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For a complete list of prioritized projects and maps covering the entire area, please visit www.fampo.org and search for "Bicycle and Pedestrian Connectivity Study-Appendix" under the "Publications" heading.
Executive Summary

The **Fayetteville Area Metropolitan Planning Organization (FAMPO) Bicycle & Pedestrian Connectivity Plan** is a comprehensive analysis of opportunities, barriers, and deficiencies in the bicycle and pedestrian transportation network within the FAMPO Study Area. The goal of the Connectivity Study is to identify and prioritize existing and proposed routes, facilities, improvements, and issues which will establish a safe and effective bicycle and pedestrian network.

The FAMPO/Cumberland County Study Area covers four counties, eleven municipalities, Fort Bragg Military Reservation, and Pope Field. The Study Area benefits from several existing assets, including the Cape Fear River, an extensive park system, and a steady influx of new residents.

While safety concerns for pedestrians and bicyclists are highlighted by accidents at some hazardous locations, FAMPO area residents do engage in significant amounts of walking and bicycling, both for transportation and recreation. Public outreach efforts throughout the study process have revealed a significant desire among the public for accessible bicycle and pedestrian routes and facilities which can offer them safe transportation to employment, shopping, schools, and recreation.

Connectivity Study analysis has produced an ambitious area-wide network accounting for almost 791 miles of both planned and existing bicycle and pedestrian facilities. Recommended improvements - aimed at enhancing the safety and connectivity of the network - are in place for nearly 564 miles of routing, and 211 intersections, crossings, and connections. Equally as important, recommendations are made for the prioritization of projects which will enhance the effectiveness of the network.

Recommendations for both routes and intersections include such features as bicycle lanes, sidewalks, multi-use trails, crosswalks, pedestrian signals, signage, and barriers aimed at discouraging crossings of the area’s busier roadways. In a small number of cases, individual projects will require focused attention and agreement among stakeholders to ensure completion.

The proposed network will reach 608 neighborhoods, 82 schools, and 77 parks. The network’s ½-mile service area will reach more than 78,000 children, 24,000 seniors, and 268,000 FAMPO area residents.
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1.0 Introduction

Bicycle and pedestrian facilities are an important part of an integrated transportation system. They provide connectivity for the region as well as mobility and safety. These facilities can also support tourism and increase opportunities for physical activity by promoting personal health and well-being.

As noted in an on-line survey, bicycle riding in the region is primarily done for recreational purposes. Recreational bicycling continues to grow in popularity in the Fayetteville area. Another important use of bicycles is for commuting and other travel purposes. The identification of bike-friendly roadways and routes will make this mode of transportation a safer and more convenient option for travel. Pedestrian facilities such as sidewalks and trails are another important component of the regional transportation system. Respondents to the on-line survey noted that they walk primarily for recreational purposes but would like to be able to walk to various destinations including schools, shopping, and employment centers.

The intent of the Study is to develop a network of interconnected bikeway and pedestrian facilities in order to connect neighborhoods and communities with jobs, shopping, schools, and other services. With the introduction of interconnected walking and/or biking routes, the study area can begin to increase safety while reducing the number of vehicles on the roads, with subsequent reductions in traffic congestion, air pollution, and parking demands.

Defining Pedestrian and Bicycle Connectivity

Pedestrian and bicycle connectivity can be defined as the ability to access origins and destinations through a series of non-motorized routes. Improved connectivity can include: providing a network of continuous sidewalks; connecting stub streets; constructing a multi-use path from a neighborhood to a greenway, trail, or park; providing marked bike lanes; determining available neighborhood connector routes; identifying safe routes for bicycling and walking; or a combination of any of the above. A system of sidewalks and bicycle facilities which connects key origins and destinations provides users with choices:

- Provide more direct, convenient and safe travel routes for pedestrians and bicyclists;
- Increase the ability to walk to key destinations (restaurants, shops, schools, parks, churches, community centers, and place of employment);
- Provide children with an alternative route to school;
- Improved access to public transit;
- Transportation alternatives for individuals who may be unable to drive;
- Provide a stronger sense of community by encouraging people to walk or bike, increasing the opportunity for interaction with neighbors; and
- Improved quality of life as a result of increased transportation options and healthy commuting choices.
2.0 Existing Conditions

The Fayetteville Area Metropolitan Planning Organization (FAMPO) is a regional transportation planning agency with a jurisdiction of over 608 square miles, covering almost all of Cumberland County and small portions of neighboring Hoke, Harnett, and Robeson Counties. Forecasts indicate that the FAMPO Study Area will see moderate growth in the future and must consider how this growth and other population demographics will affect transportation in the short and long term.

According to US Census estimates, 9,187 Cumberland County residents walked, rode bicycles, used public transportation, used taxicabs, or rode motorcycles as a primary means of transportation to work in 2009*. The majority of these residents (7,348) walked, and were between the ages of 20 and 44 (*U.S. Census Bureau, 2009 American Community Survey. http://www.census.gov/acs/www/).

Further estimates indicate that more than 10% of 1-person households had no vehicle available. Approximately 25% of 3-person households had one or no vehicle available, and more than 50% of 4-person households had two or fewer vehicles available*. Other estimates revealed that 26,387 households out of 117,001 had a reported household income of less than $20,000 and 59% of households earned less than the median family income of $48,394*. In 2009, 16.4% of individuals in Cumberland County reported income below the poverty level (*U.S. Census Bureau, 2009 American Community Survey. http://www.census.gov/acs/www/).

These combined factors indicate a significant low-income population, which has a bearing on access to transportation within the FAMPO Planning Area. In the realm of transportation planning, low-income populations are often considered “transit-dependent”. These populations may not need to depend on transit – or motor vehicles, for that matter – if reliable pedestrian and bicycle routes offer them access to important destinations such as employment, shopping, schools, or medical care.

Quantitative data and transportation behavior (as observed by Study staff) in the FAMPO Study Area indicate that there is a significant need for safe, efficient bicycle and pedestrian connections throughout the region.

2.1 Safety & Accident History

Safety is an essential component of a community’s bicycle and pedestrian network. It has been said that “if you build it, they will come”. In this case, “it” refers to a safe and well-connected travel route. Safe bicycle and pedestrian routes encourage residents to walk or bike to their destinations, either as a means of travel or recreation. Safe facilities will also ensure the health and well-being of walkers and bicyclists who cannot afford the costs associated with owning and operating a motor vehicle as their primary mode of travel. Features which contribute to a safe walking and biking environment include buffered sidewalks and walking paths, high-visibility crosswalks, pedestrian refuges at road crossings, and high-visibility signage for both motorized and non-motorized travelers.
Bicycle and pedestrian safety is a concern in Cumberland County and the FAMPO study area, as expressed by citizens and as represented by accident data reported by the North Carolina Department of Motor Vehicles. Fayetteville, the most populated municipality in the FAMPO study area, has had the highest number of bike/pedestrian accidents each year, reaching a high of 121 in 2007 (See Table 2.1). The majority of FAMPO’s municipalities are on pace to increase the number of reported accidents in 2010.

### Cumberland County Bicycle & Pedestrian Traffic Accidents

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastover</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fayetteville</td>
<td>68</td>
<td>89</td>
<td>121</td>
<td>104</td>
<td>97</td>
<td>66</td>
</tr>
<tr>
<td>Hope Mills</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
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<td>10</td>
<td>3</td>
<td>3</td>
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</tr>
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<td>Wade</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Cumberland County</td>
<td>39</td>
<td>30</td>
<td>27</td>
<td>32</td>
<td>20</td>
<td>11</td>
</tr>
</tbody>
</table>

*Includes data from January 1, 2010 through July 31, 2010

Table 2.1: Cumberland County Bicycle & Pedestrian Accidents

Source: NCDOT Traffic Engineering Department

The unincorporated areas of Cumberland County, in particular, have a higher than average rate of accidents involving bicycles and pedestrians. Between 2005 and 2009 Cumberland County averaged 4.8 bicycle or pedestrian accidents per each 50,000 residents. By comparison, Wake County, NC and Durham County, NC averaged 1.6 and 1.7 accidents per 50,000 residents respectively (See Table 2.2).

### Unincorporated Cumberland County Bicycle & Pedestrian Accidents Per 50,000 Residents

<table>
<thead>
<tr>
<th>County</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>Population</td>
<td>305,097</td>
<td>306,865</td>
<td>308,724</td>
<td>310,686</td>
<td>315,207</td>
</tr>
<tr>
<td>Bike/Ped Accidents</td>
<td>39</td>
<td>30</td>
<td>27</td>
<td>32</td>
<td>20</td>
</tr>
<tr>
<td>Accidents/50,000 Residents</td>
<td>6.39</td>
<td>4.89</td>
<td>4.37</td>
<td>5.15</td>
<td>3.17</td>
</tr>
<tr>
<td>Wake County, NC</td>
<td>753,828</td>
<td>792,940</td>
<td>831,746</td>
<td>868,068</td>
<td>897,214</td>
</tr>
<tr>
<td>Population</td>
<td>24</td>
<td>30</td>
<td>25</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Bike/Ped Accidents</td>
<td>1.59</td>
<td>1.89</td>
<td>1.50</td>
<td>1.61</td>
<td>1.23</td>
</tr>
<tr>
<td>Accidents/50,000 Residents</td>
<td>2.67</td>
<td>1.81</td>
<td>1.17</td>
<td>1.71</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Table 2.2: Cumberland County Bicycle & Pedestrian Accidents Rate Comparison

Source: NCDOT Traffic Engineering Department; 2009 U.S. Census Bureau

An effective bicycle and pedestrian network utilizes both existing roads or transportation facilities and separated facilities, such as greenways or trails, to safely transport residents. Because a truly effective network cannot rely on separated facilities alone, existing roads must safely accommodate...
both bicyclists and pedestrians. Although a lack of dedicated bicycle and pedestrian routes contributes to a lack of safety throughout the study area, several major roads (and potential network segments) in the area stand out as being unsafe. In most cases this is due to an inherent conflict between motorists and bicyclist or pedestrians. Too often, these conflicts arise in areas where high traffic volumes and poor safety treatments overlap neighborhoods and corridors with high pedestrian and bicycle activity. The map below highlights roads where multiple bike/pedestrian accidents (2 or more) have been reported between January 2005 and July 2010 (See Map 2.1). Please see the full *Cumberland County Bicycle & Pedestrian Accidents Map* in Appendix 1.7.

The roads with the highest accident totals include *Bragg Boulevard, Grove Street, Owen Drive, Raeford Road, and Ramsey Street*. Several blocks, on these roads and others – all within the City of Fayetteville – have proven to be particularly dangerous for bicyclists and pedestrians. These blocks include:

- Grove Street, B St to Eastern Blvd – 9 incidents
- Grove Street, Ann St to B St – 8 incidents
- Yadkin Road, Horseshoe Rd to Santa Fe Dr – 6 incidents
- Ramsey Street, Country Club Rd to Longview Dr – 5 incidents
- Person Street, Green St to N/S Cool Springs St – 5 incidents
- Owen Drive, Village Dr to Nato Rd – 5 incidents
- Coventry Road, Ireland Dr to Odom Dr – 5 incidents
- Bragg Boulevard, Mike St to Swain St – 5 incidents
2.2 Existing Plans

FAMPO, Cumberland County, and individual municipalities within the FAMPO region have worked diligently for more than ten years on planning initiatives within the study area. These planning initiatives include land use plans, transportation studies, economic development studies, and area master plans which include recommendations for enhancing bicycle and pedestrian safety and connectivity in the region.

A major component of the plan includes researching these previous plans and studies, and "ground-truthing" them to determine what recommendations have been implemented, what improvements are programmed and funded, and what improvements are still on the horizon. Of 270.8 miles of applicable facilities identified in previous plans, 51.4 miles have been completed, partially completed, or were existing at the time of plan completion.*

Another essential outcome from the review of existing and previous plans is that we learn where FAMPO partner agencies can capitalize on future investments in infrastructure and improvements. Plans such as the Raeford Road Corridor Study (2010) and Shaw Heights Land Use Plan (2008) detail specific improvements for Raeford Road and the Shaw Heights neighborhood, respectively. Where applicable, these improvements have been taken into account or incorporated into recommendations emerging from the Connectivity Study.

The following documents were reviewed in advance of field work associated with the Connectivity Study. Map 2.2, below, is an excerpt from the Existing Plans Inventory & Ground-Truthing Map, which indicates the geographic location and overall status of compiled recommendations emerging from these plans. Only facilities which were proposed at the time of the respective plan are included in the mapping. See Appendix 1.6 for full Ground-Truthing maps.

- Raeford Road Corridor Study (2010)
- Cumberland County Land Use Policies Plan (2009)
- FAMPO Bicycle & Pedestrian Plan (2009)
- Fayetteville Sustainability Master Plan (2009)
- Fort Bragg Comprehensive Transportation Systems Plan – Alternative Transportation Study (2009)*
- Vision Northeast, Cumberland County (2009)
- Shaw Heights Land Use Plan (2008)
- City of Fayetteville Land Use & Economic Development Plan: Murchison Road Corridor (2008)
- Fayetteville Cumberland Parks & Recreation Master Plan (2006)
- Wade Study Area Detailed Land Use Plan (2003)
- North Fayetteville Area Plan (2002)
- Spring Lake Area Detailed Land Use Plan (2002)
- Fayetteville Cumberland Parks & Recreation – Master Facility Plan
- Cumberland County 2010 Land Use Plan (1996)

*Staff does not have access to Fort Bragg, Pope Airfield, or Simmons Army Airfield “on-base” facilities. Ground-truthing was not conducted at these locations.
Map 2.2: Existing Plans Inventory & Ground-Truthing
2.3 Existing Community Assets

Parks
There are an abundance of parks within the FAMPO study area. Fayetteville-Cumberland Parks & Recreation currently maintains more than 100 regional parks, community parks, neighborhood parks, linear parks, school parks, mini parks, and special use facilities.

Additional parks within the study area include Carvers Creek State Park, Hoke and Harnett County parks, and recreational facilities internal to Fort Bragg.

Because of their recreational nature, parks represent important destinations for bike and pedestrian travel. Children and young adults (many of whom do not have access to motor vehicles) are particularly likely to travel to parks, either by foot or bicycle.

Schools
Of the 92 schools within the FAMPO study area, 85 are in the Cumberland County School System. Five are located in Harnett County and the remaining two are located in Hoke County. Schools are an essential component of any community and have significant impacts on neighborhood character. Both municipalities and families center many housing, transportation, and recreation decisions around the presence of school facilities.

Unlike many community destinations such as grocery stores, employment centers, and entertainment hubs, public schools are the responsibility of local governments (counties and cities). It falls to these local governments to ensure the safety of children who travel to and from school. To this end, accommodating safe pedestrian and bicycle travel to and from schools is a significant goal for many communities.

As is the case with parks, pedestrian or bicycle travel is often the sole means of travel for students who are not driven by family members and do not ride the bus. Thinking proactively, Cumberland County Schools has considered methods of ensuring safe travel, including federal Safe Routes to School funding for appropriate safety investments. Please see the “Safe Routes to School” section of this document (Page 27) for an in-depth discussion of Safe Routes to School and efforts associated with the Bicycle and Pedestrian Connectivity Study.

Transit Stops
Transit is very important in providing mobility and access to residents of any community. Many residents choose not to drive, are physically unable to drive, or choose not to budget money for private transportation. Like bicycle and pedestrian facilities, transit service allows these residents and others to reach important community destinations.
Transit often comes in the form of a bus, streetcar, or rail system, and provides transportation service to destinations throughout a community. A significant portion of the FAMPO area – Fayetteville and Spring Lake – is currently served by the bus transit.

Connecting transit stops with safe bicycle and pedestrian routes effectively expands the number and range of destinations for residents.

**Trails**

Trails are excellent transportation and recreation facilities for both bicycles and pedestrians. They are typically separate from roadway facilities and are designed to be inaccessible to motor vehicles. Generally speaking, trails can be either natural surface or paved, and are typically 5-10 feet in width. Because they are separate from roadway facilities, they can be routed directly from destination to destination and designed to provide bike and pedestrian access to specific locations. Due to their safety and ease of use, trails are the preferred transportation facility for pedestrians and bicyclists with less experience.

There are several well-designed trail facilities, both existing and planned, within the FAMPO study area. A few notable trails include the Cape Fear River Trail in Fayetteville, Rockfish Park Trail in Hope Mills, the All-American Trail, running southwest from Fort Bragg through Hoke County, and planned Linden Oaks – Spring Lake Trail, extending from Fort Bragg and Spring Lake into Harnett County.

Many trails can be found in or around parks. Fayetteville’s Cross Creek Linear Park, for example, will eventually connect with planned facilities such as the Blount Creek Greenway and Cross Creek Greenway to form an interconnected trail system which will serve many residents.

The continuing goal of Fayetteville-Cumberland Parks & Recreation is to establish a county-wide greenway system.

**Sidewalks**

The availability and condition of sidewalks in the FAMPO study area varies greatly from location to location. Ground-truthing reveals that while sidewalks are plentiful in areas such as downtown Fayetteville or even nearby areas like the Haymount Neighborhood of Fayetteville, it is less available in more suburban areas and neighboring municipalities. Responses to the on-line survey consistently indicated that areas with extensive interconnected sidewalks and safe crossings were seen as preferred, walkable areas.
Often, where sidewalks are present it is available only on one side of the road. This effectively makes sidewalks inaccessible for some, or forces bicyclists and pedestrians to cross busy streets – often without the aid of safe crossing treatments – to reach the sidewalk. Additionally, in many areas sidewalks can best be described as intermittently present. In these locations sidewalk construction has been left to private developers on a case-by-case basis, and only within the frontage of individual parcels. This makes for a haphazard and disjointed sidewalk system.

Another issue which can determine the effectiveness of sidewalks is obstructions within existing sidewalks. Potential obstructions can range from large cracks and holes due to poor maintenance, to mailboxes, to power poles. Obstructions pose both a safety hazard as well as an access barrier to physically disabled users.

Please reference the “Sidewalk Ordinances” section of the Study (Section 5.0) for a detailed discussion of sidewalk requirements which continually shape the availability of sidewalks in the region.
3.0 Public Involvement & Input

3.1 Public Involvement
To assist in the process of determining destinations, safe and challenging roadways to bike and walk, connected neighborhoods, desired connections, and areas in need of sidewalks; FAMPO convened a Steering Committee and an Interjurisdictional Workgroup. Over the course of six months, the Steering Committee met five times and the Interjurisdictional Workgroup met once to offer guidance and local area expertise to the design team.

Bicycle and Pedestrian Steering Committee Membership
Rob Anderson, Fayetteville Planning Department  
Kevin Berry, Citizen  
Dr. Jeff Brooks, Citizen Representative, Chairman, FAMPO Bike & Pedestrian Committee  
Maurizia Chapman, FAMPO  
Rosann Christian, FAST  
Will Denning, Cumberland County Planning Department  
Mike Gibson, Fayetteville Cumberland County Parks & Recreation Department  
Chad Ham, Public Works Commission  
Craig Harmon, Fayetteville Planning Department  
Sandy Hawley, Citizen  
Rick Heicksen, FAMPO  
Karen Hilton, Fayetteville Planning Department  
Lee Jernigan, NCDOT Division 6  
Brenda Johnson, Sustainable Sandhills  
Colby Lambert, Cooperative Extension Service  
Mark Locklear, Harnett County Planning Department  
Julia Love, Citizen/Fort Bragg Environmental  
Bobby McCormick, FAMPO  
Monita McLaurin, NC Department of Commerce, Div. of Community Assistance  
Bob Miarer, CAC Chair, Cross Creek Cycle Club  
Jon Parsons, Sustainable Sandhills  
Michaela Penix, Cumberland County Health Department  
Neil Perry, City of Fayetteville Traffic Services  
Anthony Ramsey, Fayetteville Cumberland County Parks & Recreation Department  
Janet Robertson, Lumber River RPO  
Victor Sharpe, Fayetteville Community Development Department  
Tim Shea, Fort Bragg Transportation  
Joan Shults, Citizen  
Joel Strickland, Mid-Carolina RPO  
Darius Sturdivant, NCDOT – Transportation Planning Branch  
Rusty Thompson, City of Fayetteville Traffic Engineer  
Mark Whitley, Cumberland County Schools  
Dr. Paul Wilson, Citizen  
Charles Young, Fort Bragg Transportation

Interjurisdictional Workgroup
Randy Beeman, Town of Hope Mills  
Harvey Cain, Town of Stedman  
Maurizia Chapman, FAMPO  
Will Denning, Cumberland County Planning Department  
Karen Hilton, Fayetteville Planning Department  
Tom Lloyd, Cumberland County Planning Department  
Mark Locklear, Harnett County Planning Department  
Bobby McCormick, FAMPO  
Anthony Ramsey, City of Fayetteville Parks & Recreation Department  
Matt Rooney, Cumberland County Planning Department  
Patti Speicher, Cumberland County Planning Department  
Joel Strickland, Mid-Carolina RPO  
Denise Sykes, Cumberland County Planning Department
In addition to working with the Steering Committee and the Inter-jurisdictional Workgroup, study presentations were given to the Transportation Advisory Committee, Citizens Advisory Committee, and the Technical Coordinating Committee.

Public Involvement Program
The public involvement program for this project included a series of public meetings and on-line surveys. The first-round of public meetings comprised five meetings in locations throughout the FAMPO region:
- Stedman Recreation Center, Stedman, NC
- Smith Recreation Center, Fayetteville, NC
- Spring Lake Community Center, Spring Lake, NC
- Hope Mills Recreation Center, Hope Mills, NC
- Methodist University, Fayetteville, NC

During these meetings, attendees were asked to work with members of the design team to identify roadways that were safe to walk and bike; areas that were not safe to walk and bike; and destinations that needed connections to make accessible via walking and biking. Despite a concerted publicity and notification effort, 56 people attended the first round of meetings. In an effort to bolster public participation, two on-line surveys were developed with over 500 respondents. (See Appendix 5 for Public Meeting maps as well as survey results).

In an effort to reach a broader audience and entice greater public participation, the study was presented as part of the Fayetteville Bikes and Walks event held in conjunction with 4th Friday in downtown Fayetteville. Groups participating with FAMPO to promote bicycling and walking included: Cumberland County Health Department, City of Fayetteville Sidewalk Program, Fayetteville/Cumberland County Parks & Recreation, and the Cross Creek Cycling Club. Events throughout the evening include bicycle training demonstrations, a children’s art activity, free bicycle helmets, and refreshments. Over 400 participated in the event.
3.2 Public Meetings
Public meetings are essential to involving community residents on a personal level, and generating ideas and solutions specific to a community, or a region like FAMPO. The public meetings aided Connectivity Study staff in determining where connectivity could be maximized using existing assets such as sidewalks, trails, or recreational locations. The interactive process allowed participants to mark on maps and note both positive and negative connectivity issues such as access to shopping hubs, hazardous intersections, and bike-able roads. Map 3.1 below is an excerpt from the Hope Mills Recreation Center public meeting map.

![Map 3.1: Public Meeting Map Excerpt](image)

3.3 On-line Survey
On-line surveys are an excellent tool for gathering input from many respondents, quantifying and comparing those responses, and receiving personalized responses. Two on-line surveys were designed for the Connectivity Study to gather input from FAMPO residents on current and future bicycle and pedestrian issues:

Survey 1 contained a total of twelve (12) questions aimed at understanding existing conditions, current demand for walk-ability and bike-ability, and specific barriers to connectivity.* 421 residents responded to this survey. Questions were distributed into 5 categories:

1. “Tell Us About Yourself”
2. “Tell Us About Your Walking and Biking Habits”
3. “Tell Us What You Think About the State of Biking and Walking in Your Area”
5. “Your Comments and Next Steps”
Figure 3.1, above, illustrates the latent demand for a safe, efficient bicycle and pedestrian network in the FAMPO region. Online survey responses to direct current and desired activity questions serve as the basis for this latent demand.

Survey 2 contained a total of ten questions aimed at understanding the most appropriate and desirable routes for bicycle and pedestrian traffic in the study area.* 128 residents responded to this survey. Examples of questions include:

1. “Please name the streets in your neighborhood that you would recommend for walking and biking.”
2. “Which intersections do you feel could benefit from improvements?”
3. “Where would you like to be able to walk or ride your bike to from your neighborhood?”

*Full survey results can be found in Appendix 5.3.
3.4 Public Input
Feedback from the public meetings and on-line surveys is key in identifying routes, intersections, and facilities which need to be studied for the purposes of improving connectivity.

Public-Identified Dangerous Streets
Over the course of an in-depth public outreach effort, FAMPO area residents identified many factors which inhibit or discourage walking and biking throughout the study area. Most significant among these factors were area roads perceived by the public to be not safe. On-line survey respondents identified a number of roads in the area which they feel are currently unsafe and would likely not use for walking and biking (See Figure 3.2).

The five streets FAMPO residents most frequently identify as unsafe are Bragg Boulevard, Yadkin Road, Murchison Road, Skibo Road, and Ramsey Street. These streets (and many like them, on both a national and local scale) share several characteristics which make them hazardous for walkers and bicyclists, and discourage their use for non-motorized travel:
Non-existent, disconnected, or sparse sidewalks and bike lanes
No natural barrier between vehicle travel lanes and sidewalks
High vehicle speeds
Non-existent or barely visible pedestrian/bicycle crossings
Non-existent or barely visible signage alerting drivers to the presence of pedestrians/bicycles
Excessive number of driveways and curb-cuts along potential walking/bicycling routes
Obstructions such as utility poles or mailboxes along potential walking/bicycling routes
Lack of pedestrian-scale development along road corridor
Lack of pedestrian-friendly land uses along road corridor

The above characteristics are often the result of deficiencies in planning, design, development regulations and incentives, or education. The 2009 FAMPO Bicycle & Pedestrian Plan identified several deficiencies within the FAMPO planning area which contribute to an unsafe environment for both bicyclists and pedestrians. These deficiencies include:

Lack of completed designated bike routes
Lack of bike and pedestrian facilities (sidewalks, trails, paths, out-side lanes)
Lack of bicycle and pedestrian signs and markings
Lack of parking facilities for bikes
Lack of parking restrictions for motorist
Lack of law enforcement
Lack of control signals at intersections
Lack of safe crosswalks, refuge islands, and curb ramps
Lack of traffic calming measures
Lack of accommodations between transit stops
Lack of overpasses and underpasses
Lack of education
Public-Identified Dangerous Intersections

Roadway intersections are a significant component of a safe bicycle and pedestrian network. From a connectivity perspective, intersections link sidewalks and on-road bicycle facilities to one another. Well-designed intersections provide users with options regarding where to go and what mode of transport may be most appropriate.

From a safety perspective, intersections are the primary point of contact between motor vehicles, bicycles and pedestrians. Absent of safety treatments, intersections also present ample opportunity for conflicts and crashes. Well-designed intersections limit these opportunities for conflict between travel modes.

On-line survey respondents and public meeting attendees identified a number of intersections within the FAMPO Study Area which they feel are dangerous or “could benefit from improvements”. Intersections which were referenced multiple times include:

- Bragg Blvd & Spring Ave
- Country Club Dr & Rosehill Rd
- Cliffdale Rd & Rim Rd
- Cliffdale Rd & Morganton Rd
- Cliffdale Rd & Reilly Rd
- Morganton Rd & Northview Rd
- Morganton Rd & McPherson Church Rd
- Owen Dr & Village Dr
- Rockfish Rd & Camden Dr
- Rockfish Rd & Golfview Dr
- Skibo Rd & Yadkin Rd

**Hull Road & Devers Street:** High-visibility, zebra-striped crosswalks and pedestrian crossing signals in all directions, combined with relatively short crossing distances, make this a very bicycle- and pedestrian-friendly intersection.

**Village Drive & Owen Drive:** Despite sidewalk along Village Drive, lack of striped crossings and pedestrian signals, as well as long crossing distances make this one of the more intimidating and dangerous intersections in the area.
4.0 Connectivity

4.1 Definition of Connectivity
Connectivity is a term traditionally used to define the density of transportation connections in a road network, path network, or given area. Increased connectivity is particularly important to bicycle and pedestrian transportation.

It is generally held that pedestrians will walk comfortably to destinations within ¼ mile, and up to a ½ mile away. Bicycle riders can travel much farther, given appropriate travel facilities. As connectivity increases, distances between intersections and nodes decrease and route options increase. This is essential in creating safe walk-able and bike-able environments, in that it allows more direct travel between destinations, creating more accessibility for pedestrians and bicyclists of all abilities. Connectivity can address the level of accessibility within an individual neighborhood, or between multiple neighborhoods.

4.2 Neighborhood Interconnectivity
Neighborhood interconnectivity was identified by the Steering Committee early in the study process as an important focus. As observed often in road networks, lack of street intersections and an abundance of cul-de-sacs and disjointed roads leads to the increased use of resources, such as time and fuel, to reach destinations. This takes a great toll on the efficiency and effectiveness of a transportation network.

Similarly, unsafe, disjointed and incomplete bicycle and pedestrian networks can be so inefficient that they discourage, and often prevent many residents from using them. Often these circumstances are more prevalent in suburban, residential areas of a community. The result is neighborhoods which are constructed with attention given only to the internal street network of the individual development, and not to the need for the development to connect to neighboring destinations. Many neighborhoods within the FAMPO study area fit this description.

Map 4.1 below is an excerpt from the Neighborhood Interconnectivity mapping, and illustrates the magnitude to which many recognized neighborhoods in the region are disconnected from common destinations and from each other. Direct links (referred to as “connections” on the map) to external streets, schools, parks, and major destination are considered in contrast to the overall acreage of the development or subdivision. In this case, low-volume internal neighborhood streets are considered to be viable bicycle and pedestrian facilities.

Neighborhoods with greater numbers of connections per acre, relative to others in the region, are represented in green. Neighborhoods with relatively few connections are represented in red. As is often the case, neighborhoods which are located closer to central business districts, and their associated “grid” street patterns, tend to have more connections. Neighborhoods further away in suburban “sprawl” areas tend to have fewer of these corrections. The area immediately surrounding downtown Fayetteville, shown in Map 4.1, offers an excellent illustration of this pattern. Please see Appendix 1.7 for full Neighborhood Interconnectivity mapping.
Map 4.1: Neighborhood Interconnectivity – Central Fayetteville
5.0 Sidewalks

5.1 Sidewalk Ordinances
Appropriate steps need to be taken to overcome conflicts that exist between cyclists, pedestrians, and motorists due to continued growth and development in the FAMPO region. Over the years, Cumberland County has experienced a tremendous amount of commercial development which has transformed streets that were once rural or residential in character into major thoroughfares, many of which without sidewalks.

An important consideration in this Connectivity Analysis is the understanding of sidewalk requirements in the municipalities that comprise the FAMPO study area. It is difficult to achieve the goal of connectivity when streets that cross municipal lines are governed by different and potentially conflicting sidewalk regulations.

In addition to noting the local requirements, this chapter will also detail the sidewalk requirements of other North Carolina municipalities. These examples are included to serve as a reference for municipal and elected officials when considering revision to existing ordinances.

Recommendation: In an effort to enhance connectivity across municipal boundaries, a regional approach to standardized sidewalk requirements should be studied and sidewalk requirements based on the level of roadway (local, collector, thoroughfare, arterial) and should be applied as uniformly as possible.

Cumberland County
Zoning Ordinance, Section 604, Development Performance Standards – Sidewalks must be provided in accordance with the standards of the County Subdivision Ordinance.

Subdivision Ordinance, Section 2305. Sidewalks shall be required to be constructed in the following instances:
1. Urban Density – When a residential development is proposing lots or units at a density of five or more lots/units per acre, sidewalks are required on one side of all streets and along any abutting minor thoroughfare or higher classification street.
2. Suburban Density – When a residential development is proposing lots or units at a density that is less than 5 lots/units per acre but greater than 2 lots/units per acre, sidewalks are not required internally within the development; however, sidewalks shall be constructed along any abutting minor thoroughfare or higher classification street.
3. When any development is proposed adjacent to an existing public school or public park property, the developer shall construct and dedicate to the affected public agency a walkway (sidewalk) not less than 10’ in width in such a location as to facilitate direct convenient access to the adjacent school or park; and
4. When a non-residential development is proposed along a minor thoroughfare or higher classification street, sidewalks are required along the affected thoroughfare or higher classification street.

Subdivision Ordinance, Section 2404.12, Manufactured Home Parks – Pedestrian Circulation.
All manufactured home parks shall contain and maintain minimum three-foot wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material. The location of these paths shall be shown on the site plan. No building/park final inspection can be accomplished until these paths are installed.

Town of Linden
Subdivision Ordinance, Section 404, Streets – Access to Parks, Schools, Etc. – Street shall be designed or walkways dedicated to assure convenient access to adjacent parks, playgrounds, schools and other public places. Dedicated walkways shall not be less than 10’ in width.
Section 405, Sidewalks – Sidewalks are required to be constructed in the following instances:
1. Urban Density – When a residential developer is proposing lots or units at a density of 2.2 or more lots/units per acre, sidewalks are required on one side of all streets and along any abutting minor thoroughfare or higher classification street.
2. Suburban Density – When a residential development is proposing lots or units at a density that is less than 2.2 and greater than one dwelling unit or lots per acre, sidewalks are not required internally within the development; however, sidewalks shall be constructed along any abutting minor thoroughfare or higher classification street.
3. When an development is proposed adjacent to an existing public school or public park property, the developer shall construct and dedicate to the affected public agency a walkway (sidewalk) not less than 10’ in width in such a location as to facilitate direct convenient access to the adjacent school or park; and
4. When a non-residential development is proposed along a minor thoroughfare or higher classification street, sidewalks are required along the affected thoroughfare or higher classification street.

Subdivision Ordinance, Section 504.12, Manufactured Home Parks – Pedestrian Circulation.
All manufactured home parks shall contain and maintain minimum three-foot wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material. The location of these paths shall be shown on the site plan. No building/park final inspection can be accomplished until these paths are installed.

Town of Eastover
The Town of Eastover has adopted sidewalk requirements from the Cumberland County Subdivision Ordinance, Section 2305. Sidewalks shall be required to be constructed in the following instances:
1. Urban Density – When a residential development is proposing lots or units at a density of five or more lots/units per acre, sidewalks are required on one side of all streets and along any abutting minor thoroughfare or higher classification street.
2. Suburban Density – When a residential development is proposing lots or units at a density that is less than 5 lots/units per acre but greater than 2 lots/units per acre, sidewalks are not required internally within the development; however, sidewalks shall be constructed along any abutting minor thoroughfare or higher classification street.
3. When any development is proposed adjacent to an existing public school or public park property, the developer shall construct and dedicate to the affected public agency a walkway (sidewalk) not less than 10’ in width in such a location as to facilitate direct convenient access to the adjacent school or park; and
4. When a non-residential development is proposed along a minor thoroughfare or higher classification street, sidewalks are required along the affected thoroughfare or higher classification street.

Subdivision Ordinance, Section 2404.12, Manufactured Home Parks – Pedestrian Circulation.
All manufactured home parks shall contain and maintain minimum three-foot wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material. The location of these paths shall be shown on the site plan. No building/park final inspection can be accomplished until these paths are installed.

Town of Godwin
Subdivision Ordinance, Section 3.13, Access to Parks, Schools, Etc. - Streets shall be designed or walkways dedicated to assure convenient access to adjacent parks, playgrounds, schools, and other public places. Dedicated walkways shall not be less than ten (10) feet in width.
Subdivision Ordinance, Section 3.23. d (8), Requirements for Mobile Home Parks – Pedestrian Circulation Provisions.
All mobile home parks shall contain and maintain minimum three (3) foot wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material. The location of these paths shall be shown on the site plan. No occupancy permit shall be issued until these paths are installed.

Town of Stedman
Subdivision Ordinance, Section 3.13, Access to Parks, Schools, Etc. – Streets shall be designed or walkways dedicated to assure convenient access to adjacent parks, playgrounds, schools or other public places. Dedicated walkways shall not be less than ten (10) feet in width.

Subdivision Ordinance, Sidewalks, Section 4.3.g – All new development inside the Town of Stedman or its Municipal Influence Area (MIA) fronting on a public or private street shall be required to construct a minimum of four foot wide concrete sidewalk along the existing street(s) and all new streets, except for cul-de-sacs serving eight or less residential lots or units. Walks along designated major or minor thoroughfares and collector streets as defined in the Highway Plan shall be a minimum of five feet wide. This shall apply to the development on both sides of the street. The cost of these required walks shall be borne by the developer. All walks shall meet the Americans with Disabilities Act (ADA) standards. When walks are installed adjacent to parking areas, the walks shall be six feet wide to accommodate vehicular bumper overhang. All sidewalk plans must be reviewed and approved by the town of Stedman.

Town of Falcon
Subdivision Ordinance, Section 3.13, Access to Parks, Schools, Etc. – Streets shall be designed or walkways dedicated to ensure convenient access to adjacent parks, playgrounds, schools or other public places. Dedicated walkways shall not be less than 10’ in width.

Town of Hope Mills
Zoning Ordinance, Section 102A-604.c.(5) Sidewalks shall be provided in accordance with the standards of Chapter 86. (Subdivision Ordinance, referenced below)

Subdivision Ordinance, Sidewalks, Section 86A-405 – Sidewalks shall be required to be constructed in the following instances.
1. When a residential development with a density greater than or equal to 2.2 units per acre is proposed, sidewalks are required on one side of all streets proposed within the development and along any existing minor thoroughfare or higher classification street. Streets ending with a cul-de-sac or hammerhead turnaround when less than 500 feet in length are not required to have sidewalks. Sidewalks are also not required around the bulb of any cul-de-sac or t-type ending of any hammerhead.
2. When an development is proposed adjacent to an existing public school or public park property, the developer shall construct and dedicate to the affected public agency a walkway (sidewalk) not less than 10’ in width in such a location as to facilitate direct convenient access to the adjacent school or park; and
3. When a non-residential development is proposed along a minor thoroughfare or higher classification street, sidewalks are required along the affected thoroughfare or higher classification street.

Subdivision Ordinance, Section 86A-504.g(12) Manufactured Home Parks – Pedestrian Circulation.
All manufactured home parks shall contain and maintain minimum three-foot-wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material, crowned or sloped to ensure surface drainage. The location of these paths shall be shown on the site plan. No building/park final inspection can be accomplished until these paths are installed.
**Town of Spring Lake**  
Subdivision Regulations – Section 155.67 (F) Sidewalks.  
In any subdivision located within the town, sidewalks shall be required on one side of the street, the location to be determined by the Building Inspector. Further, such sidewalks shall be installed by the subdivider in accordance with the town specifications.

**Town of Wade**  
Subdivision Ordinance, Section 3.13. Access to Parks, Schools, Etc. – Streets shall be designed or walkways dedicated to assure convenient access to adjacent parks, playgrounds, schools and other public spaces. Dedicated walkways shall not be less than ten (10) feet in width.

All mobile home parks shall contain and maintain minimum three (3) foot wide internal pedestrian paths to central facilities such as pools, office areas, laundry facilities, recreation areas, bus stops, etc. These paths, at a minimum, shall consist of a top layer of sand, crushed gravel or similar approved material. The location of these paths shall be shown on the site plan. No occupancy permit shall be issued until these paths are installed.

Subdivision Ordinance, Section 4.1h. Sidewalks - All developments with new streets shall be required to construct asphalt sidewalks on one sided of all new streets. These sidewalks are required a minimum width of four (4) feet adjacent to the asphalt curb and gutter.

**Harnett County**  
Subdivision Ordinance, Sidewalks, Section 5.11.3

<table>
<thead>
<tr>
<th>Street Classification</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Thoroughfare</td>
<td>Both sides of the street</td>
</tr>
<tr>
<td>Minor Thoroughfare</td>
<td>Both sides of the street</td>
</tr>
<tr>
<td>Collector, Local or Cul-de-Sac Streets in any Non-Residential or Multi-Family Development</td>
<td>Both sides of the street</td>
</tr>
<tr>
<td>All streets in any Neo-Traditional Development</td>
<td>Both sides of the street</td>
</tr>
<tr>
<td>Collector Streets in any Residential Development</td>
<td>One side of the street</td>
</tr>
<tr>
<td>Local Street or Cul-de-Sac Street in any residential development</td>
<td>One side of the street</td>
</tr>
<tr>
<td>Private Street</td>
<td>Same standard as above for comparable public street</td>
</tr>
</tbody>
</table>

**Hoke County**  
Subdivision Ordinance, Street Cross Sections, Section 3.3 – Sidewalks are required on one side of the street for all subdivisions and the Board of Commissioners may require sidewalks on both sides of the road where the Board determines that pedestrian activity may warrant it. Exception:  
1. For subdivisions consisting of ten lots or less in all residential zoning districts, sidewalks are not required if no future phases or future road connections are planned or constructed for the subdivision and if the subdivision is served by only one road than is no longer than 1,000 feet in length.  
2. In approving a preliminary plan the Board of Commissioners may reduce the sidewalk requirement by up to 50 percent when in the Board’s opinion other pedestrian amenities such as trails and greenways provide equal or better performance.
City of Fayetteville
The City of Fayetteville recently (November 2010) adopted a Unified Development Ordinance (UDO) which addresses pertinent development standards, so both previous and newly adopted sidewalk regulations will be noted. The new UDO will go into effect July 1, 2011.

Section 25-61 (5) Sidewalks
1. In any subdivision located within the jurisdiction of the city, sidewalks shall be constructed on one side of all streets with the exception of cul-de-sac streets less than 500 feet in length or on any existing soil street. Sidewalks are not required around the bulb of any cul-de-sac street.

2. Collector and arterial streets, as defined in the adopted city area thoroughfare plan, that abut the development on one side of the street shall include the construction of sidewalks on that side of the street for that portion of the development that abuts the street. Developments that abut both sides of a collector or arterial street shall include the construction of sidewalks on both sides of the street for that portion of the development that abuts the street.

3. In lieu of constructing the required sidewalk, a waiver may be granted after the Planning Commission holds a public hearing and provides a recommendation to City Council at such time the Council shall make the determination on the waiver whereby allowing the applicant to pay a fee in lieu of the required sidewalk construction.

Fayetteville UDO, Sidewalks, Section 30-5.F – Sidewalks shall be required on both sides of all streets, except:
1. On lots or sites engaged in active agricultural uses in the AR district (in these instances, no sidewalks are required);
2. In residential subdivisions where the average lot size is greater than 35,000 sf in area (in these instances, sidewalks are required on one side of the street);
3. Along alleys;
4. In cases where environmental or topographic conditions make such provision impractical; and
5. When an in-lieu fee consistent with the city’s fee schedule is determined to be appropriate by the city.

UDO, Section 30-6.I – Subdivision – The payment of fees, in-lieu of installing a required public sidewalk may occur at the request of the developer with approval of the Director of Engineering, upon finding that:
1. The street is designated as a state highway or route subject to widening or improvement in the foreseeable future;
2. The street is planned for improvement in accordance with the City’s transportation plan;
3. Alternate on-site pedestrian facilities, such as trails, greenway, or multiuse paths, are adequate; or
4. The right-of-way, developing lot, or lot abutting a proposed sidewalk is not suitable for sidewalks due to floodplains, wetlands, riparian buffers, required tree canopy retention areas, slopes exceeding 25 percent, or other unique site conditions.
5.2 Sidewalk Requirements in Select North Carolina Municipalities

As a comparison, the following section details the sidewalk requirements in Raleigh, Durham, Charlotte, and Greensboro.

<table>
<thead>
<tr>
<th>North Carolina Municipality</th>
<th>Roadway Classification</th>
<th>Sidewalks Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raleigh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Arterial</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Secondary Arterial</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Major Thoroughfare</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Minor Thoroughfare</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Collector Street</td>
<td>One Side</td>
<td></td>
</tr>
<tr>
<td>Residential Collector</td>
<td>One Side</td>
<td></td>
</tr>
<tr>
<td>Commercial Street</td>
<td>One Side</td>
<td></td>
</tr>
<tr>
<td>Marginal Access Street</td>
<td>One Side</td>
<td></td>
</tr>
<tr>
<td>Residential Street</td>
<td>One Side</td>
<td></td>
</tr>
<tr>
<td>Minor Residential Street</td>
<td>One Side</td>
<td></td>
</tr>
</tbody>
</table>

Raleigh: All public roadways inside the corporate limits of the City (and outside the City when connected to the City utility system) shall be constructed with sidewalk. Sidewalks are not required in the following instances: (1) Minor residential streets serving no more than 10 dwelling units; (2) Commercial Dead End Streets which are less than 150’ in length; (3) Sensitive area thoroughfares or roadways located within a reservoir watershed protection area overlay district unless connected to city water/sewer and is within ½ mile of a school, shopping center, shopping area, or a connection to a greenway or public park, in which case a sidewalk shall be constructed to standards compatible with a non-curb and gutter street section.

<table>
<thead>
<tr>
<th>North Carolina Municipality</th>
<th>Rural Tier</th>
<th>Suburban Tier</th>
<th>Urban Tier</th>
<th>Compact Neighborhood Downtown Tiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durham</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freeways</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Major/Minor Thoroughfare</td>
<td>None</td>
<td>Both Sides</td>
<td>Both Sides</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Collectors</td>
<td>None</td>
<td>Both Sides</td>
<td>Both Sides</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Nonresidential Street &gt;2,000 daily trips</td>
<td>None</td>
<td>One Side</td>
<td>Both Sides</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Nonresidential Street &lt;2,000 daily trips</td>
<td>None</td>
<td>One Side</td>
<td>One Side</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Residential Street</td>
<td>None</td>
<td>One Side</td>
<td>One Side</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Cul-de-Sac &gt;400 linear feet</td>
<td>None</td>
<td>One Side</td>
<td>One Side</td>
<td>Both Sides</td>
</tr>
<tr>
<td>Cul-de-Sac &lt;400 linear feet</td>
<td>None</td>
<td>None</td>
<td>One Side</td>
<td>Both Sides</td>
</tr>
</tbody>
</table>
Durham: Unless the approving authority approves an alternate walkway or notes that the cost of providing the required sidewalk is disproportionate to the cost of the proposed development, a conventional sidewalk shall be provided along streets within the right-of-way as shown in the table above.

<table>
<thead>
<tr>
<th>North Carolina Municipality</th>
<th>Roadway Classification</th>
<th>Sidewalks Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Minor Arterial</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Collector Street</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Local Residential</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Local Limited Residential</td>
<td>Both Sides*</td>
<td></td>
</tr>
</tbody>
</table>

*Charlotte: Sidewalks required on both sides except for street that access less than 10 lots or less than 250 feet in length are only required to construct sidewalk on one side of the street. In addition, sidewalks are required along the property frontage along existing thoroughfares at the time of development.

<table>
<thead>
<tr>
<th>North Carolina Municipality</th>
<th>Roadway Classification</th>
<th>Sidewalks Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greensboro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Thoroughfare</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Minor Thoroughfare</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Traditional Neighborhood Development (TND)</td>
<td>Both Sides</td>
<td></td>
</tr>
<tr>
<td>Collector Street</td>
<td>One Side*</td>
<td></td>
</tr>
<tr>
<td>Local Streets</td>
<td>At Least One Side</td>
<td></td>
</tr>
</tbody>
</table>

*Greensboro: The Technical Review Committee may require sidewalks on both sides of Collector Streets when: (1) the current or projected ADT is greater than 8,000 vehicles per day; (2) the posted speed limits is greater than 35 mph; (3) the street is a strategic pedestrian route to a specified pedestrian destination located within ¼ mile; (4) or there are pedestrian safety, access, or circulation needs that necessitate sidewalks on both sides of the street.

Sidewalks are not required along new and existing cul-de-sac streets and permanent dead-end streets that do not exceed 800 feet and that are not strategic pedestrian routes.
6.0 Recommendations

Recommendations from the Connectivity Study must comprehensively address issues of access and safety for bicyclists and pedestrians. With significant input from FAMPO staff, municipal staff, residents, and consultants, and given the extent to which connectivity must be addressed throughout the study area, thorough analysis has produced an ambitious suite of recommendations.

The most appropriate recommendations for the FAMPO study area have taken the form of a proposed network of routes and corridors, integrated with a “toolbox” of safety treatments applied to intersections, crossings, and geographical challenges for bicyclists and pedestrians alike.

Connectivity Study analysis has yielded a proposed bicycle and pedestrian network comprised of **790.9 miles** of both planned and existing routes and corridors. **563.9 miles** include recommended improvements to particular segments at the street block level. These recommended improvements include sidewalks, multi-use trails, bicycle lane striping, “share the road” markings, bicycle signage, and other specific improvements aimed at addressing existing and anticipated challenges.

Corresponding analysis has yielded safety treatment recommendations for **224** intersections, pedestrian connections, mid-block crossings, and underpasses. These recommendations include intersection striping, pedestrian signals, pedestrian/bicycle signage, pedestrian refuges, and **pedestrian channelization median** aimed at preventing pedestrians from crossing roads at confirmed hazardous locations.

These combined network recommendations are estimated to increase access and connectivity for approximately 268,218 FAMPO study area residents. Metrics produced by the analysis measure access as being within a ½ mile service area of the network. Connections are a measure of the number of destinations with a ¼-mile walk of the network. Table 6.1 below summarizes metrics yielded by the analysis.

---

**FAMPO Bicycle & Pedestrian Connectivity Study**

**Network Metrics Analysis**

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Total</th>
<th>% FAMPO Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Route</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Length</td>
<td>791</td>
<td>N/A</td>
</tr>
<tr>
<td>Proposed Bicycle Routing</td>
<td>791</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Connections &amp; Destinations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhoods within Walking Distance</td>
<td>608</td>
<td>70%</td>
</tr>
<tr>
<td>Colleges &amp; Universities within Walking Distance</td>
<td>3</td>
<td>100%</td>
</tr>
<tr>
<td>Schools within Walking Distance</td>
<td>82</td>
<td>90%</td>
</tr>
<tr>
<td>Senior Centers within Walking Distance</td>
<td>12</td>
<td>75%</td>
</tr>
<tr>
<td>Parks within Walking Distance</td>
<td>77</td>
<td>94%</td>
</tr>
<tr>
<td>Bus Stops within Walking Distance</td>
<td>279</td>
<td>97%</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children within Service Area</td>
<td>78,071</td>
<td>81%</td>
</tr>
<tr>
<td>Seniors within Service Area</td>
<td>24,189</td>
<td>82%</td>
</tr>
<tr>
<td>Total Residents within Service Area</td>
<td>268,218</td>
<td>80%</td>
</tr>
<tr>
<td>Low-Income Households within Service Area</td>
<td>38,162</td>
<td>84%</td>
</tr>
</tbody>
</table>

*Table 6.1*
6.1 Routes & Corridors

Neighborhood Corridor
The proposed connectivity routing is rooted in a **263.6-mile** “spine” network of Neighborhood Corridors. These corridors include both existing and proposed sidewalks, trails, greenways, and safe roadways available to walkers and bicyclists. These routes generally make “cross-town” connections while linking neighborhoods and destinations. The primary attribute of Neighborhood Corridors is that they are routes which will safely accommodate travel by both foot and non-motorized vehicles. Many of the Neighborhood Corridors require improvements such as sidewalks, signage, and intersection/street crossing improvements along the route.

Bicycle Connectors
Bicycle Connectors are generally on-road bicycle routes which link neighborhoods and destinations, and complete the spine of the network. **295.4 miles** of bicycle connector routes exist where pedestrian travel is not recommended, due either to extended distances which likely prohibit foot travel, or a lack of feasible facilities for safe pedestrian travel. Many of these roads are, however, viable facilities for bicycle travel with appropriate investments in bicycle signage and lane striping.

Creek Corridors
Creek Corridors are routes generally located adjacent to streams and creeks, and account for **100.4 miles** of the network. The primary facility design for these corridors would be a 10-foot wide paved greenway. Final routing within creek corridors will need to be considerate of environmental constraints such as wetlands, topography, and environmentally sensitive areas. Because several creeks traverse the FAMPO region, linking neighborhoods and destinations, these corridors could evolve into a highly effective off-road system for bicycle and pedestrian travel.

Neighborhood Collectors
Neighborhood Collectors are routes which tend to be more internal to neighborhoods. While they are not central to the cross-town connection of destinations, these **125.7 miles** of routes are essential to providing accessibility. They represent safe, neighborhood-scale roads which residents can use to access both Neighborhood Corridors and Bicycle Connectors. In many cases, Neighborhood Collectors are also used to access destinations internal to neighborhoods such as parks and schools. These routes typically require little or no improvement and offer a tangible connectivity benefit to neighborhoods and residents.
Existing Bike Lanes

Existing Bike Lanes are “on the ground” bicycle lanes which are currently striped and in use. These facilities, referred to as multi-use bike lanes within the FAMPO study area, are 4-5 feet in width and are marked with standard bike lane stencils. Currently there are seven such facilities within the study area, totaling **4.3 miles**, and all located within the City of Fayetteville. Existing bike lanes are important in that they indicate areas where bicyclist may currently ride, or where existing conditions may be suitable for bicycle and pedestrian activity.

Map 6.1 below is an excerpt from the FAMPO Proposed Bicycle & Pedestrian Network - Central Fayetteville area map. Mapping for the full network has been distributed among five area maps, and is visible in whole on the Full Network Map. Please see Appendix 1.1 for all maps detailing the proposed network.
6.2 Bicycle Proficiency

Bicycle proficiency refers to the varied levels of skill and experience among bicycle riders in the FAMPO Study Area. Proficiency is important, as different bike facilities and routes can be designated and designed differently to meet these varying levels of skill.

For example: Many experienced riders report being comfortable riding along rural roads and among low-volume, mixed vehicle traffic. For these riders, wide paved shoulders along long stretches or rural road may be preferable. Novice riders, such as children and those just beginning, report comfortable only with bike facilities which are separated from motor vehicles. For these riders, multi-use paths may be appropriate. Identifying routes which meet the needs of various proficiencies is important to ensuring connectivity between destinations for all riders.

Three proficiency levels among bicycle riders have been identified for the purposes of the Connectivity Study: All Riders, Experienced Riders, and Expert Riders. Facilities for all riders are those which are separated from vehicle traffic and suitable for novices, such as multi-use paths, greenways, and the lowest-volume neighborhood streets. Facilities for experienced riders include those identified for novice riders, as well as sidewalks adjacent to roadway facilities and some on-street facilities such as bicycle lanes and shared lanes. Facilities for expert riders include those identified for experienced riders, as well as bicycle lanes and paved shoulders along higher-volume roads. Map 6.2 is an excerpt from the North Fayetteville & Spring Lake - Bicycle Proficiency map. See Appendix 1.3 for full Bicycle Proficiency mapping.
6.3 Recommended Route Improvements

Sidewalks
Sidewalks are a basic facility designed to provide pedestrians with access to the many destinations and land uses located along road corridors or within individual developments. Sidewalks are most effective for transportation when they are continuous, located on both sides of the street, and wide enough to accommodate multiple pedestrians walking side by side.

Sidewalks are particularly important within the FAMPO region as local ordinances allow bicyclists and pedestrians alike to use sidewalk facilities. This establishes existing and planned sidewalks as major assets to bicycle connectivity throughout the study area.

88.4 miles of the proposed network are recommended for sidewalk improvements. In most cases, new sidewalks are recommended. In some instances, the recommended improvement is the completion or “filling in” of sidewalk gaps. Sidewalks are recommended at a width of 5 feet and should be located either adjacent to curb and gutter, or on the backside of roadway ditches – a design typically found on suburban and rural roads. The preferred location for sidewalks behind curb and gutter is at an offset distance of at least 5 feet, buffered by vegetation. Figure 6.1 displays the recommended typical section for sidewalks. Please see Appendix 2.1 for all of the recommended typical sections.

Figure 6.1: Sidewalk Typical
**Bicycle Lanes**

Bicycle lanes are striped on-street travel facilities designed for bicyclists. They provide a dedicated space for bicycle traffic, primarily on collector and arterial roads, where “taking the lane” may not be a safe option. Bicycle lanes also offer the added benefits of reducing vehicle lane widths, thereby encouraging lowered motor vehicle speeds, and providing an additional buffer between motor vehicle traffic and any adjacent pedestrian facilities.

Bicycle lanes are recommended for **156.9 miles** of the proposed network, at a width of at least 4 feet where adjacent to curb and gutter, and 5 feet where included within paved shoulder. Paved shoulder design is typically found on suburban and rural roads. Figure 6.2 displays a recommended typical section for bicycle lanes. Please see Appendix 2.1 for all of the recommended typical sections.
Bicycle Signage
Bicycle signage is an appropriate improvement in areas where facilities such as bicycle lanes and sidewalks are not feasible, yet routes must be clearly designated. Signage serves to make bicycle riders aware of preferred routes, and make drivers aware of the presence of bicycle traffic along a roadway facility. Awareness of multiple transportation modes along a particular road corridor is essential to establishing safety for all users.

In the context of the Connectivity Study, bicycle signage is recommended in the form of "Share the Road" signs located along 131.2 miles of the proposed network. These are 18” x 24” text signs and should be accompanied by 30” x 30” graphic bicycle signs (See Figure 6.3). In accordance with the 2009 Federal Highway Administration Manual on Uniform Traffic Control Devices (http://mutcd.fhwa.dot.gov/index.htm), Share the Road signage must be located at least 50 feet in advance of the improvement, and also recommended at regular intervals along the facility.

It is important to note that when traveling on roadways – either designated as "Share the Road" segments, or undesignated – bicycles are considered vehicles. They are subject to the same laws, protections, and responsibilities as motor vehicles.

Shared Lane Arrows
Shared Lane Arrows, often referred to as "Sharrows", combine the best elements of bicycle lanes and bicycle signage on roadway facilities. Sharrows are appropriate where travel lane widths may not permit separate bicycle lanes, and traffic speeds and volumes are low enough that riders may comfortably "take the lane".

Sharrows are typically appropriate on roads with speed limits of 35mph or less. Sharrows are currently recommended for 2.7 miles of roadway within the proposed network.
Multi-Use Trails
Multi-use trails take the form of paved paths intended to serve multiple modes of travel including walking, jogging, bicycling, and other forms of non-motorized transport. Multi-use trail facilities and greenway facilities are typically similar in design; greenways are often found in natural areas, designed with adequate vertical and horizontal clearance for users, and may be designed to minimize effects on environmentally sensitive areas. Because multi-use trails are separate from roadway corridors they can be designed to make direct connections to community destinations.

200.1 miles of the proposed network are recommended for multi-use trail or greenway design. These facilities are recommended at a paved width of 10 feet with 5-foot unpaved shoulders on either side. Figure 7.4 displays a recommended typical section for multi-use trails. Please see Appendix 2.1 for all of the recommended typical sections.
Bike Thruway

**Bike Thruway** is recommended as a pilot project for the FAMPO area, along West Rowan Street near downtown Fayetteville (Map 6.3, below). Based on the more customary *bike boulevard* design, bike thruway is designated as a bicycle-preferred, shared-use roadway along a significant transportation corridor, capitalizing on existing characteristics while retaining current motor vehicle access.

Roads are typically chosen for bike boulevard designation because they exhibit the following characteristics:

- Local road with low vehicle volume
- Residential in character (preferred)
- Low speed limits (25 mph or less)
- Alternative to parallel major roads
- Connect destinations
- Right-of-way assigned to the bike boulevard at intersections
- Physical design discourages motor vehicle thru traffic
- Human-scale design
- Clearly-designated pavement markings and signage
West Rowan Street is ideal for bike thruway design for the following reasons:

- Exclusively residential in character west of Martin Luther King Freeway bridge
- Connects existing bicycle lanes and neighborhood park in Haymount/Westmont area to Rowan Park, planned linear park, and downtown Fayetteville
- Runs parallel to both Hay Street and Bragg Boulevard – major alternate vehicle routes
- Continuous right-of-way at intersections

0.7 miles of Bike Thruway design are proposed for West Rowan Street – beginning at Oakridge Ave and ending at the planned realignment of Bragg Blvd (NCDOT Project B-4490). Improvements associated with this design include prominently displayed “sharrows”, sidewalk where appropriate, and segmented median landscaping designed to calm traffic while allowing for turning movements. Figure 6.5 illustrates the recommended typical section for the Bike Thruway (also available in Appendix 2.1).
6.4 Intersections & Crossings

Intersections play a significant role in bicycle and pedestrian connectivity in that they are a designed meeting point for both pedestrian and motor vehicle traffic. Nationally in 2008, 35% of pedestrian deaths among people aged 60+ occurred at intersections, compared with 20% for those aged 60 and under. Intersections accounted for 38% of all bicycle deaths in 2008 (Insurance Institute for Highway Safety, Fatality Facts: http://www.iihs.org/research/fatality_facts_2008/general.html).

The presence of multiple conflict points (between motor vehicles and bicycles or pedestrians) poses a serious threat to those on foot or bike. Larger intersections tend to have more lanes, thereby increasing the number of conflict points and increasing the overall threat.

The same is true of roadway crossings in general. Most two-lane roadways present at least two conflict points to crossing bicyclists or pedestrians: collision on the left side, or collision on the right.

Safety treatments are intended to either counteract threats posed by intersections and crossings, or ensure that all users are aware of their presence. Recommendations from the Connectivity Study include several safety treatments at many of the 211 identified intersections and crossings. Map 6.4 below is an excerpt from the Intersections & Crossings – Hoke County area map. Please see Appendix 1.2 for full maps detailing intersection and crossing recommendations as well as a summary of intersection improvements.

Map 6.4. See Appendix Section 1.2 for full Intersections & Crossings mapping.
**Striped Crosswalks**
The vast majority of intersections within the FAMPO Study Area either do not have painted crosswalks, or utilize the standard parallel line crosswalk. There are two drawbacks associated with parallel line crosswalk design which negatively impact safety: First, the thin parallel lines rank low in visibility, particularly from great distances – often motor vehicles approaching an intersection do not come to a complete stop until they are well across the lines. Secondly, the minimal paint associated with the design shortens the life of these crosswalks – they can become faded and worn away relatively quickly.

It is recommended that crosswalks in the study area utilize a "zebra" crosswalk design. Zebra crosswalks utilize vertical lines (as opposed to horizontal parallel lines) which are significantly wider. This design presents more of a visual cue to drivers and pedestrians alike. The intentionally wide-spaced line design also allows the crosswalk to better avoid wear from vehicle tire treads.

151 Study Area intersections are recommended for zebra crosswalk design; recommendations include which side(s) of the intersection should be striped – North, South, East, and/or West. In some cases, identified intersections currently have some form of crosswalk marking – in these cases upgrading to zebra striping is recommended. Please see Appendix 3 for a summary of crosswalk improvements.

**Pedestrian Signals**
Pedestrian signals are an essential feature at many intersections. While some intersections are located on narrow roads with few lanes, and low traffic volumes, others are located on major arterial roads with high speeds and high traffic volumes. On these larger facilities, and others, pedestrians and bicyclists alike rely on pedestrian signals to inform them when traffic has stopped and sufficient time is available for them to cross the street. In addition to the visual information and cues, modern pedestrian signals are also equipped with auditory signals which inform visually impaired users when to cross and how much time is available for them to cross.

Pedestrian signals are recommended at 65 intersections where roadway volumes and context warrant. In rare cases, identified intersections may have existing signals – in these cases it is recommended that additional signals be included at recommended crosswalk locations. See Appendix 3 for a summary of pedestrian signal improvements.
Crosswalk Signage

Crosswalk signage is important at intersections and other crossings because it informs pedestrians, bicyclists, and drivers of the presence of pedestrians and potential for users crossing travel lanes. Signage alone can be an effective intersection safety improvement for smaller, low traffic, low speed intersections. It can also be effective for alerting drivers and crosswalk users to the presence of mid-block crossings.

The Connectivity Study recommends crosswalk signage at 99 intersections, connectors, and mid-block crossings where roadway volumes and characteristics warrant. Signage should always be used in conjunction with striped crossings, and is also recommended for some signalized intersections to increase awareness of crossings.

HAWK Signal

HAWK is an acronym for High-Intensity Activated CrossWalk; also referred to as a pedestrian hybrid beacon. A HAWK signal functions similarly to a standard traffic signal in directing oncoming motor vehicle traffic to slow and stop, however it is activated by pedestrians or bicyclists, and its signal pattern is phased to accommodate safe pedestrian crossings (see Figure 6.6 below). HAWK signals are warranted at crossings with high pedestrian and bicycle traffic volumes, moderate to high vehicle volumes, and no other signalized crossings within 300 feet.

A HAWK signal is recommended for the intersection of Lake Avenue and Bragg Boulevard in Spring Lake. This signal recommendation takes into account recommendations from the previously completed Spring Lake Multi-Modal Congestion Management Plan (2009).
Rapid Rectangular Flashing Beacons

Rapid Rectangular Flashing Beacons (RRFB) – granted Interim Approval by the Federal Highway Administration in 2008 – are a relatively new and innovative treatment for enhancing safety and awareness at road crossings. RRFBs are solar-powered, user-actuated (similar to existing pedestrian crossing signals) amber LED lights which are used as a supplement to approved pedestrian and school crossing signs. The RRFB employs an irregular flash pattern similar to flashers on emergency vehicles.

RRFBs are an ideal tool in that they are a low-cost alternative to both traffic signals and HAWK signals, and, in testing, have led to comparable vehicular yield rates while requiring lessened traffic warrants. RRFBs are recommended at 9 mid-block crossings and crosswalks in the FAMPO Study Area. In selecting these locations, proximity to schools, vehicular traffic data, and presence of multi-lane crossings were considered.

Jurisdictions wishing to install RRFBs must have approval from the FHWA Office of Transportation Operations, and must comply with general operation requirements. Please see Appendix 2.3 for RRFB guidelines and information on effectiveness.

Mid-Block Crossings

Mid-block crossings are an important feature of the Connectivity Study recommendations. In addition to sidewalks, there are many “off-road” bicycle and pedestrian facilities included in the proposed network. Many of these planned facilities or identified routes must cross roads; often times routing through existing intersections is not feasible.

Mid-block crossings are recommended for 38 locations (includes crossing of proposed facilities); primarily on roads with lower traffic volumes and speeds. Mid-block crossings should include high visibility zebra striping, and prominent crosswalk signage. They should be located such that there is adequate sight distance (minimum of 400 ft) and lighting for both crosswalk users and motor vehicles.
Pedestrian Refuges
A pedestrian refuge is a human-scale type of traffic island, generally located within the median, or at the midway point of a multi-lane road crossing. Refuges allow pedestrians and bicyclists to focus attention on one direction of traffic at a time, enabling them to stop partway across the street and wait for an adequate gap in traffic before continuing to cross.

Refuges should be used in conjunction with striped crosswalks, and serve not only as a safety treatment for users, but offer a visual cue to drivers to slow down for potential pedestrian crossings. They are typically raised median structures, housed in a concrete form to shield users from vehicles. They can be landscaped, brick, or concrete with varied lengths and widths to fit a particular crossing.

Connector
In the context of the Connectivity Study, connectors are special improvements recommended for specific bicycle and pedestrian connectivity challenges. These improvements include underpasses, at-grade pedestrian railroad crossings, pedestrian culverts, pedestrian bridges, and simple paths through man-made or natural barriers. It is recommended that each of the 20 recommended improvements undergo complete engineering studies, where applicable, to determine the most feasible solutions.

Fairfield Road: This closed road is an ideal location for a recommended pedestrian bridge to the adjacent neighborhood.

Offing Drive: The recommended pedestrian railroad crossing at this location would mitigate a major connectivity challenge.
**Pedestrian Channelization Median**

Often times, accidents occur between motor vehicles and pedestrians or bicyclists at locations other than designated intersections and crossings. These can be improvised mid-block crossings or any location where unfavorable sight distance, lighting, or traffic characteristics make crossing the roadway hazardous. For these locations, pedestrian channelization median is recommended to *discourage* pedestrians and bicyclists from crossing, and visually channel them toward appropriate crossings.

As noted earlier in Section 2.1, analysis of past accident history resulted in several locations within the FAMPO Study Area which have been identified as dangerous for crossings. Pedestrian channelization median, in the form of either shrubs or pedestrian barrier gates, is recommended for placement at 15 locations identified on the *Intersections & Crossings* maps. One such location is the eastern portion of Grove Street in Fayetteville, which has a total of 17 reported bicycle/pedestrian accidents in the past 5 years. The City of Fayetteville and NC Department of Transportation currently have a pedestrian barrier project planned for this facility.
7.0 Project Prioritization

Prioritization for recommended projects is very important in laying out an implementable path to the bicycle and pedestrian connectivity the FAMPO area desires.

Project priorities are categorized at three levels:

<table>
<thead>
<tr>
<th>Level</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Term</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>Medium Term</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>Long Term</td>
<td>10-20 Years</td>
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</tbody>
</table>

Many of the recommended projects are components of larger infrastructure projects or will require investment or agreement from multiple stakeholders. Because of this, project prioritization must take into account the realities of project implementation. Several factors are considered when determining project priority:

**Importance of the project in completing existing connections.**
Many of the recommended improvements are components of larger Neighborhood Corridor routes which establish major cross-town connections. The ability of these projects to make a significant impact on regional connectivity and spur additional projects in the FAMPO Study Area has great bearing on their priority.

**Ability to complete the project quickly, and realize a benefit.**
This could be referred to as the "low-hanging fruit" criteria. Many of the recommended projects are small in nature, such as short sidewalk sections, or short trail connections to neighboring destinations. These projects can be completed quickly, and at minimal cost, while immediately enhancing connectivity.

**Status of the project as a component of a currently-funded project.**
Many of the recommended projects in the FAMPO Study Area benefit from being a component of larger projects. Some of these include development projects such as the Blount Creek Greenway – currently a component of the Campbell Terrace/Delona Gardens HOPE VI Project. Many more projects are components of NCDOT transportation projects. The current schedule for these larger projects is the determining factor in assigning priority for their connectivity components.

Recommendations for intersection and crossing improvements take into account recommendations and planned improvements for their respective routes and facilities. Often, recommendations associated with one are vital to the success of the other. For this reason, the level of priority associated with individual intersection and crossing recommendations is a direct reflection of the prioritization of the respective route.

Map 7.1 is an excerpt from the *Project Prioritization – Harnett County* area map. It should be noted that the Project Prioritization maps reference recommended improvements and do not reference route segments which are currently on the ground and accessible. These on-the-ground facilities may include sidewalks, existing bike lanes, and other existing facilities. Please see Appendix Section 1.4 for full Project Prioritization mapping.
Map 7.1: Project Prioritization
Bicycle and Pedestrian Plan written by the
Fayetteville Area Metropolitan Planning Organization
In cooperation with the
Citizens Advisory Committee,
Transportation Policy Board and the
Transportation Technical Coordinating Committee

Mr. Bobby C. McCormick, Principal Planner, FAMPO

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