demonstrate community support through financial contributions, resolutions and letters of support. Projects that are ready for construction are usually looked upon more favorably by state funding agencies (i.e. design work and/or property acquisition is complete). Cash contributions versus local in-kind contributions may also make grant applications stronger candidates for funding.

In the past, LFUCG has submitted a large number of projects for these grants despite limited funding. It is recommended that local governments should identify high priority projects and allocate local funds to complete engineering and design work prior to grant submittals. Local governments should then allocate local funds for (at a minimum) the required grant match and begin focusing grant writing efforts on top priority projects. It is recommended that grant requests not be submitted for more projects than the locality can reasonably expect to receive funding for. This will allow focus to be placed on developing strong applications for priority projects and to present a clear message of priority to state funding agencies.

Other Funding Sources

There are many other ways in which other communities have provided funding for bicycle and pedestrian projects. These include:

- **Legislative allocations** - Federal and state funding may also be allocated to local governments by legislative action. For example, the City of Louisville, KY and Owensboro, KY have secured significant federal funds through such processes for bicycle and pedestrian improvements.
- **Private donations** – Corporate investments and private donations from individuals or foundations may be used for bicycle and pedestrian improvements. Some cities have used private dollars in conjunction with local, state or federal funds to construct city-wide greenway trail systems, especially through non-profit groups dedicated to greenway development.
- **Local improvement districts** – Sometimes referred to as urban renewal districts or economic/business improvement districts, these funds are provided through assessments levied on a group of property owners by a local government. Such funding sources have been used in communities, particularly in downtown areas, for streetscape and other pedestrian improvements.
- **Levies or user taxes** – These funds are provided through assessments levied on property owners, through a local sales tax or vehicle registration fees. Local governments must pass a resolution (voted on by the public) and develop related local ordinances for these funds to be assessed and used for bicycle and pedestrian projects.

In summary, the following recommendations would improve funding opportunities for bicycle and pedestrian projects:

- Conduct an audit to determine current funding levels for bicycle and pedestrian-related projects; present findings to local governments and/or the MPO.
- Develop a multi-year funding strategy based upon priorities and known funding sources.
- Work with the KY Transportation Cabinet and the MPO to ensure bicycle and pedestrian projects are included in the TIP and State 6-Year Highway Plan.
- Ensure funding requests for priority bicycle and pedestrian projects are submitted by local government divisions on an annual basis.
- Prioritize and submit grant funding applications; allocate local matching funds on an annual basis to ensure that grant funding opportunities are maximized.
- Determine if private dollars will be sought for bicycle and pedestrian projects. If so,

identify a government agency or non-profit organization responsible for receiving and administering funds; identify an official government liaison/spokesperson for soliciting private funds.

- Investigate the level of public support for local levies, taxes or fees for bicycle and pedestrian improvements.

6.5 Partnerships

Partnerships will be a powerful tool for developing a more walkable and bicycle-friendly community and in creating a local culture supportive of bicycling and walking. There are many organizations that have special abilities to help local governments achieve the goals outlined in this plan while, at the same time, achieving their own missions. For example, local safety coalitions and bicycle clubs can provide public safety education and outreach. Advocates, clubs and non-profit organizations can organize and promote local bicycling and walking events with the support of local governments. Local tourism agencies can develop marketing materials and promote local events and attractions to the public at-large. The Bluegrass Area Development District can help to foster the development of regional bicycle and pedestrian initiatives. In particular, increased collaboration with Fayette and Jessamine County Public Schools will be necessary to change attitudes and trends related to bicycling and walking to school.

Local governments should work to identify these potential partners and to provide support (financial and other) to organizations that can better achieve, or can assist local governments in achieving, the goals established in this Master Plan.

6.6 Public Support and Involvement

Public support and involvement is critical to the successful implementation of and any major community initiative. This Master Plan is the result of public interest and support for bicycling and walking initiatives and the following actions will help ensure that the public remains engaged in both decision-making processes and in the plan's implementation:

- Form citizen-based bicycle and pedestrian groups to be the "face" of bicycling and walking initiatives in the region and to assist governments in implementing the Master Plan.
- Host bicycle and pedestrian "summits" to increase public awareness of local plans and to develop priorities and implementation strategies.
- Conduct public information campaigns to increase awareness of bicycle and pedestrian issues, projects, programs and policies. This may include a website, event displays, speaking engagements, annual reports, etc.
- Institute a "Bike Ambassador" program (and similar pedestrian program) with a network of volunteers who are knowledgeable of current bicycle and pedestrian safety issues, plans and projects. Ambassadors should work to educate large audiences by making appearances at public events (such as student orientations, run/walk/bike events, employee heath fairs, etc).
- Periodically survey citizens to monitor bicycling and walking activity and issues.

6.7 Oversight and Evaluation

The status of the recommendations presented in the Bicycle and Pedestrian Master Plan should be monitored and evaluated over time. Local governments and the MPO must be periodically informed of progress made and potential barriers to implementation. The following actions will assist in the successful implementation of the plan:

- The Lexington Area MPO Bicycle & Pedestrian Advisory Committee (BPAC) should provide a bi-annual report to the MPO of progress made in relation to the performance measure listed below.
- Local citizen-based bicycle and pedestrian groups in Fayette and Jessamine Counties (such as a Mayor's Task Force) should be formed to provide for public oversight and involvement in plan implementation.

- Baselines should be established for performance measures listed below in order for progress and outcomes to be tracked effectively over time.

Performance Measures

- Percentage of trip made by bicycling, walking and transit.
- Number of bicycle and pedestrian crashes and fatalities compared to bicycling and walking rates.
- Mileage of shared use trail facilities.
- Percentage of major streets (including intersections) that adequately accommodate bicyclists and pedestrians, including persons with disabilities.
- Percentage of transit stops that are accessible to pedestrians, including persons with disabilities.
- Dollars invested in bicycle and pedestrian projects and maintenance.
- Number of public requests for bicycle and pedestrian information.
- Number of people reached through bicycle and pedestrian education efforts.
- Number of maintenance complaints for bicycle and pedestrian facilities.
- Number of local and regional bicycling and walking events.
- Percentage of schools with a Safe Routes to School program.
- Percentage of children who bicycle and walk to school.
- Street and intersection design policies, standards and guidelines include provisions for pedestrians and bicyclists.
- Local planning regulations require street connectivity and bicycle and pedestrian connections within developments and to adjacent existing or planned developments.
- Greenways and trails are routinely dedicated and built in new developments.
- Park and recreation facilities have good bike and pedestrian access.
- Traffic calming requests for streets in new developments have been eliminated through improved design; traffic calming requests in existing developments have been addressed.
- Vehicles speeds are generally within 5 mph of posted speed limits on local, collector and arterial streets.
- Adequate bicycle parking is provided at most destinations such as schools, parks, employment sites and businesses.
- Pedestrians are given priority in downtown areas and there are pleasant pedestrian streetscapes.
- Urban land adsorption rates and impervious surfaces have been reduced due to the development of more compact, walkable communities.
- Local air quality ratings have stabilized or have been reduced below current levels.
- Public health has improved and there are lower rates of overweight and obesity due to a more physically active population.

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