ALEXANDRIA
PINEVILLE
BICYCLE & PEDESTRIAN PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

RAPC
Rapides Area Planning Commission

ALEXANDRIA PINEVILLE MPO

ALEXANDRIA/PINEVILLE
METROPOLITAN PLANNING ORGANIZATION
TRANSPORTATION POLICY COMMITTEE

RESOLUTION #RAPC-170106

(Adopting the Bicycle and Pedestrian Plan)

"WHEREAS, the Rapides Area Planning Commission (RAPC), designated by the Governor of Louisiana, is the Metropolitan Planning Organization (MPO) responsible for the metropolitan transportation planning and programming process for the Alexandria/Pineville Urbanized Area in accordance with 23 U.S.C. 134 and 49 U.S.C. 5303 and applicable federal and state regulations;

WHEREAS, the Transportation Policy Committee (TPC), composed primarily of elected officials, is the regional transportation policy body associated with RAPC and continues to be regional forum for cooperative decisions on transportation; and,

WHEREAS, the Fixing America's Surface Transportation Act (FAST Act) assigns the MPO responsibility for developing and maintaining the Bicycle and Pedestrian Plan (BPP); and,

WHEREAS, the RAPC in partnership with TPC, Bicycle and Pedestrian Advisory Committee, Transportation Policy Committee and the public developed the BPP based on a collaborative process to identify, prioritize, and seek transportation funding for needed investments in order to address the region's alternative transportation and associated challenges;

WHEREAS, the RAPC provided early and continuous opportunities for public participation throughout the two-year developement of the BPP including the public comment period from December 20 through January 2, 2017 at the ten locations as per RAPC's Public Participation Plan;

WHERAS, the RAPC is in attainment for all National Ambient Air Quality Standards; and,

WHEREAS, the Bicycle and Pedestrian Plan fully complies with the requirements of 23 C.F.R 450.

NOW, THEREFORE BE IT RESOLVED that the Transportation Policy Committee does hereby approve and adopt the Bicycle and Pedestrian Plan and directs staff to submit said document to the appropriate federal and state agencies."

ADOPTED by the Transportation Policy Committee at its meeting on the 19th day of December, 2016.

Signed and executed on the 6th day of January, 2017

Mayor Clarence Fields, Chairman
Metropolitan Planning Organization
Transportation Policy Committee

Cover images: The Town Talk

23 USC 409 Disclaimer
This document and the information contained herein is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

This document is available in electronic format and by print-on-demand. View and download the electronic format of this document at www.rapc.info/bpp.

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Chapter 1:
INTRODUCTION

Chapter 1: Introduction

The Bicycle and Pedestrian Plan (BPP) is intended to serve as a guide for improving bicycle and pedestrian activities in the Alexandria/Pineville Metropolitan Planning Area (MPA) in Central Louisiana. The BPP is the first for a document of this scale and context for the metro area.

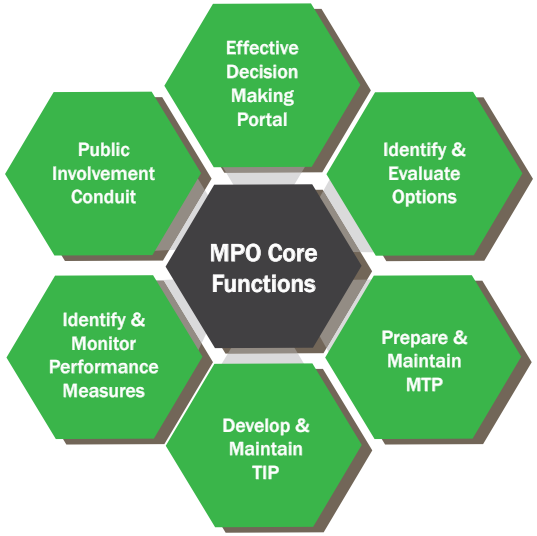
The plan suggests education, promotion, policy and projects to integrate biking and walking into the existing transportation environment. This plan aims to connect existing facilities through new routes with signage, propose a robust network of walkways / bicycle routes, and ensure safe, efficient, and effective alternate transportation solutions. It provides a coordinated, multi-jurisdictional strategy for enhancing conditions and providing inter-jurisdictional links for biking and walking in support of the metro area's mobility, quality of life, tourism and economy goals. It does this by addressing all types of biking and walking trips—from a short walk across the street, to a longer bike trip to Kisatchie National Forest or Cotile Lake or across the Red River.

1.1: What is the role of MPO in Bicycle and Pedestrian Mobility?

The Alexandria/Pineville Metropolitan Planning Organization (MPO) is the federally-designated transportation planning agency for the Alexandria/Pineville metro area (Figure 1-1). Since 1975, the Rapides Area Planning Commission (RAPC) has staffed the MPO and acted as their fiscal agent.

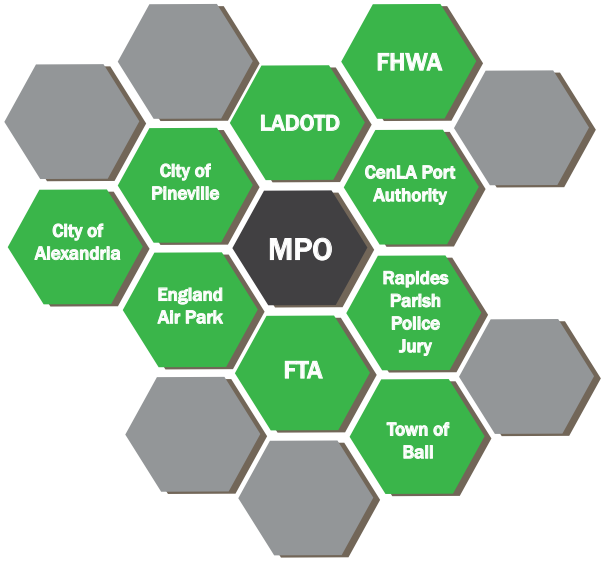
The US Census Bureau identifies 486 urbanized areas throughout the United States comprising of 71% of the country's population. An urbanized area consists of densely settled territories that contain 50,000 or more people.

Figure 1-1: MPO Core Functions



The Alexandria/Pineville urbanized area (UZA) encompasses the City of Alexandria, the City of Pineville, the Town of Ball, portion of the Town of Woodworth and the unincorporated community of Tioga. The MPA is comprised of the 2010 census designated Alexandria/Pineville urbanized area plus contiguous areas likely to become urbanized in the next 25 years. In addition to the entities within the UZA, the MPA constitutes portion of the Town of Boyce (Figure 1-2), local governments, FHWA, FTA, LADOTD, Central Louisiana Regional Port Authority, England Airpark and other stakeholders participate in the MPO transportation planning process (Figure 1-3).

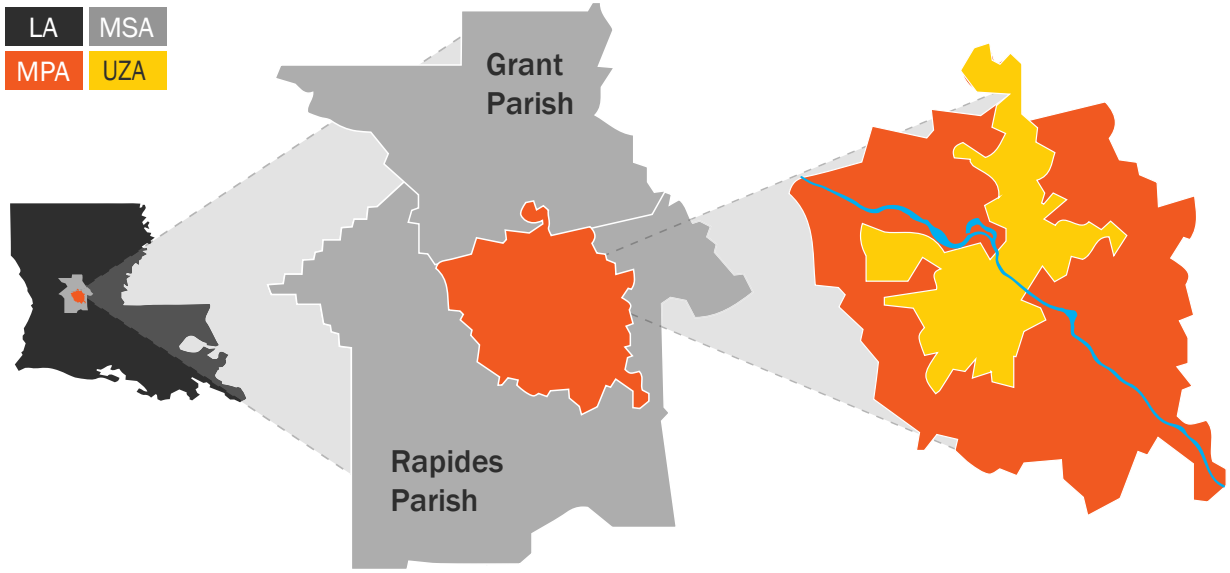
Figure 1-2: Alexandria-Pineville MPO



This plan is pursued under the contract (State Project# H.972104) between the Louisiana Department of Transportation and Development (LADOTD) and RAPC within the Bicycle & Pedestrian Safety and Healthy Community Education.

RAPC provides staff assistance to all MPO Committees such as: a decision-making body called the Transportation Policy Committee (TPC), an advisory body called the Transportation Advisory Committee (TAC), special function committees such as the Bicycle and Pedestrian Advisory Committee (BPAC) and the CenLA Highway Safety Coalition. The TPC oversees how federal transportation dollars are spent within the MPA.

Figure 1-3: MPA and UZA



1.2: What is the purpose of this plan?

Under the guidance of the Bicycle and Pedestrian Advisory Committee (BPAC), the MPO staff have established the planning process, conducted literature review, collected and analyzed data, assessed potential demand for bicycle and pedestrian facilities, solicited public input, formulated goals, objectives and strategies, developed a bicycle and pedestrian project list, projected cost and identified potential funding sources.

Additionally, the BPP document serves as a master plan for bicycle and pedestrian facilities in the MPA, with focus on reducing bicycle and pedestrian related crashes, encouraging safety education to bring awareness on rights and responsibilities for all travelers, promoting uses of alternate transportation modes, enhancing transportation equity, and coordinating regional transportation resources to improve connectivity.

With this Plan, the Alexandria/Pineville MPO is taking a comprehensive approach to community wellbeing and quality of life. This Plan will reinforce these values and support design to serve all users, including children, the elderly, persons with disabilities, and those who prefer the use of non-motorized travel modes to commute. The Plan ensures implementation through a series of recommendations, which include details describing types of improvement, approaches for implementation, and probable construction costs.

1.3: Why plan for bicycle and pedestrian facilities?

According to the 2009 National Household Travel Survey(NHTS), 8.7% of all U.S. households did not own a vehicle. That is equivalent to one in every 12 households (Figure 1-4). Approximately 11.4% of total person trips were walking or biking trips, and the total number of walking and biking trips have steadily increased when compared to results from the 1995 and 2001 survey(Figure 1-5). According to NHTS, children with age 16 or less bike and walk more than other age groups (Table 1).

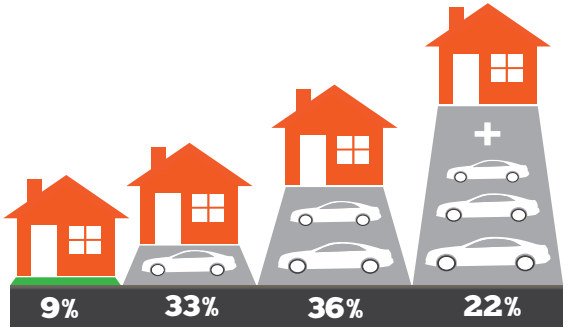
Table 1-1: Walking and Biking Trip Percentage, 2009 National Household Travel Survey

(in Millions)

Age	Total Person Trip	Walk trip	Bike Trip	Walk Trip Percentage	Bike Trip Percentage
5-15	51976.38	6904.65	1607.84	13.28%	3.09%
16-17	10543.65	1274.34	79.21	12.09%	0.75%
18-24	38784.92	3558	360.68	9.17%	0.93%
25-29	18968.42	2403.42	113.33	12.67%	0.60%
30-34	28733.02	3573.77	205.48	12.44%	0.72%
35-39	36764.27	3657	304.84	9.95%	0.83%
40-44	42836.2	4008.16	310.61	9.36%	0.73%
45-49	30189.04	2971.13	268.66	9.84%	0.89%
50-54	33236.71	3236.6	224.27	9.74%	0.67%
55-59	30070.93	3044.99	250.96	10.13%	0.83%
60-64	24415.92	2333.82	94.65	9.56%	0.39%
65-69	16464.29	1540.89	100.66	9.36%	0.61%
70-74	11638.49	951.42	77.83	8.17%	0.67%
75-79	8486.78	658.67	69.46	7.76%	0.82%
80-84	5732.32	537.03	9.52	9.37%	0.17%
85+	3181.5	307.94	3.8	9.68%	0.12%

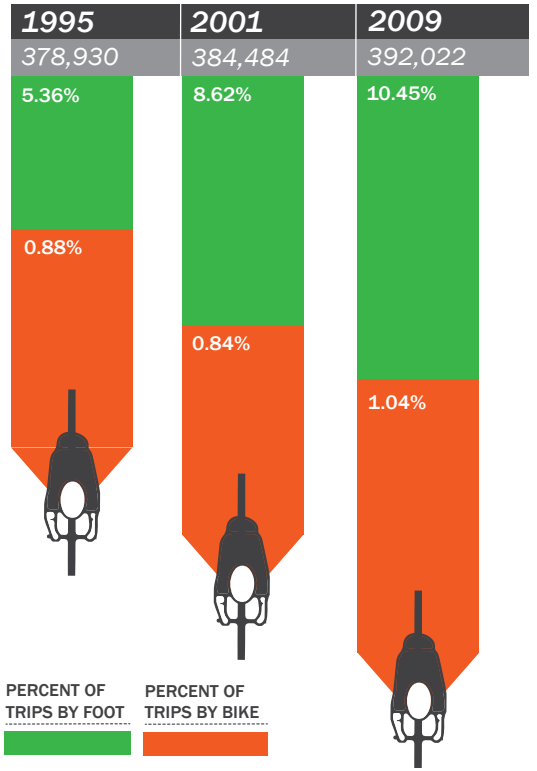
SOURCE: *U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey. URL: http://nhts.ornl.gov*

Figure 1-4: Household Vehicle Availability in U.S.



SOURCE: *National Household Travel Survey, 2009*

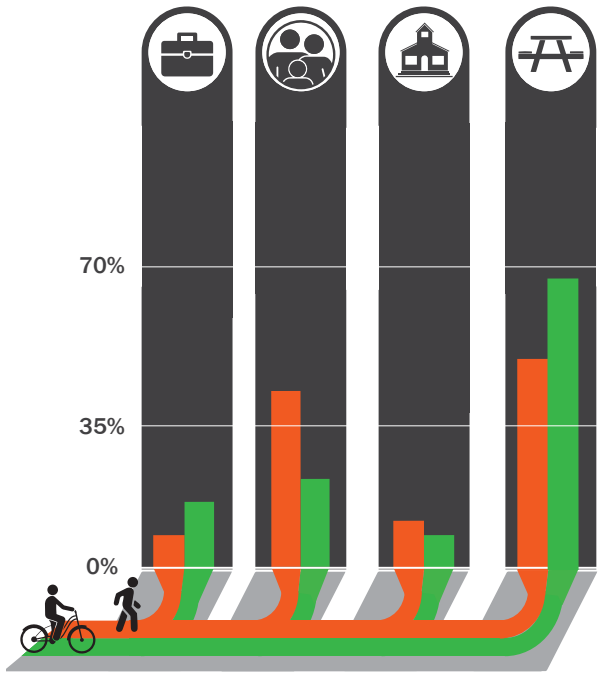
Figure 1-5: Total Number of Bike & Walk Trips



SOURCE: *National Household Travel Survey, 2009*

For U.S. road users, the purpose of walking and biking remains largely social and recreational, despite an increase in both when making trips to "earn a living" (Figure 1-6). Improving comfort levels and safety for biking and walking create an integrated and intermodal transportation system that provides travelers with a real choice of transportation. As stated by the U.S. Department of Transportation, it is vital for bicyclists and pedestrians to have safe and convenient access to airports, ports, ferry services, transit terminals, and other intermodal facilities as well as access to jobs, education, health care, and other essential services.

Figure 1-6: Purpose of Bike & Walk Trips



SOURCE: *National Household Travel Survey, 2009*

A wide variety of research have revealed the positive impact of walking and biking on health, well-being, and safety (Alliance for Biking & Walking, 2016). Because of the special functions and its high connection with personal health and recreation, well planned bicycle and pedestrian facilities are crucial to the rebuilding of social street, retrofitting suburbia for safety, feeding healthy commerce and bringing joy to daily life. Furthermore, it may yield the greatest impact on low-income communities, youth, elderlies, and female, thus balancing social equity in transportation infrastructure.

1.4: What warrants a bicycle and pedestrian plan?

On March 11th, 2010, The U.S. Department of Transportation (DOT) issued the "United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations", which states:

> ***"The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes."[2]***

[2] *http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm#bp7*

Under the bicycle and pedestrian policy guidelines, MPOs and States should consider incorporating the needs of bicyclists and pedestrians and the bicycle and pedestrian transportation network. In 2012, Moving Ahead for Progress in the 21st Century Act (MAP-21) established a new program to fund a variety of alternative transportation projects - the Transportation Alternative Program (TAP), which replaced Transportation Enhancements, Recreational Trails, and Safe Routes to School, wrapping them all into one single funding source. The 2015 Fixing America's Surface Transportation Act (FAST Act) reauthorized Federal surface transportation programs for FY 2016 through 2020. The FAST Act eliminates the MAP-21 Transportation Alternatives Program (TAP) and replaces it with a set-aside of Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA).

Pedestrian and bicycle infrastructure projects remain broadly eligible across Federal-aid highway and transit programs. U.S. Department of Transportation (USDOT), States, MPOs, and cities should continue to promote and adopt design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users.

The BPP is essentially a pro-active approach of the MPO to create a safer, more connected and pro-equity built environment. Based on region-wide concerns, needs assessment and priority-setting, this plan proposes strategies and guidelines for future capital investment and policies on bicycle and pedestrian facilities. Officially adopted master plan is crucial for cities and parishes in the MPA to secure state, federal and other grants to fund bicycle and pedestrian projects, by demonstrating support from the citizen advisory committee and data analysis.

1.5: How to develop a bicycle and pedestrian plan.

7 The BPP is essentially based on the "Five E's" of bicycle and pedestrian planning. The Five E's provide a thorough understanding of the issues at hand and lead to the development of comprehensive strategies to improve safety, enhance mobility, accessibility as well as connectivity, and increase the number of people walking and biking.

Table 1-2: Five E's of Bicycle & Pedestrian Planning

	Strategies	Actions
Evaluation & Planning	Planning for biking and walking as a safe and viable transportation option.	*Measure the growth of bicycle/pedestrian facilities in the region*
	Monitoring and documenting outcomes, quantifying impacts, and trends at the beginning of the planning process, during implementation, and post improvement.	*Measure # of users on a specific facility*
		Evaluating crash data for patterns or frequency
Engineering	Creating improvements to the physical infrastructure that establishes safe and convenient places to walk and bike.	*Off-street paths, sidewalks, and crosswalk improvements*
	Engineering recommendations are typically divided into short, medium and long-term priorities based on cost, ease of implementation, and other factors.	*Directional and wayfinding signage*
		Complete Street Policies (MPA wide)
Encouragement	Using events and activities which promote biking and walking with students, parents, staff and surrounding communities.	*Bike to Work Week/ Bike and Walk to School Day activities*
	Focusing on efforts seek to demonstrate that biking and walking are valid transportation modes.	*Ciclovias (closing a street for a few hours and allowing biking, walking, skating, etc.)*
		Maps, brochures, and online engagement tools
		Bike Train (Riding as a group)
Education	Teaching all transportation users (drivers, bicyclists and pedestrians) how to safely interact.	*Bike and Walk Festivals*
		Public Service Announcements (PSAs)
		Driver's education
Enforcement	Partnering with law enforcement officials to ensure that traffic laws for all transportation modes are obeyed.	*Efforts to reduce speeding*
		Efforts to increase yielding to pedestrians
		Efforts to reduce bicycle/pedestrian crash types
		New training programs for law enforcement officers

1.6: What is the structure of BPP?

Following **Chapter 1 Introduction**, the plan consists of five other chapters and appendix which references information mentioned in all six chapters.

Chapter 2 Planning Process explains how the plan was created, details the formulation of the Citizen Advisory Committee and public participation.

Chapter 3 Existing Conditions examines demographic and Geographic Information Systems (GIS) data and review current plans to assess needs and priorities for biking and walking.

Chapter 4 Goals and Strategies sets a vision, goals and strategies for future capital improvements and policies.

Chapter 5 Recommendation for Improvements provides design guidelines and recommendation for improvements to address common challenges with bicycle and pedestrian facilities.

Chapter 6 Implementation, Prioritization and Funding Sources includes implementation approach for bicycle and pedestrian facilities, a project list and estimated costs as well as prioritization, and potential funding sources.

Finally, the Plan concludes with reference and appendices.

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Chapter 2:
PLANNING PROCESS

Chapter 2: Planning Process

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This chapter covers the planning process to develop the BPP, which includes literature review, all planning elements and how each element was fulfilled; followed by a description of the public participation process to explain how the BPP has met Title VI requirements.

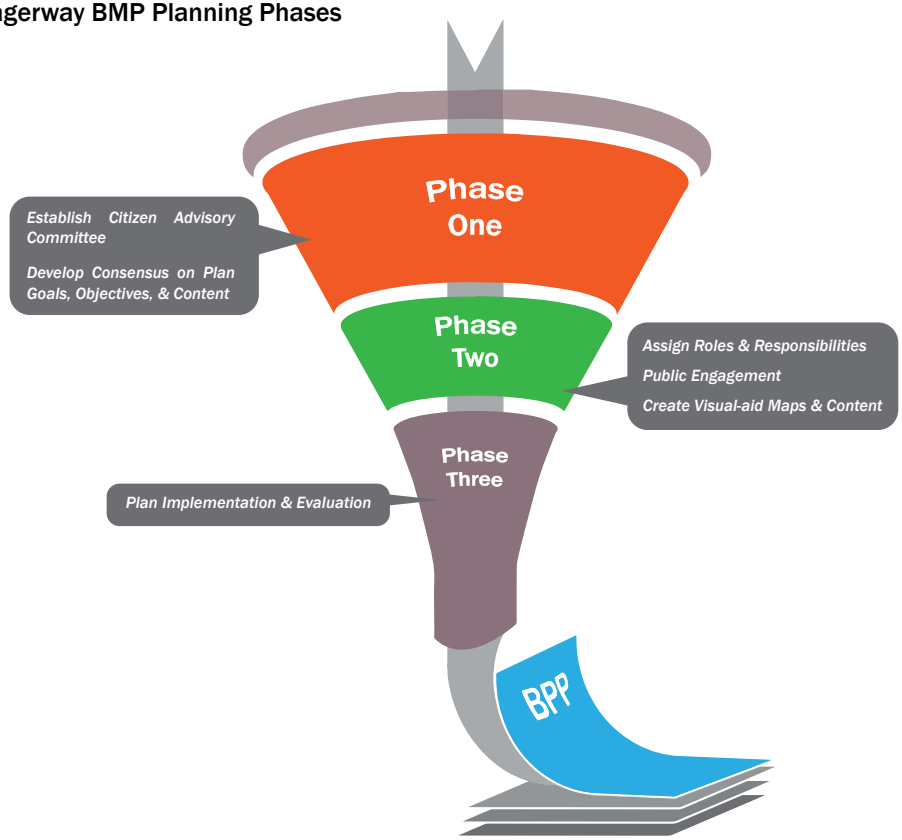
Planning allows for implementation to incorporate elements of the plan as development happens. Ultimately, it is less expensive than attempting to retrofit areas to have good facilities or access points.

2.1: Planning Elements

In his report Creating a Roadmap for Producing & Implementing a Bicycle Master Plan (Lagerwey, 2009) ,Peter Lagerwey suggested the following three phases to develop a bicycle master plan (BMP):

- **Phase I** takes place prior to the development of the plan to grow stakeholder buy-in, including "setting up a citizen advisory committee, developing a consensus on plan goals, objectives, and content."
- **Phase II** involves roles and responsibilities assignment, public engagement and create visual-aid maps and plan content.
- **Phase III** covers implementation and evaluation of BMP, which includes "accountability, political will, and stakeholder involvement."

Figure 2-1: Lagerway BMP Planning Phases



SOURCE: *Creating a Roadmap for Producing & Implementing a Bicycle Master Plan, Lagerway 2009*

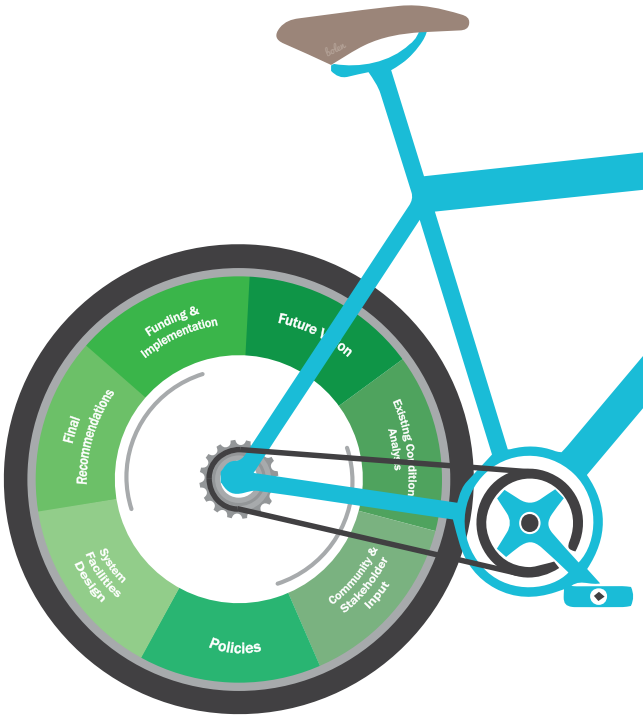
Based on the suggested three phases of BMP development, Portland State University's Initiative for Bicycle and Pedestrian Innovations proposed the following elements to be included in a bicycle and pedestrian master plan[1] (Figure 2-2):

- Vision for the future
- Existing Condition Analysis
- Input from Community and Stakeholders
- Policies
- System Facilities and Design
- Final Plan Recommendations
- Implementation & Funding Strategies
- Appendices

Federal transportation policy requires and promotes the increasing use and safety for bicycling and walking, a fully integrated bicycle and pedestrian considerations in a transportation planning process and plan should include (Figure 2-3):

1. Vision,goal statements, and performance criteria
2. Assessment of current conditions and needs
3. Identification of activities required to meet the vision and goals developed above
4. Implementation of the bicycle and pedestrian elements in the statewide and MPO transportation plans and transportation improvement programs
5. Evaluation of progress
6. Public involvement
7. Transportation conformity requirements for air quality

Figure 2-2: University of Portland Bike & Pedestrian Planning Elements



SOURCE: *PSU's Initiative for Bike & Pedestrian Innovations*

Figure 2-3: Federal Highway Administration Bike & Pedestrian Planning Elements

SOURCE: *Federal Highway Administration (FHWA)*

[1] *https://www.pdx.edu/ibpi/sites/www.pdx.edu.ibpi/files/Bicycle%20%26%20Pedestrian%20Master%20Plans%20Lecture%20Notes.pdf*

Based on literature review, below is the planning process for the Alexandria/Pineville BPP (Figure 2-4):

1. **Research Existing Conditions** – review current plans and demographic data to identify needs, latent demands and purposes for biking and walking activities, develop a GIS database for existing bicycle and pedestrian facilities, counts and crash hotspots.

2. **Form a Bicycle and Pedestrian Advisory Committee (BPAC)** – invite key stakeholders and advocates to form a citizen advisory committee that provide input, forge alliance and build partnerships for future projects.

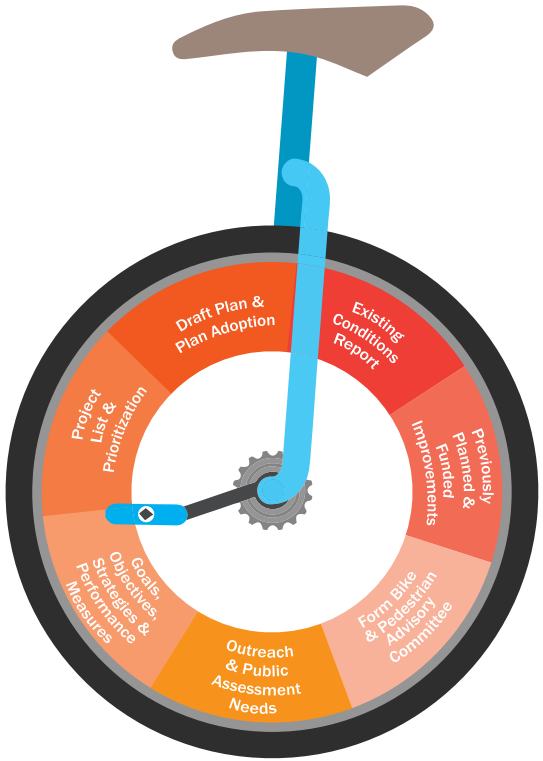
3. **Assess Needs and Public Outreach** – solicit public needs through:
   a. Survey – an online survey was designed and distributed among the public
   b. Committee Input – one-one meetings between RAPC staff and Committee members
   c. Meetings – four meetings were hosted by RAPC during the development of the plan

4. **Identify Goals, Objectives, and Strategies** – identify a regional vision, goals, objectives and to address and overcome common concerns, strategies were recommended by planners and BPAC to achieve these goals.

5. **List Project, Priority and Estimate Costs** – integrate with the MPO's Long Range Plan and Transportation Improvement Plan, and list potential projects, sorted by priorities of "low, medium and high", with costs associated with each project.

6. **Identify Potential Funding Sources** – a comprehensive list of potential funding sources, addressing current federal transportation bill.

Figure 2-4: Bike & Pedestrian Planning Elements



SOURCE: *Alexandria/Pineville MPO, 2016*

2.2: Public Participation

The MPO is committed to engage the public in the development of all transportation plans and programs. It is the overall goal of the MPO that the transportation planning process is open, accessible, transparent, inclusive, and pro-active. The MPO's Public Participation Plan (PPP) supports Title VI compliance by enabling and encouraging all members of the public to actively participate in the development of the BPP.

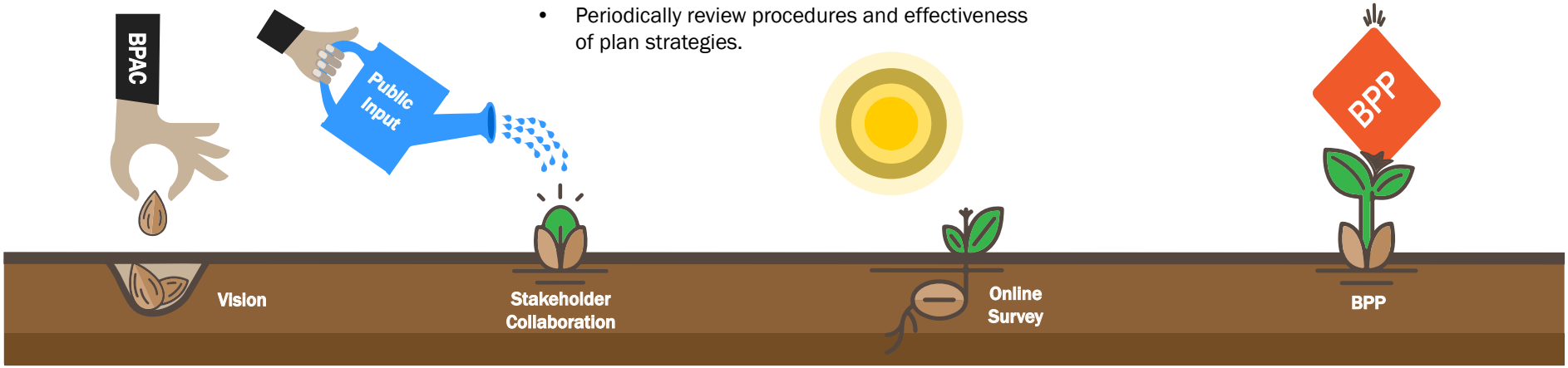
The PPP was adopted by the MPO in 2014. Some key relevant requirements include:

- Adequate public notice of activities and time for public review and comment.
- Timely notice and access to information.
- Employment of visualization techniques to describe plans and programs.
- Make information available electronically and on the internet.
- Hold meetings at convenient times and easily accessible venues.
- Consider and respond to public input in a timely fashion.
- Seek out and consider the needs of the traditionally under-served in the community, such as low-income and minority populations.
- Provide additional opportunity for public comment on all plans, and changes to plans, following initial agency and public reviews during development, especially the MTP and TIP.
- Coordination with statewide public involvement and consultation processes.
- Periodically review procedures and effectiveness of plan strategies.

Besides abiding to the requirements outlined in the PPP, the development of BPP has followed additional procedures:

- Meeting notices, planning activities, campaigns were published at social media for outreach to a wider array of demographic groups.
- Public surveys were displayed in various public locations and community centers to ensure access to internet for completing the survey, including all Rapides Parish Public Libraries.
- Online public survey platform (Survey Monkey) were used to capture responses.
- Presentation to neighborhood groups, tourism partners and at statewide and national conferences were made available upon request.
- Meetings were held at locations with ADA compliance, accessible to the disabled and near bus routes.
- Establishing and maintaining email lists of BPAC and various interested individuals and organizations to provide notifications about upcoming meetings, events, opportunities related to active transportation.

Figure 2-5: BPP Public Engagement



Bicycle and Pedestrian Advisory Committee (BPAC)
In March 2015, MPO staff began interviewing a list of stakeholders and recruiting BPAC members from the following organizations and interested groups:

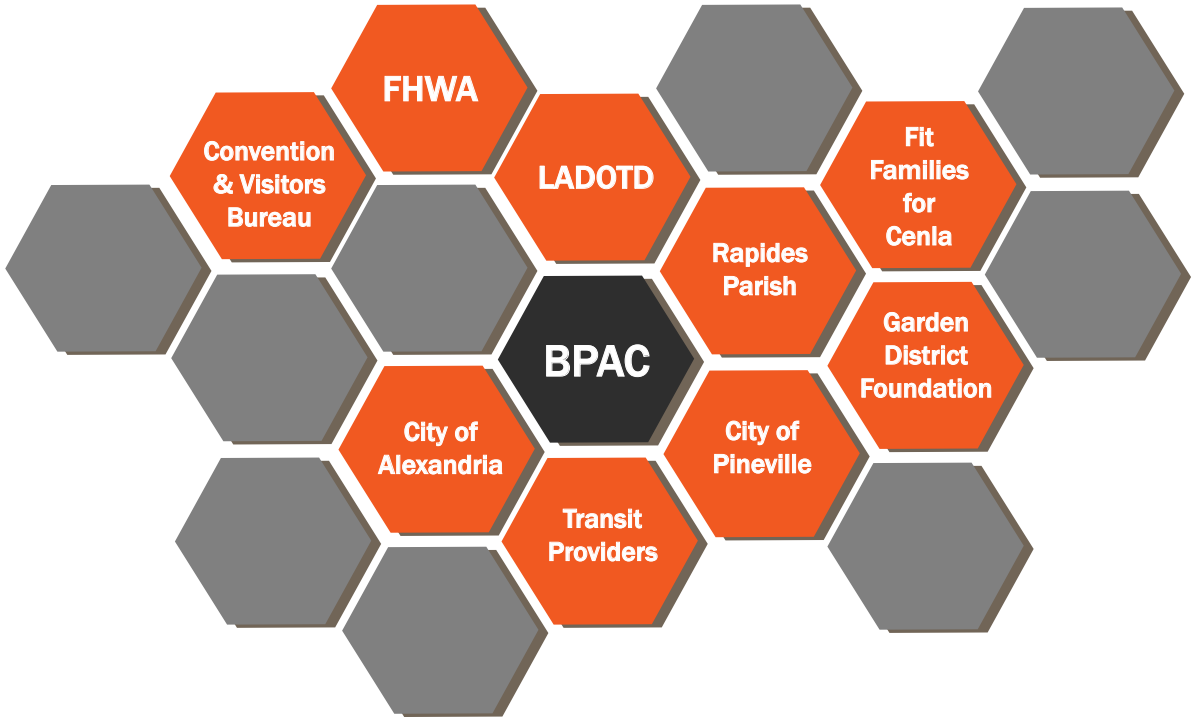
1. Elected officials
2. Parish and city employees
   a. Planning and engineering
   b. Public Works
   c. Grant Writing
3. Fit Families for CenLA and the Garden District Foundation
4. DOTD and FHWA
5. Transit providers
6. Convention and Visitor Bureau
7. CENLA Chamber of Commerce
8. AARP

In May 2015, BPAC members met at RAPC and reviewed the planning process and initial findings with RAPC staff. Committee members attended committee meetings and/or individual meetings included the following:

Partner Organizations

- Debra Randolph, *CenLA Chamber of Commerce*
- Clifford Moller, *Greater Alexandria Economic Development Authority*
- Alice Scarborough, *Kent House Plantation*
- Sherry Ellington, *Alexandria/Pineville Area Convention & Visitors Bureau*
- John Dean, *Central Louisiana Economic Development Association*
- Stacey McMickens, *Fit Families For CenLA*
- Robert "Bob" Bussey, *Fit Families For CenLA*
- Jonathan Dean, *CLECO*
- Kevin Cavell, *Garden District Foundation*
- Jason Tudor, *AARP*

Figure 2-6: BPAC Members



City of Pineville

- Christy Frederick, *City of Pineville Council*

City of Alexandria

- Mike Wilkinson, *Chief of Engineer*
- Delores Brewer, *Director of Planning*
- Darren Green, *Landscape Architect*

LADOTD and FHWA

- Brian Parsons, *LADOTD, Bicycle/Pedestrian Coordinator*
- Jonathan Lachney, *LADOTD District 8*
- Dale Craig, *LADOTD District 8*
- Keith Sayer, *LADOTD District 8*
- Brandon Buckner, *FHWA-LA*

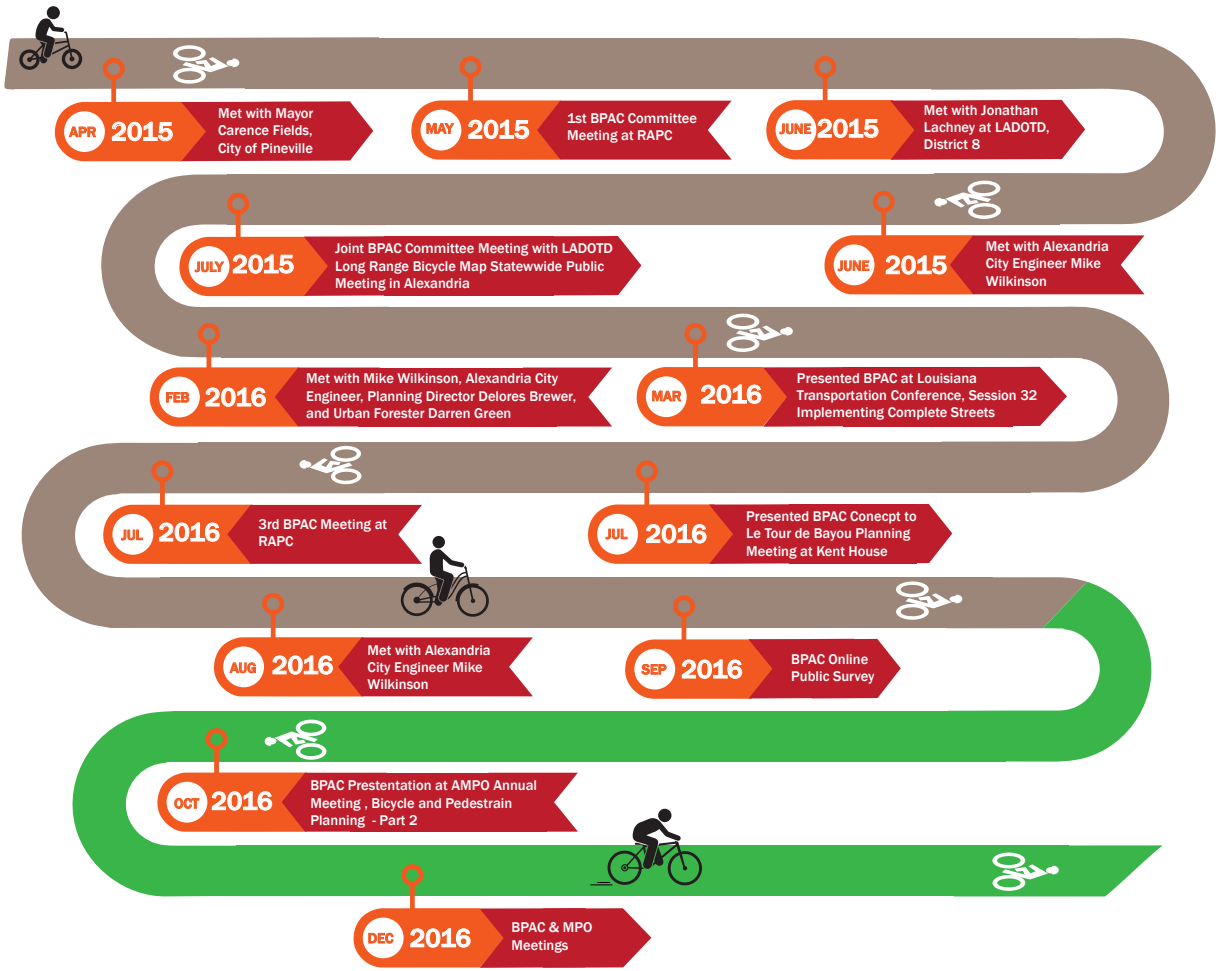
RAPC Staff

- Matt Johns, *Executive Director*
- Sooraz Patro, *Director of Transportation*
- Yuwen Hou, *Geospatial Analyst, Transportation Planner – Safety and Bicycle and Pedestrian*
- Jonathan Bolen, *Illustrator, Transportation Planner – Transit and Travel Demand Management*

Committee Recruiting, Meeting, Stakeholder Consultation and Presentation Timeline

- **March 16th to April 10th**, Committee recruiting from AARP, City of Alexandria, LADOTD, Garden District Foundation, CLEDA, GEADA, Chamber of Commerce, APCVB, FFC and Kent House Planation
- **April 9th, 2015**, meeting with Mayor Clarence Fields, City of Pineville
- **May 13th, 2015**, BPAC Committee Meeting at RAPC conference room
- **June 5th, 2015**, Meeting with Jonathan Lachney, LADOTD
- **June 18th, 2015**, Meeting with City of Alexandria Engineer Mike Wilkinson
- **July 15th, 2015**, Joint BPAC Committee Meeting with LADOTD Long Range Bicycle Map-Statewide public meeting in Alexandria
- **February 4th, 2016**, Meeting with City of Alexandria staff
- **March 1st, 2016**, Presentation at the Louisiana Transportation Conference, Session 32 Implementing Complete Street
- **July 22nd, 2016**, BPAC Committee Meeting at RAPC conference room
- **July 25th, 2016**, Presentation at Kent House Plantation La Tour de Bayou Planning Meeting
- **August 5th, 2016**, Meeting with City of Alexandria staff
- **September 19th, 2016**, Online Survey
- **October 27th, 2016**, Presentation, AMPO Annual Meeting, Bicycle and Pedestrian Planning Part 2
- **November 7th, 2016**, BPAC Technical Committee Meeting
- **December 15th, 2016**, BPAC Meeting and MPO TAC Meeting
- **December 19th, 2016**, MPO Policy Meeting (MPO BPP adoption)

Figure 2-7: BPP Public Engagement Timeline



Chapter 3:
EXISTING CONDITION

Chapter 3: Existing Condition

As the building block for the Bicycle and Pedestrian Plan (BPP), it essential to gather, review, and inventory existing conditions that may impact bicycle and pedestrian mobility, including community needs, issues, and desires, as well as policies and plans. Chapter 3 provides an overview of existing conditions related to bicyclists and pedestrians and a snapshot of the area, from which future recommendations are built.

Firstly, the chapter compares common and distinctive characteristics of non-motorized users to define demographic data needed for research. The BPP researches demographic data from the American Community Survey (ACS) and Strava Metro ride and run count data to reveal latent demand from bicyclists and pedestrians. Secondly, BPP focuses on safety by studying bicycle and pedestrian related crash data, which reveals safety concerns for biking and walking in the region. Thirdly, the BPP also compares results from the Long Range Bicycle Map Statewide (LRBMS) to complement local plans. Furthermore, a summary of the public survey is provided to review strength, weakness, opportunities and needs for improvements in the study area perceived by survey respondents. Finally, this chapter concludes with the result from the Bicycle and Pedestrian Suitability Index model, which is developed upon the above factors.

3.1 Non-Motorized User Characteristics

Planning for bicyclists and pedestrians requires an understanding of their characteristics. Bicyclists and pedestrians have different characteristics that guide the design of safe and appropriate facilities.

Characteristics of Pedestrians

Pedestrians are defined in this Plan as people who travel on foot or who use assistive devices, such as wheelchairs, for mobility. Every trip on the road involves some form of pedestrian activities, whether walking to the transit station, walking through the parking lot, or the walking the entire trip. Although physical fitness and age may vary from person to person, many people have conditions that limit their abilities to negotiate public sidewalks and trails. Carrying items, pushing children in stroller may thrust additional challenge on pedestrians. Accessibility is of vital importance in designing and constructing pedestrian facilities for the disabled population. Moreover, older adults, children, and people with mobility impairments require the design of sidewalk and walking trail to be extremely careful and comprehensive.

Older Adults

The aging process frequently causes a general deterioration of physical, cognitive, and sensory abilities. These changes intensify over time and are most pronounced for individuals over 75 years of age:

- Vision problems, such as degraded acuity, poor central vision, and reduced ability to scan the environment
- Reduced range of joint motion
- Reduced ability to detect, localize, and differentiate sounds
- Limited attention span, memory, and cognitive abilities
- Reduced endurance
- Reduced tolerance for extreme temperature and environments
- Decreased agility, balance, and stability
- Inability to quickly avoid dangerous situations
- Excessive trust that fellow drivers will obey traffic rules
- Slower reflexes
- Impaired judgment, confidence, and decision-making abilities

Children

Children have fewer capabilities than adults because of their developmental immaturity and lack of experience. Compared to adults, children tend to exhibit the following characteristics:

- One-third less peripheral vision
- Less accuracy in judging speed and distance
- Difficulty localizing the direction of sounds
- Overconfidence
- Inability to read or comprehend warning signs and traffic signals
- Unpredictable or impulsive actions
- Lack of familiarity with traffic patterns and expectations
- Trust that others will protect them
- Inability to understand complex situations

Disabled

Per U.S. Census Bureau, nearly one in five people in the U.S. have a disability (U.S. Census Bureau, 2012). There are three types of disabilities when considering sidewalk design: mobility impairment, sensory impairment, and cognitive impairment. People with mobility impairment often travel with aids of wheelchairs and scooters. It is especially challenging for wheelchair and scooter users to move uphill. Their stability and control can be affected by surfaces with cross-slopes, grades, or rough terrain. Wheelchair and scooter users require a wider path of travel than ambulatory pedestrians. Therefore, sufficient passing space should be provided to allow wheelchair users to pass one another and to turn around.

People with visual impairment face the following impediments in mobility:

- Limited perception of the path ahead (preview);
- Navigation with limited information about surroundings, providing less protection against obstacles and other dangers;
- Reliance on memory and unchanging conditions in familiar terrain; and
- The need to assimilate information obtained through non-visual sources such as texture and sound[2].

On the other hand, cognitive disabilities can hinder the ability to think, learn, respond, and perform coordinated motor skills. People with cognitive disabilities also might have difficulty navigating through complex environments such as city streets and might become lost more easily than other people. In addition to benefiting people with cognitive impairment, such design approaches benefit children and adults who do not read English.

In conclusion, a good pedestrian system entails a good understanding of how all pedestrians, including disabilities, older people and children and their challenges when using sidewalks, trails, ramps, and signals, which is continuous and connected for people to reach their desired destination. Detailed design specifications and recommendations are provided in Chapter 5.

[2] https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalks/chap2.cfm

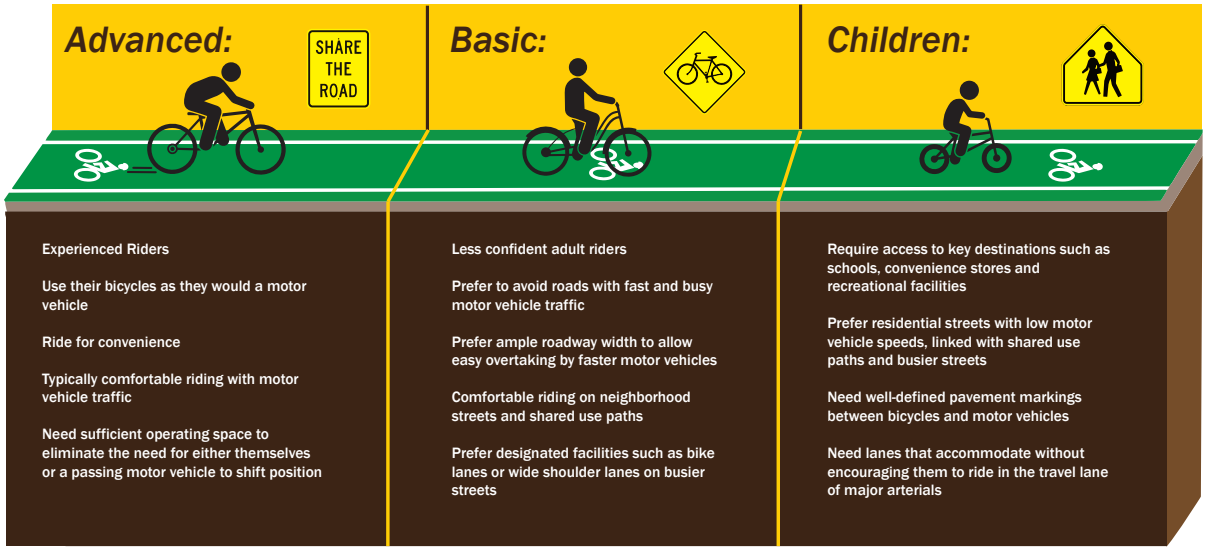
Characteristics of Bicyclists

While bicyclists and pedestrians are often considered together as alternative transportation mode users, they are in fact vastly distinctive. Compared to drivers, they tend to suffer more serious, sometimes fatal, injuries when crashing with motor vehicles. However, bicycle is considered a type of vehicle and share the same roles and responsibilities on all streets and roadways, unless prohibited by law (e.g. on sidewalks). According to the American Association of State Highway and Transportation Officials (AASHTO) and FHWA, there are three types of bicyclists (Figure 3-1):

Planners from the City of Portland, Oregon developed another classification of bicyclists based on survey collected from 2005 to 2009, which provides an approach addressing bicyclists' attitudes towards biking on the streets[3]:

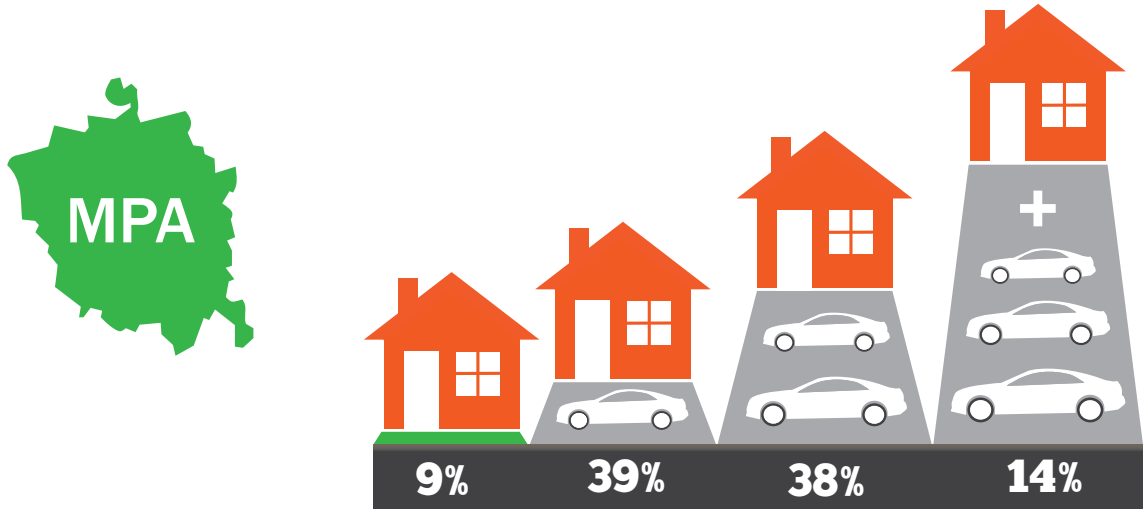
- Strong and Fearless – bicyclists typically ride anywhere anytime, prefer direct routes and choose roadway connections over separated bicycle facilities.
- Enthused and Confident – bicyclists fairly comfortable riding but usually choose low traffic streets or shared use paths. Including commuters, racers and recreational bicyclists.
- Interested but Concerned – approximately the majority of the population, typically only use low traffic streets or trails under good weather condition.
- No way, No How – population who prefer not to bike and consider safety issues when riding in traffic.

Figure 3-1: Characteristics of Bicyclists



SOURCE: *American Association of State Highway and Transportation Officials, FHWA, 1999*

Figure 3-2: Household Vehicle Availability in Alexandria-Pineville MPA



SOURCE: *American Community Survey 2014 5-Year Estimates*

3.2 Potential Users of the Non-Motorized Transportation System

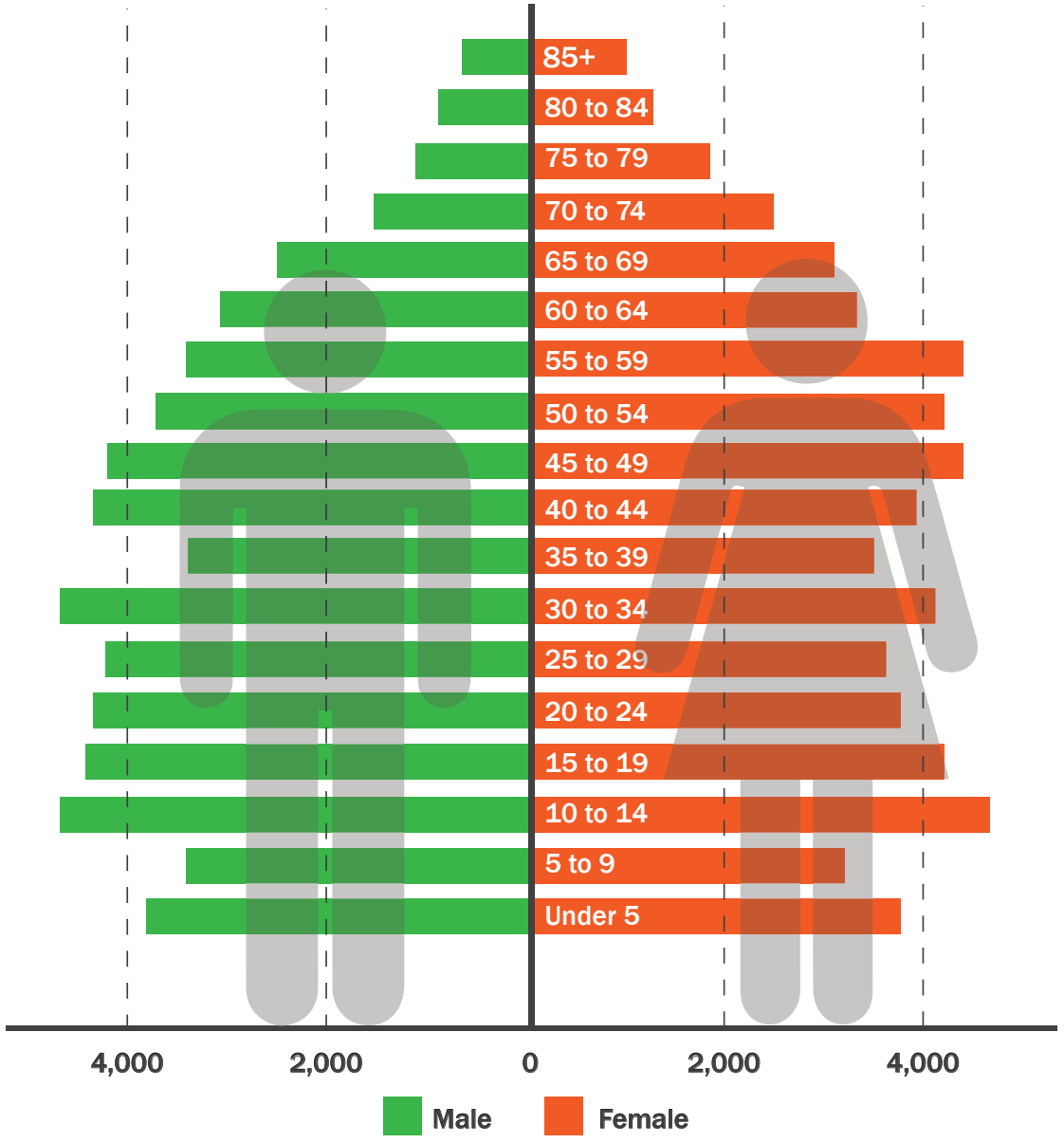
Chapter 3.1 listed basic characteristics of typical bicyclists and pedestrians, which provides insight to the derived demand for walking and biking from several groups of people. To understand these population is to draw a clearer picture for alternative travel demand in the study area. While the term "alternative mode" may indicate that cycling and walking are "second choices" as compared to driving; to many people, biking and walking are the only option for mobility. They could fall under:

- Population age below 15 and over 65
- In households with zero motor-vehicles
- Population below 100% poverty and 150% poverty line
- Population with disabilities

According to the 2014 American Community Survey (ACS) 5-year estimate, there are 119,943 living in census block groups within 0.1 miles of the Metropolitan Planning Area (MPA). Nearly 40,985 of which, or 34.2%, are over age 64 or under the age of 15, making them potentially too old or too young to drive an automobile (Figure 3-3).

In addition, ACS estimated a total of 42,019 households, both owned and rented units, in census block groups inside the MPA. Approximately 8.7% of those households have no vehicle available for work and 39.41% have one vehicle (Figure 3-2).

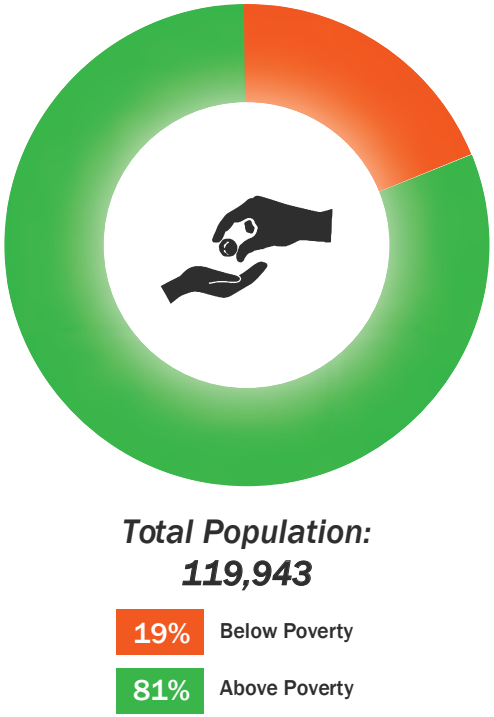
Figure 3-3: Population by Age Cohort & Gender



SOURCE: *American Community Survey 2014 5-Year Estimates*

Another variable to consider is population living below poverty. Of the total number of households (42,019) living in census block groups best fit to the MPA, the 2014 ACS 5-year estimate indicates that roughly 7,961 households (18.9% of all households) lived below the national poverty level during the previous twelve-month period (Figure 3-4). This percentage is above the United States national average (14.4%) and the State of Louisiana average (18.8%) The number of households received food stamps/SNAP in the past 12 months in census block group in the MPA is 7,699 (18.3%), this percentage is above the national average (12.98%)

Figure 3-4: MPA Population Below Poverty Line

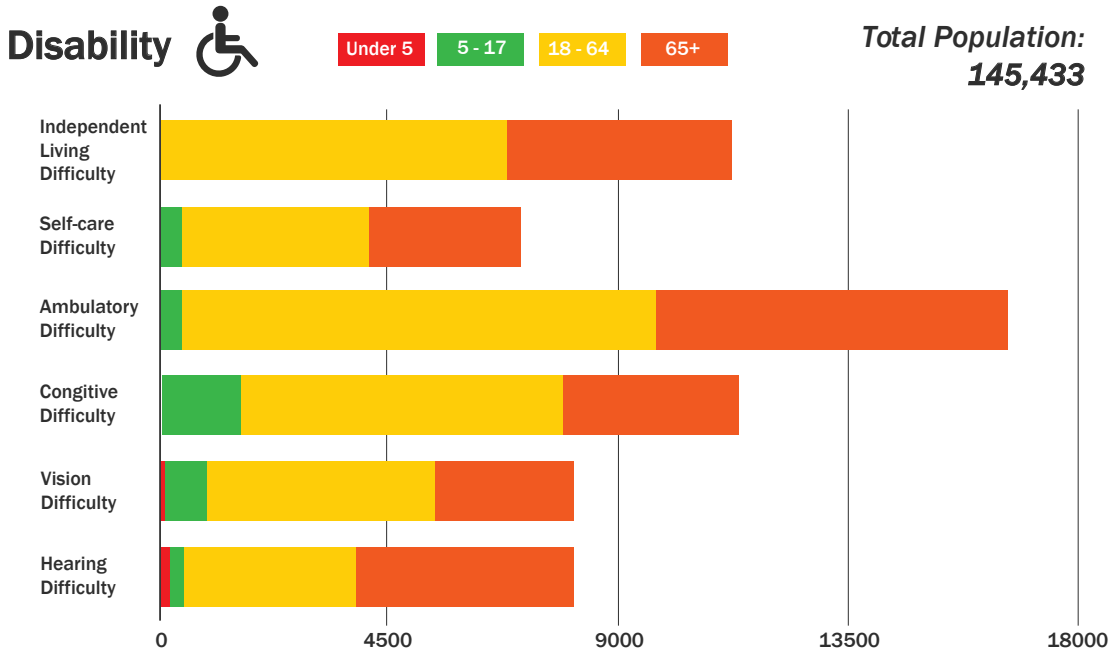


SOURCE: *American Community Survey, 2014*

In the AP-MPA, the total number of zero vehicle household may seem less significant; however, the proportion of population living below or nearly poverty line is substantial. Comparing the two datasets, a large number of population, while struggling with poverty, would inevitably make huge expenses related to driving. For instance, motor vehicle purchase, gas/fuel, insurance, and maintenance are all added cost for driving to have basic access to work and other essential activities. One way of making bicycling and walking more desirable is to plan for adequate facilities that provide a safe and comfortable level of service. This will ultimately result in a healthier lifestyle as well as aid in travel demand management in the transportation network.

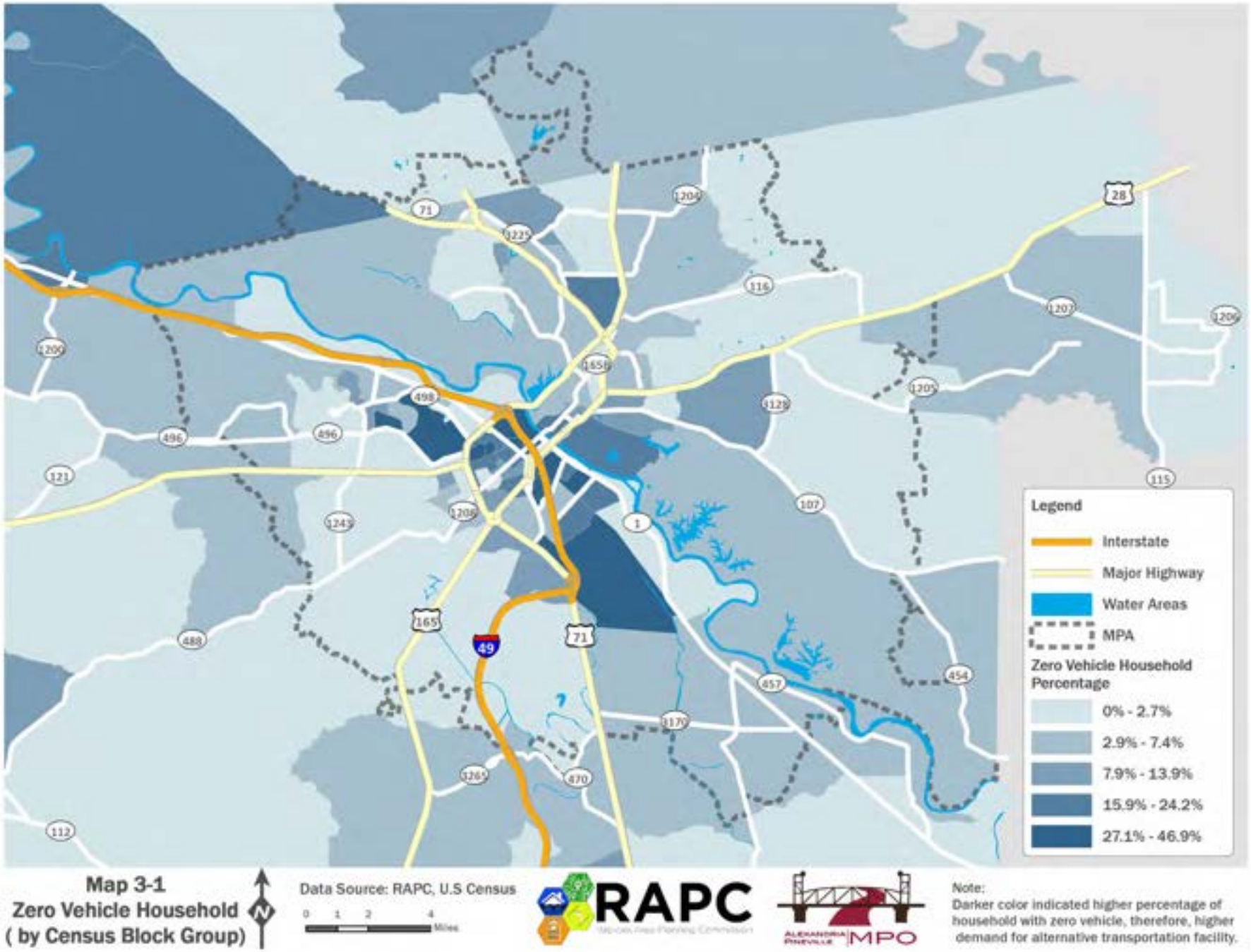
The fourth demographic factor is disability. Table 3-1 and Figure 3-5 shows and compares estimated number of people with disabilities, divided by age group in the Metropolitan Statistical Area[4]. As indicated in Figure 3-5, the majority of population would need ambulatory assistance. Map 3-3 shows percentage of population with disability by census block group within the MPA.

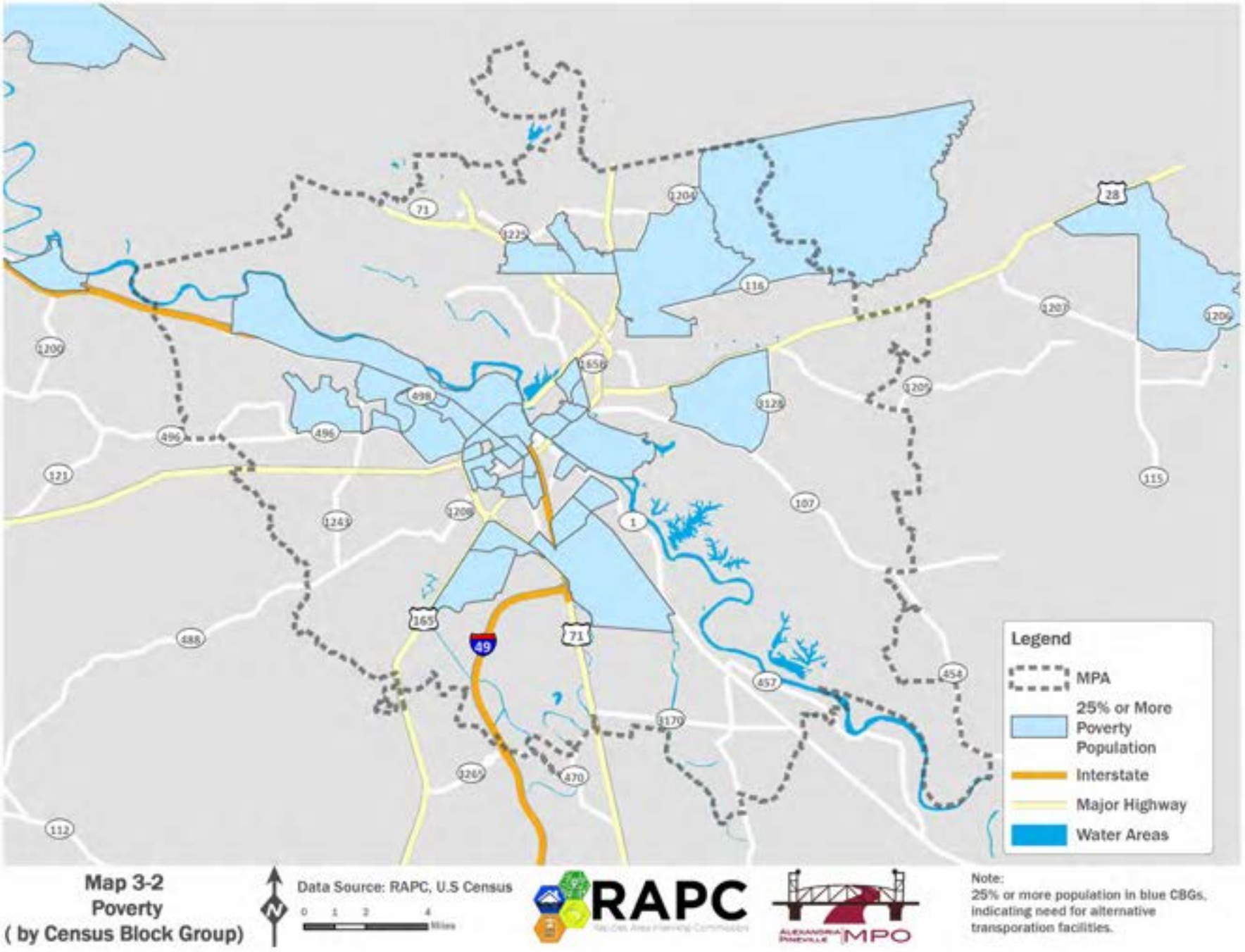
Figure 3-5: MPA Disabled Population

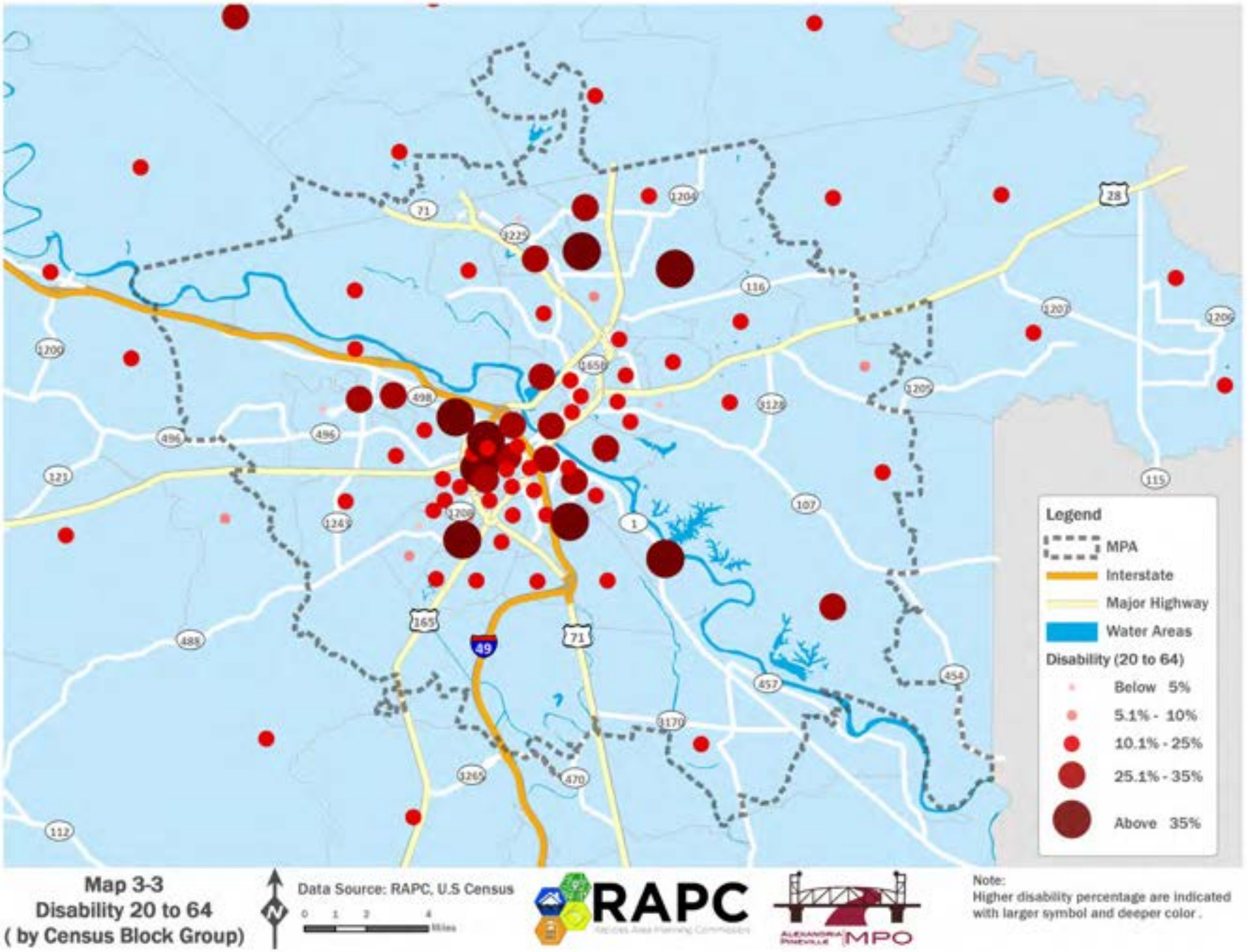


SOURCE: *American Community Survey, 2014*

[4]Census Block Group level TIGER/Line data does not include individual disability information. However, the Census Bureau publishes MSA-wide data with break-down information. It is included here for a better understanding for population with disability, even though MSA is considerably larger than MPA.





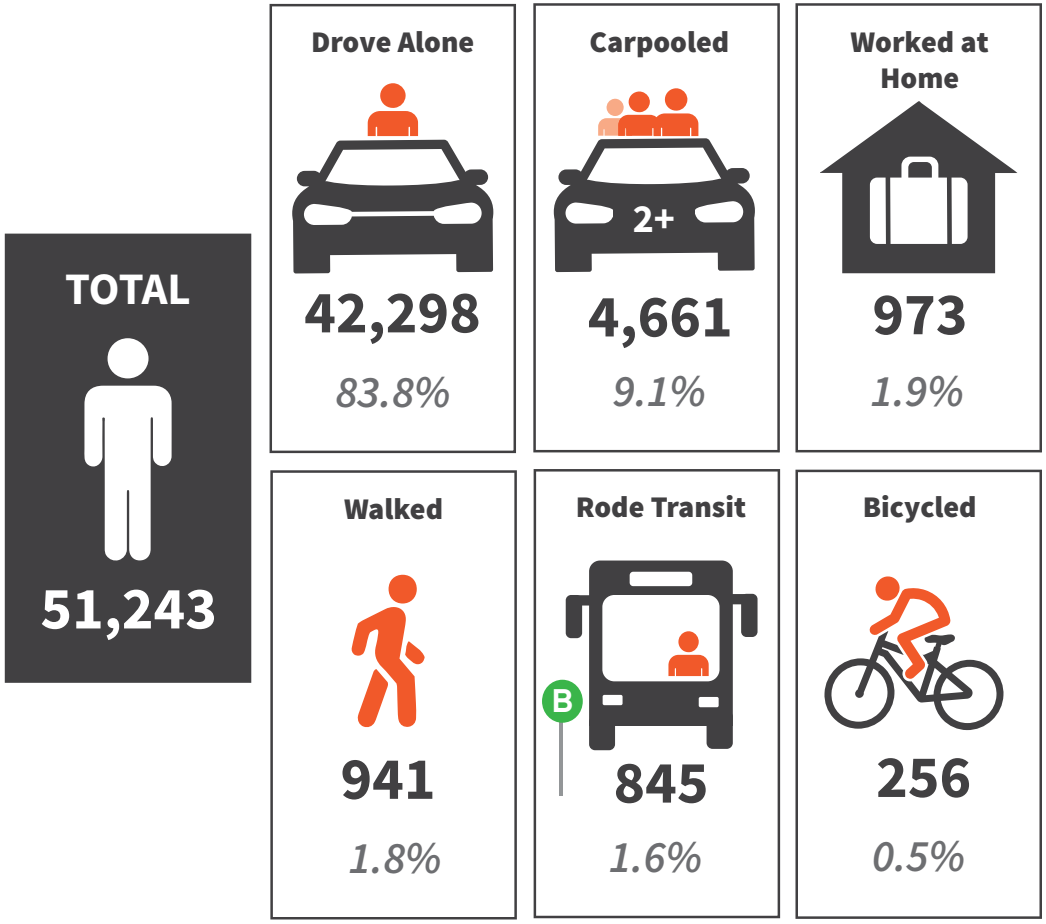


3.3 Commute, Travel Pattern, & Safety

27 ***Daily Commute***

According to the 2014 ACS 5-year estimate, approximately 256 residents living in census tracts in the Alexandria Planning Area (MPA), or 0.5% of the total population, bike to work each day. 941 people commute to work by walking (Figure 3-6). Map 3-4 illustrates the number of workers (16 year or older) who commute by biking or walking in each census block group.

Figure 3-6: MPA Daily Commute Pattern



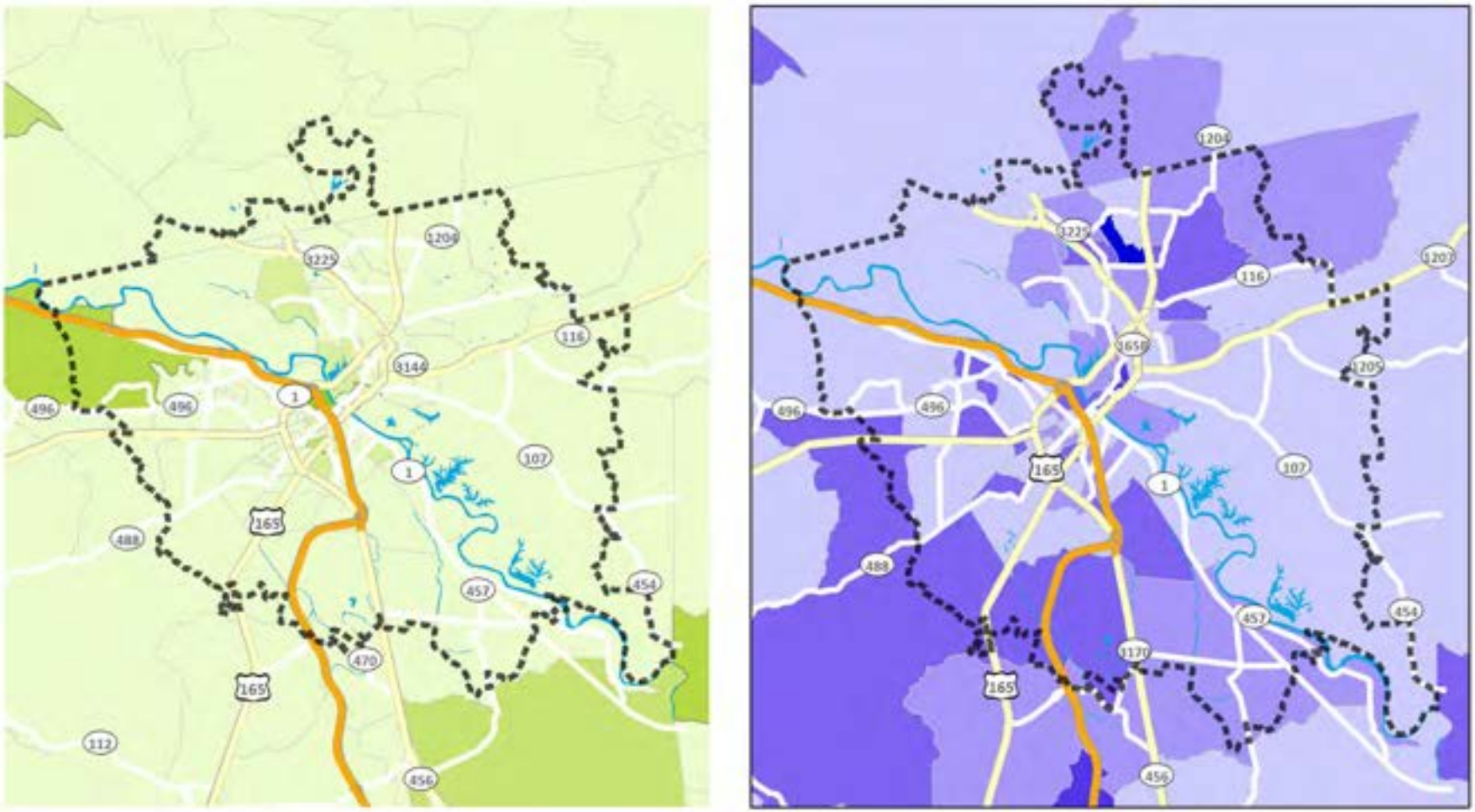
SOURCE: *American Community Survey 2014 5-year Estimate*

Recreation Trips

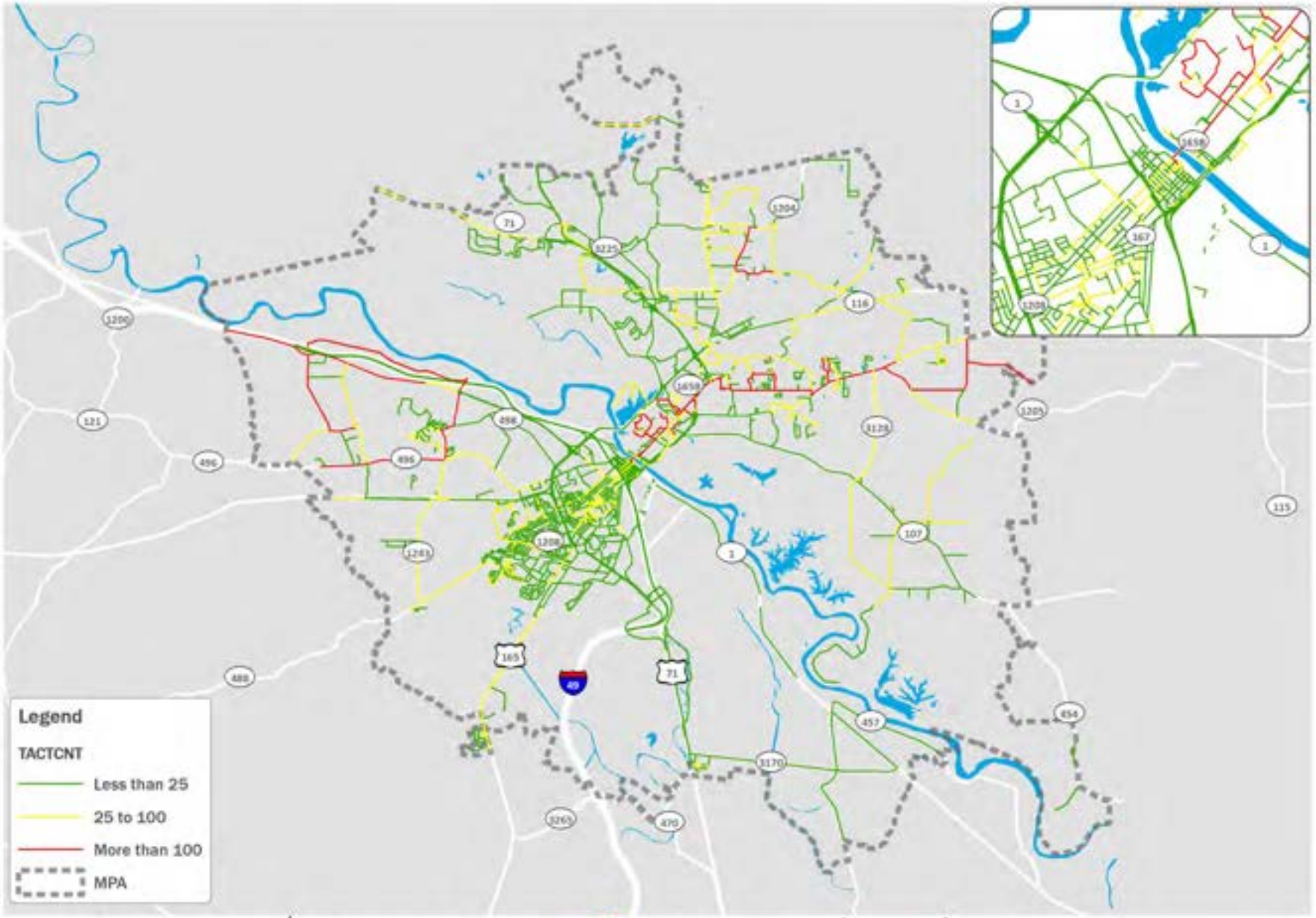
Although some people use cycling and walking for commuting, there are many who would bike or walk purely for recreational purposes. RAPC and the Louisiana Department of Transportation and Development (LADOTD) have provided Strava Metro bicycle and pedestrian count data to facilitate the needs assessment process with greater geographic accuracy for the BPP.

Strava is a smartphone application that individual users can track their rides, runs, walks and hikes. The application processes individual input in the GIS environment, thus enabling further analysis of biking and walking activities. Studies in the BPP focus on the number of bicyclists or pedestrian trips on each segment of road to determine the most frequently used roads as part of the bicycle and pedestrian suitability index. This helps to clarify how people choose to interact with the network of roads, bike paths and intersections. The resulting data analysis provides for informed decision-making, smarter planning, and safer streets.

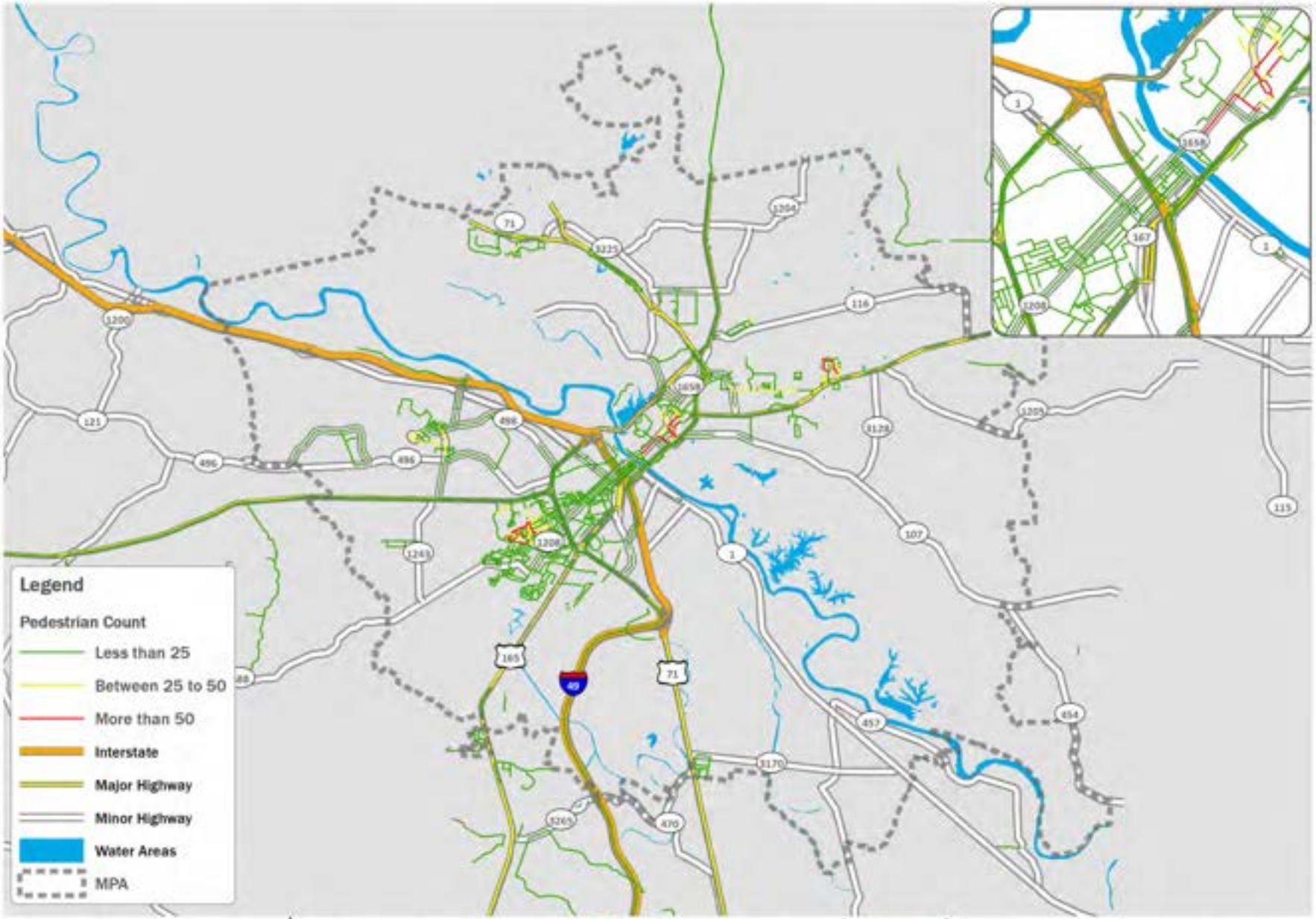
The data mining of Strava data-set for the metro area reveals interesting recreational patterns (Map 3-5 and Map 3-6), as roads connected to recreational resources, i.e. Kincaid Lake Trails and the Levee Trails along the Red Rivers, are more frequently logged by users (red lines in Map3-5).



Map 3-4
Worker Commute by Biking or Walking



Map 3-5
Strava Metro Bike Count



Map 3-6
Strava Metro
Pedestrian Count

Bicycle and Pedestrian Crashes

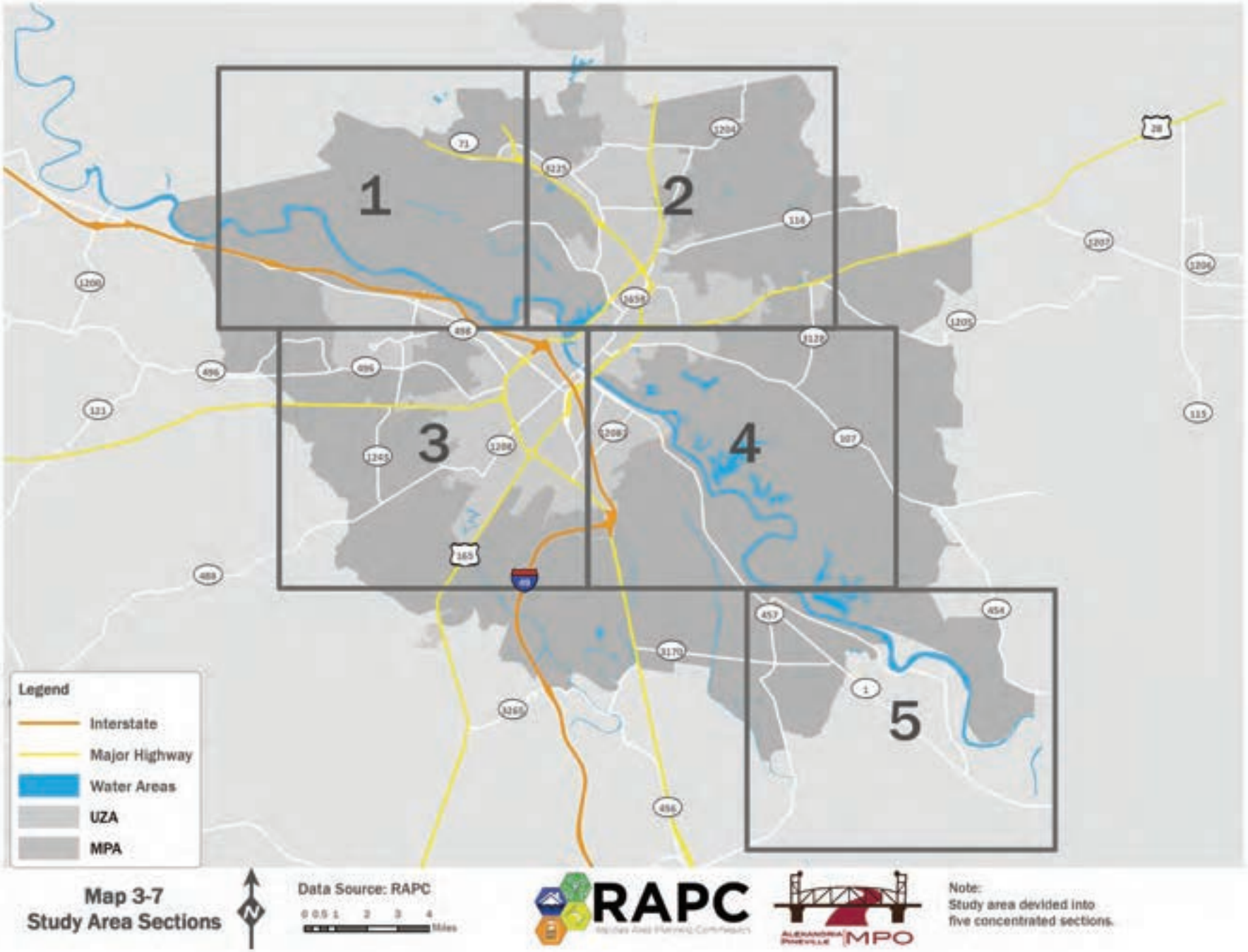
As previously stated, planning for bicyclists and pedestrians requires an understanding of their vulnerability when crashing with motor vehicles. Both groups are susceptible to suffering major and sometimes fatal injuries in incidents, even when the vehicles are traveling at relatively lower speeds. As illustrated in Table 3-1, 283 people were injured or killed from 2011 to 2015 while walking or bicycling on State roads within Rapides Parish.

The Louisiana Highway Safety Research Group (HSRG) provided data supporting for the CenLa Highway Safety Coalition, which covers a ten-parish region in Central Louisiana. The BPP study area is within the Safety Coalition. The next series of maps illustrate bicycle and pedestrian related crashes from 2011 to 2015, selected and sorted by level of severity. Map 3-7 divides the study area into five sections; Map 3-8(1) through Map 3-8(5) shows bicycle (right column) and pedestrian (left column) related crashes and severity identified by investigating officers.

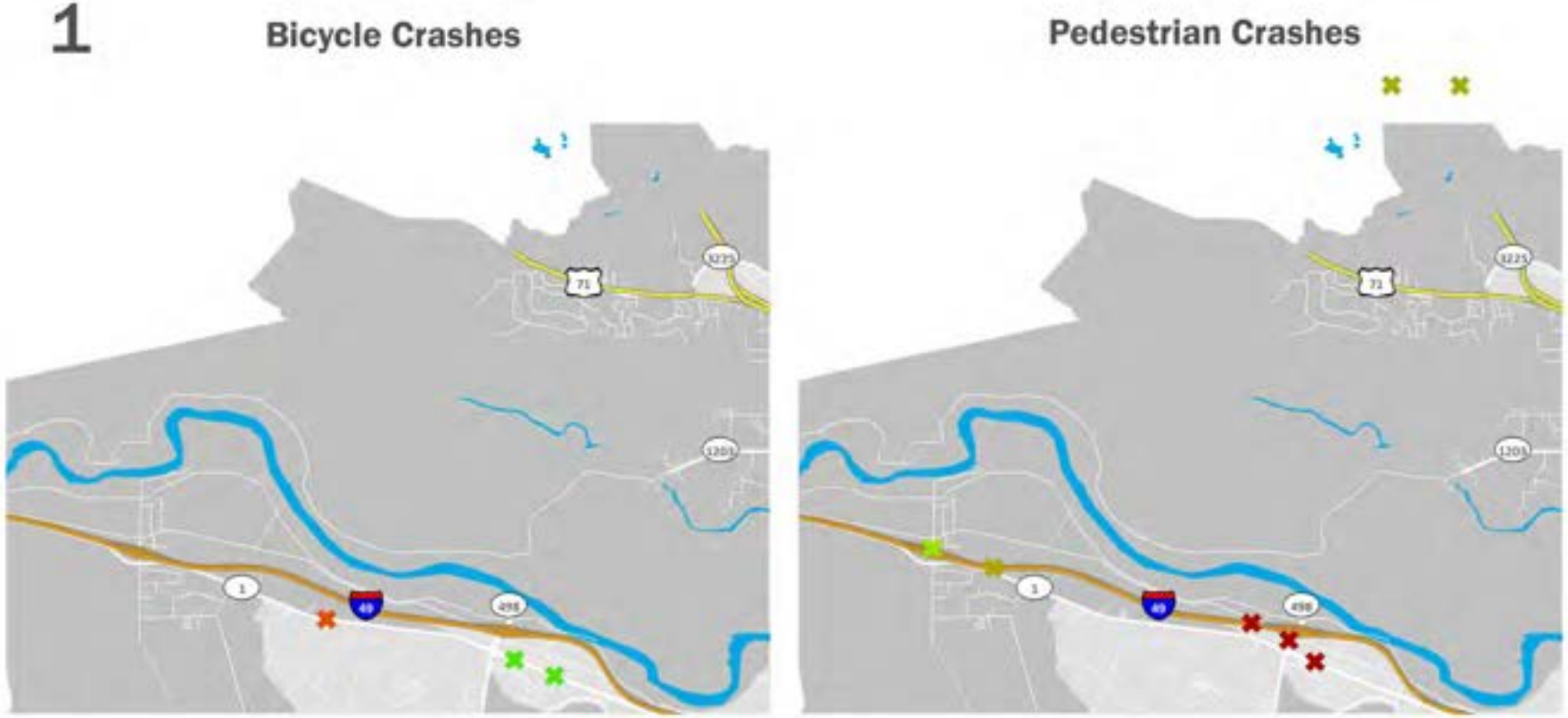
Table 3-1: Bike & Pedestrian Injury & Fatality Data, Rapides Parish

	BICYCLIST			
YEAR	Fatal	Percent of All Traffic Fatalities	Injury	Percent of All Traffic Injuries
2011	0	0.00%	16	0.64%
2012	1	0.45%	14	0.48%
2013	0	0.00%	18	0.83%
2014	0	0.00%	18	0.78%
2015	0	0.00%	15	0.59%
	PEDESTRIAN			
YEAR	Fatal	Percent of All Traffic Fatalities	Injury	Percent of All Traffic Injuries
2011	6	24.00%	42	1.67%
2012	5	22.73%	48	1.93%
2013	3	18.75%	26	1.20%
2014	1	4.55%	34	1.47%
2015	5	22.73%	31	1.23%

SOURCE: *Louisiana Highway Research Group, Crash Reports 2011-2015, Rapides Parish*



1



Map 3-8(1)
Crash by Severity

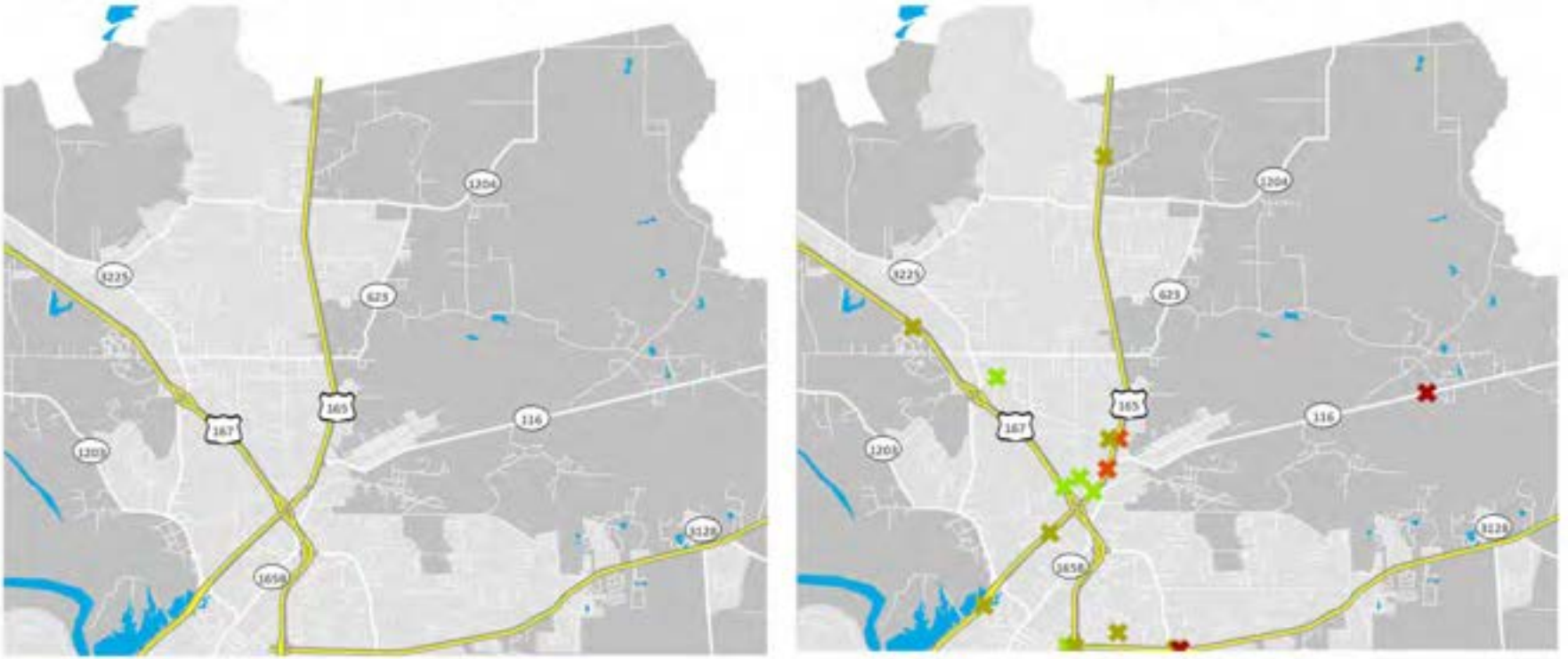
Data Source: RAPC, HSRG

0 0.75 1.5 3 Miles

RAPC

MPO

Note:
Crash involved bicycle (left) and pedestrian (right) by severity from 2011 to 2015



Map 3-8(2)
Crash by Severity

Data Source: RAPC, HSRG

0 0.5 1 2 3 4 Miles

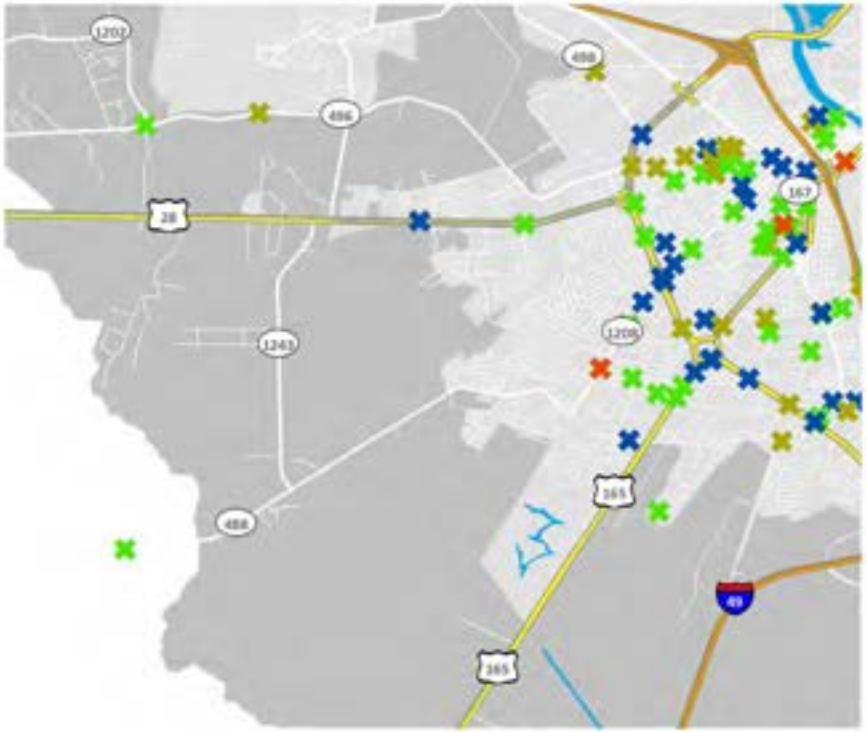
RAPC
Rappahannock Area Planning Commission

ALEXANDRIA PINEVILLE MPO

Note:
Crash involved bicycle (left) and pedestrian (right) by severity from 2011 to 2015

3

Bicycle Crashes



Pedestrian Crashes

Legend

Severity

- FATAL
- SEVERE
- MODERATE
- COMPLAINT
- NO INJURY

- Interstate
- Major Highway
- Water Areas
- UZA
- MPA

Map 3-8(3)
Crash by Severity

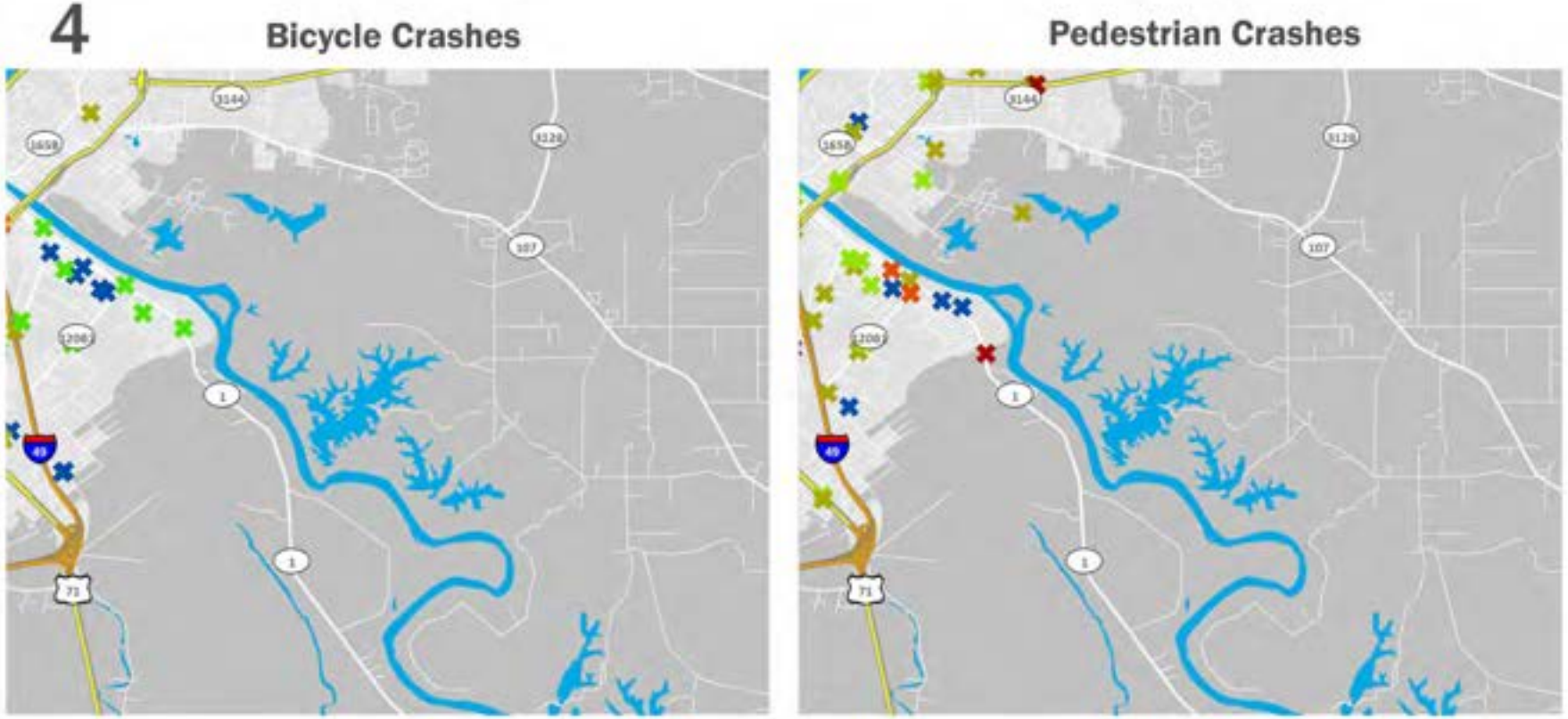
Data Source: RAPC, HSRG

0 0.75 1.5 3 Miles

RAPC

MPO

Note:
Crash involved bicycle (left) and pedestrian (right) by severity from 2011 to 2015



Map 3-8(4)
Crash by Severity

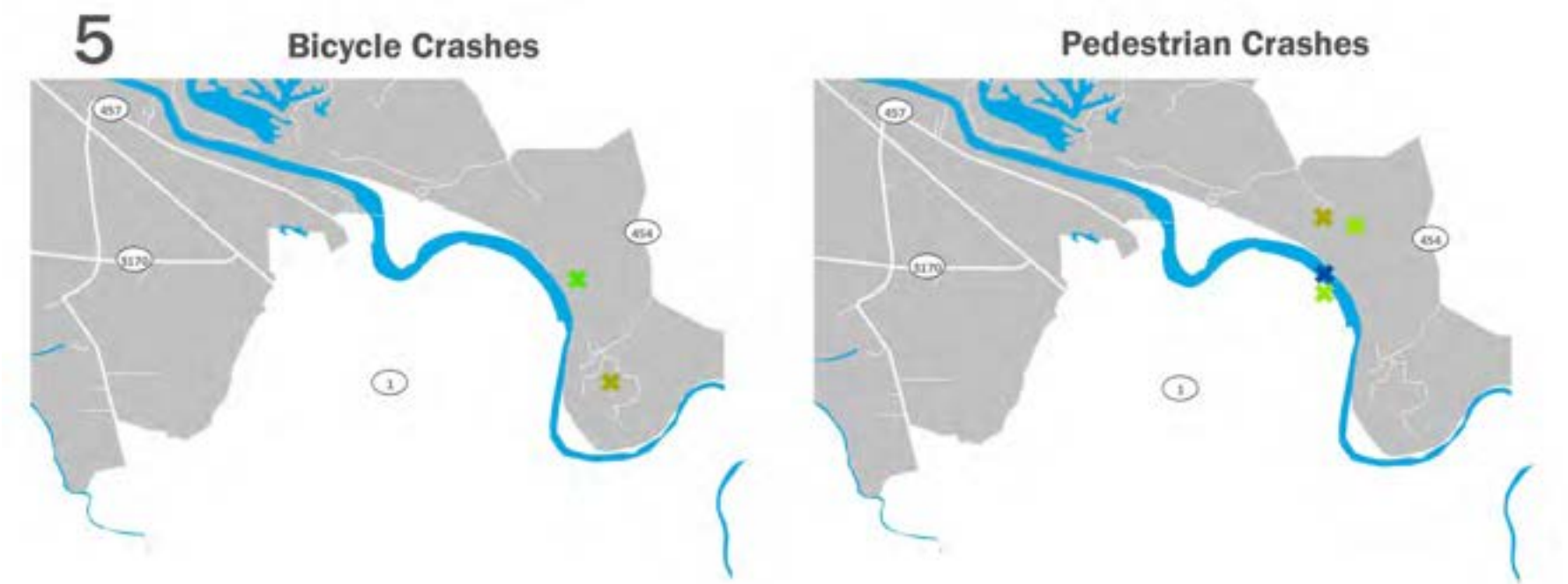
Data Source: RAPC, HSRG

0 0.75 1.5 3 Miles

RAPC

MPO

Note:
Crash involved bicycle (left) and pedestrian (right) by severity from 2011 to 2015



Legend

Severity

- FATAL
- SEVERE
- MODERATE
- COMPLAINT
- NO INJURY

- Interstate
- Major Highway
- Water Areas
- UZA
- MPA

Map 3-8(5)
Crash by Severity

Data Source: RAPC, HSRG

0 0.75 1.5 3 Miles

RAPC

MPO

Note:
Crash involved bicycle (left) and pedestrian (right) by severity from 2011 to 2015

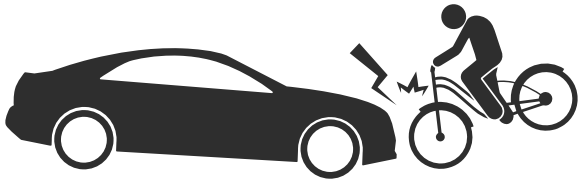
Crash Data Density Analysis

One way to identify locations with high potential for safety improvements for bicycle and pedestrian facilities is through the so-called density analysis, also known as “hot spots” analysis to find areas where crashes are spatially clustered. For this plan, ArcGIS Kernel Density Tool in the Spatial Analyst Tool set has been applied to crashes presented in Map 3-8 series. Density map shows hot spots of bicycle and pedestrian related crash data in the MPA that are statistically clustered at the 95% (>=1.96) confidence interval using crash severity as a weighted value. The following values were given to different severity types as identified in the crash reports:

- Fatal: 20
- Severe: 15
- Moderate: 10
- Complaints: 5
- No Injury: 1

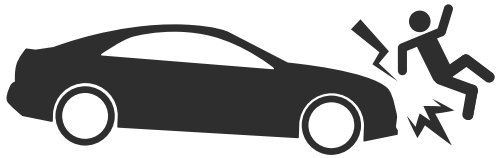
By applying the Kernel Density Tool, which calculates the density of features in a search radius around those features, a raster layer was created with each cell given the value calculated through ArcGIS, based on the distance between the cell and point feature indicating level of severity for every bicycle and pedestrian crashes in the study area from 2011 to 2015. Map 3-9 shows the result of the Density Analysis.

The following locations are identified “hot spots” for bicyclists and pedestrians with pressing concerns:



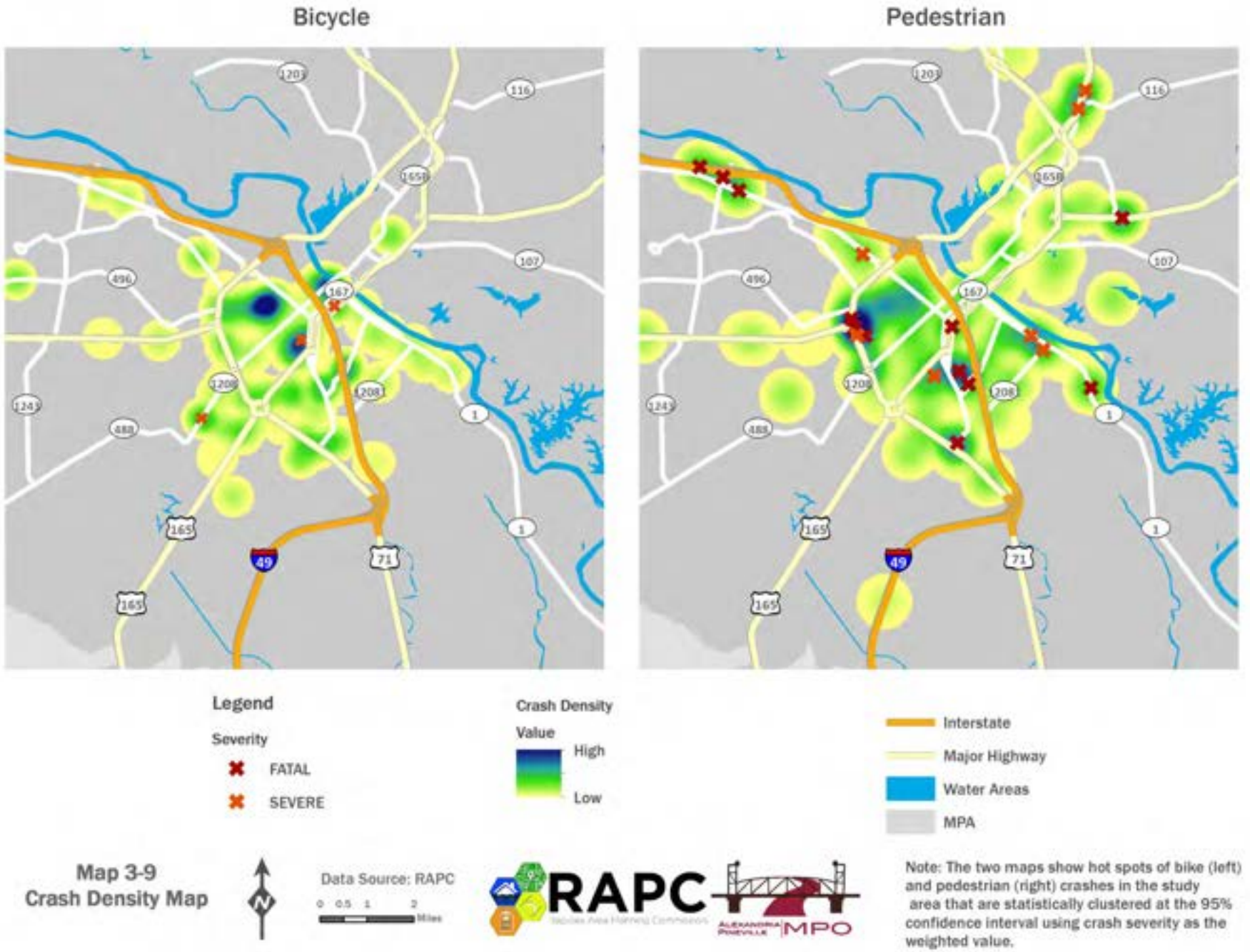
Bicycle Crashes:

- Monroe Street from Cook Avenue to Essie Street
- Beech Street-Vance Avenue-Rensselaer Street-Washington Drive Circuit
- Intersection: I-49 @ Broadway
- Intersection: Jackson Street (LA1208-3)@4th Street



Pedestrian Crashes:

- Dallas Avenue from US 167 to Broadway Avenue
- Monroe Street from Bolton Avenue (LA 1) to MacArthur Drive (US 71)
- 3rd Street from Woodard Street to Willow Glen River Road
- US 165 from Paradise to Kingsville
- Intersections: LA28@US71
- Intersections: I-49@Broadway



3.4 Long-Range Bicycle Map

In December 2015, LADOTD developed the Long Range Bicycle Map Statewide (LRBMS) as a reference tool for funding decisions regarding bicycle facilities selection on the state routes system. LRBMS consists two GIS shapefiles which indicates the priority level for bicycle improvements and recommended bicycle facilities on the entire state route network. The result serves as a guideline for facility selection, however, it does not replace final design decisions.

A variety of input were selected to create the LRBMS, including a 12 factor GIS overlay model. They are:

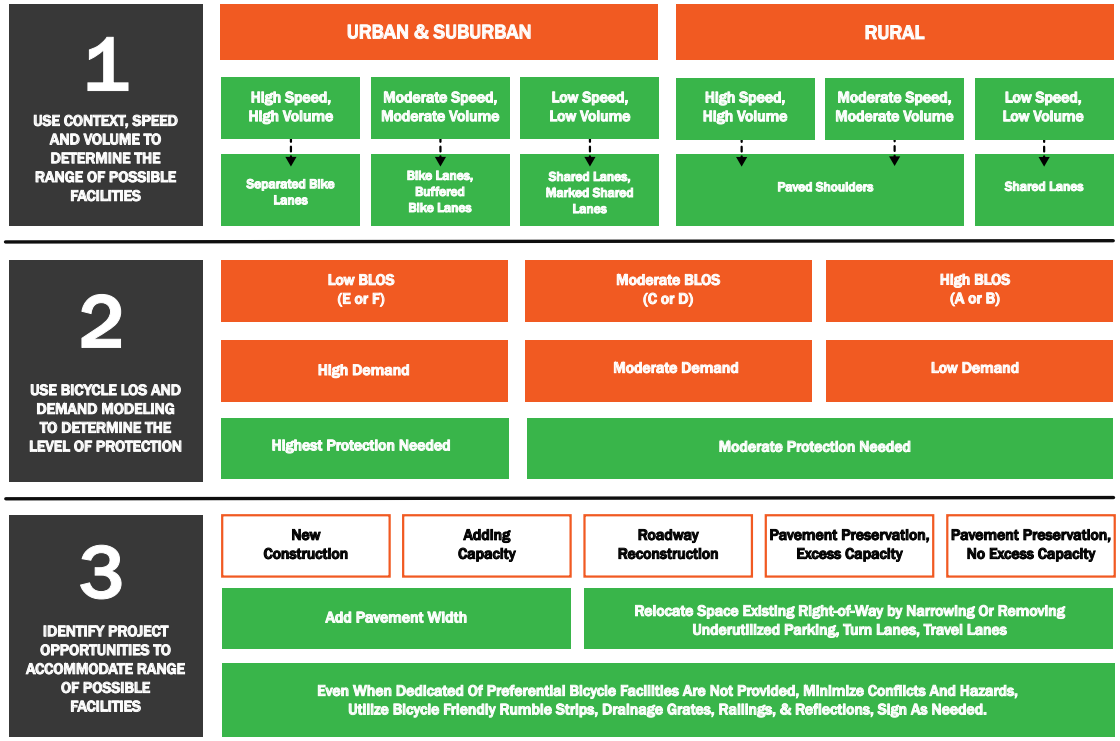
- Strava
- Routes of Statewide Significance
- Link to Adjacent States
- Preferred Routes by Cycling Groups and Advocacy groups
- Local and Regional Bike Plans
- Existing Facilities
- Population Density
- Intersection Density
- Zero-Vehicle Households
- Commute to Work by Bicycle
- Context
- Community Destinations

LRBMS also suggested a three-step model for bicycle facility selection as one application (Figure 3-7):

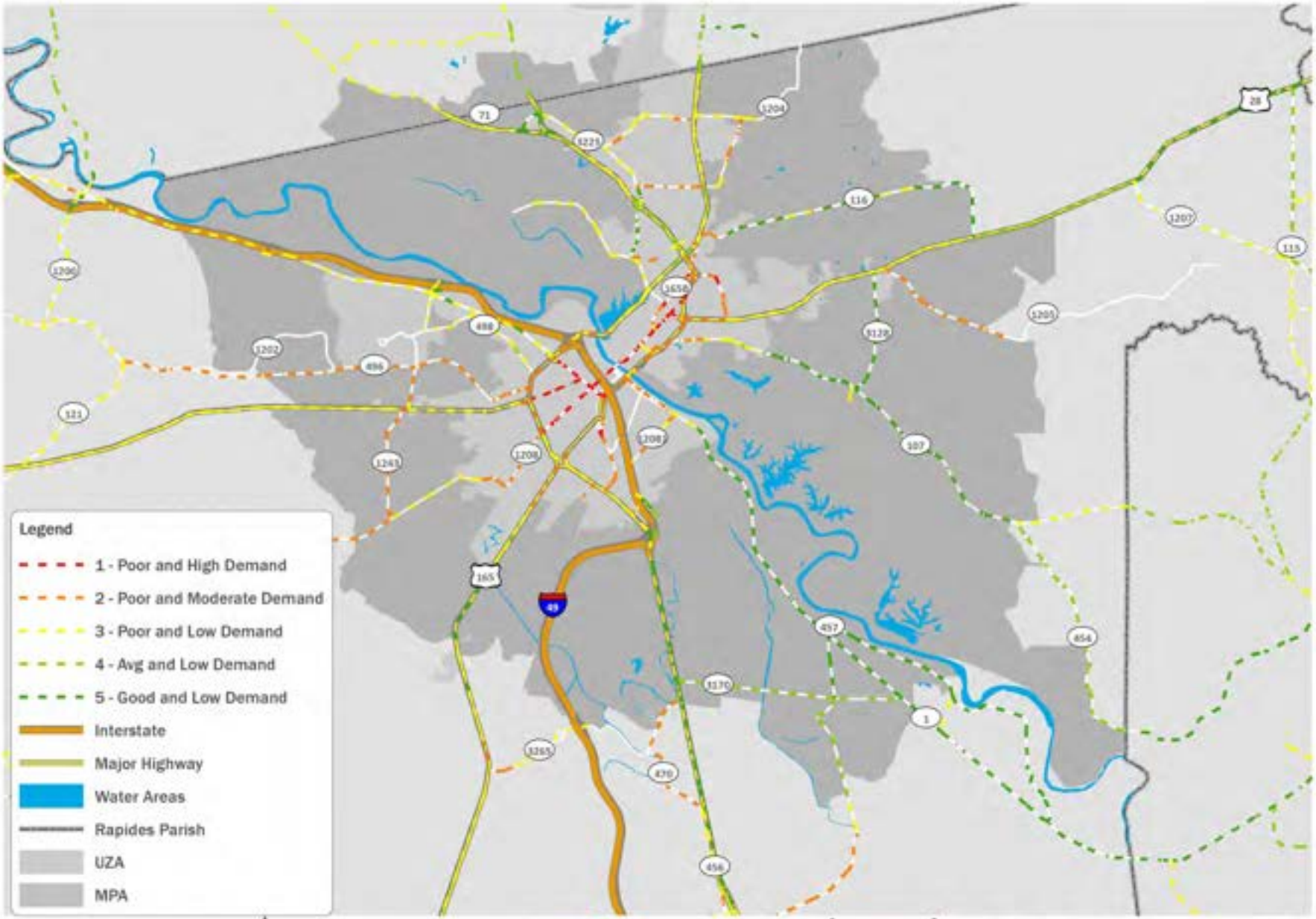
- **Step 1:** Use context, speed, and volume to determine the range of possible facilities
- **Step 2:** Use bicycle level of service and demand modeling to determine the level of protection
- **Step 3:** Identify project opportunities to accommodate range of possible facilities.

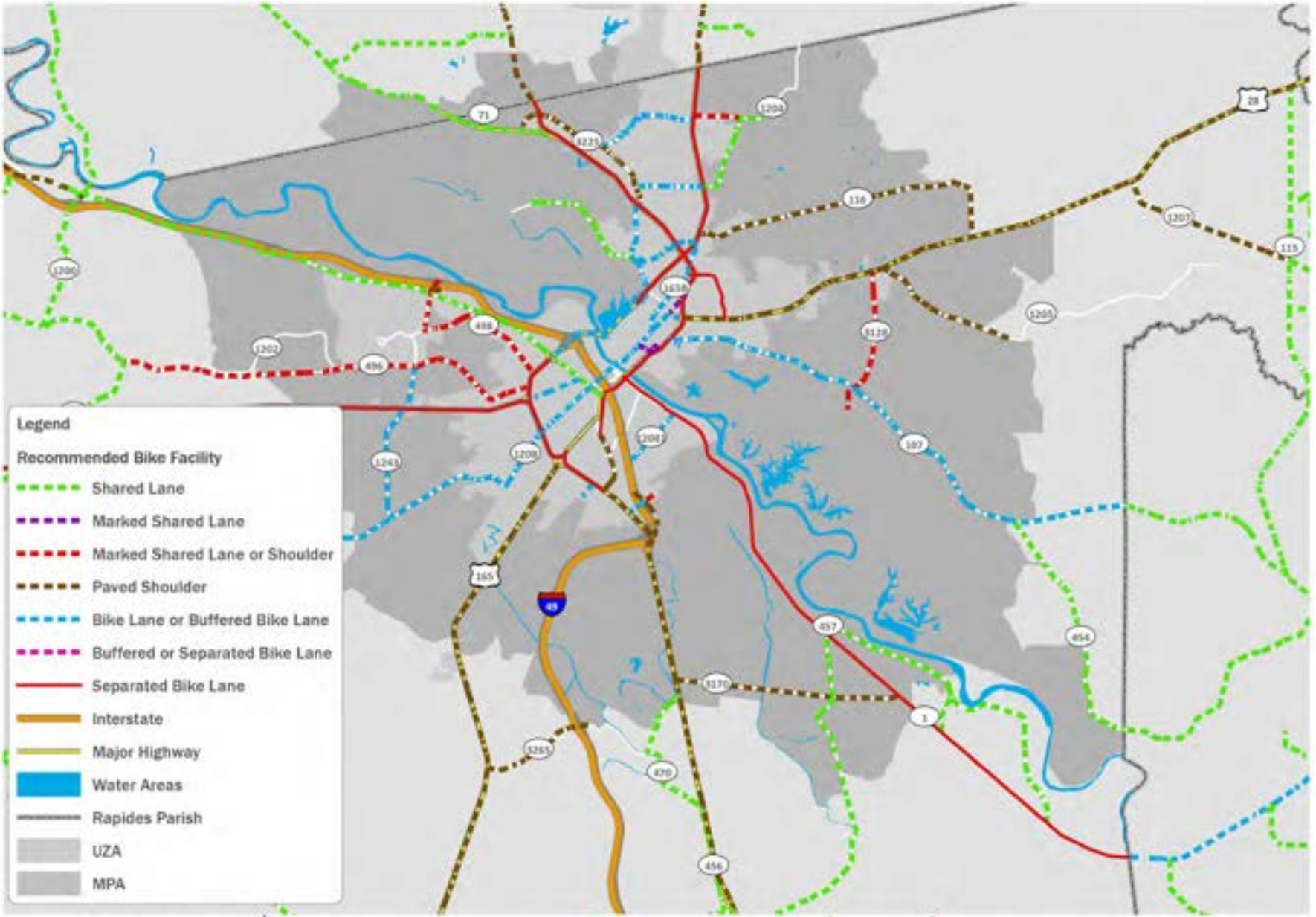
Map 3-10 and 3-11 shows priority level and suggested improvements, respectively, recommended by LRBMS on the state route system. The methodology of LRBMS was developed to focus attention on those road segments that have a high demand for bicycle facilities but currently provide poor bicycle infrastructure (orange to red dotted lines in Map 3-10). In this way, areas of low use and low demand become lower priorities than those with many riders utilizing insufficient infrastructure.

Figure 3-7: Three Step Bicycle Facility Selection



SOURCE: *Louisiana Long Range Bicycle Map Statewide, 2015*





3.5 Bicycle & Pedestrian User Survey

During the public engagement process, staff at RAPC have forged partnership with the Kent House Plantation to distribute a bicycle and pedestrian user survey during the 5th Annual La Tour de Bayou event on September 17th, 2016[6]. Hosted by the oldest standing structure in Central Louisiana, La Tour de Bayou takes place along scenic roadways within or adjacent to the Alexandria/Pineville MPA. It offers a variety of choices to riders and runners at different levels of difficulties.

In the survey, a total of 7 questions were asked (See Appendix A for full report of the survey). 43 people responded the survey and results were aggregated and summarized below.

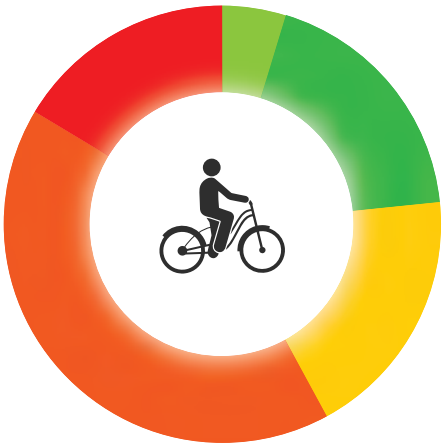
Roughly 16.28% of respondents (7) indicated that they would occasionally attend social/race events for biking or running. When asked about their attitudes towards biking in their communities, 41.86% of the respondents believed it was "somewhat difficult" with another 16.28% believed it was "extremely difficult".

The survey continued to ask the reason behind those who "find it difficult to bike or walk" in their communities. Almost all respondents suggested that "No bike lanes/roads too narrow/no shoulder" as the major reason that makes bicycling difficult for them, followed by "Too much traffic" and "no trails/paths/bicycle facilities". The results indicate that for bicyclists and pedestrians, it is not necessarily separated or protected trails, but rather space, such as shoulder or bike lanes that limits their bicycling or walking activities.

[6]http://www.letourdebayou.com/

Five general recommendations for improvements were listed (See Appendix A for a full copy of the survey) and respondents were invited to rank the priorities. Even though approximately 75% of the respondents chose "Improve Existing Facilities", "Enforce Laws governing bicycling" or "Initiate Safety Education" as top priorities; overall, "Provide more bicycle facilities" and "making areas for bicycling safer" ranked higher than other three recommendations, with an average ranking of 2.32 and 2.58 respectively.

Figure 3-8: Bicycle & Pedestrian User Survey Results



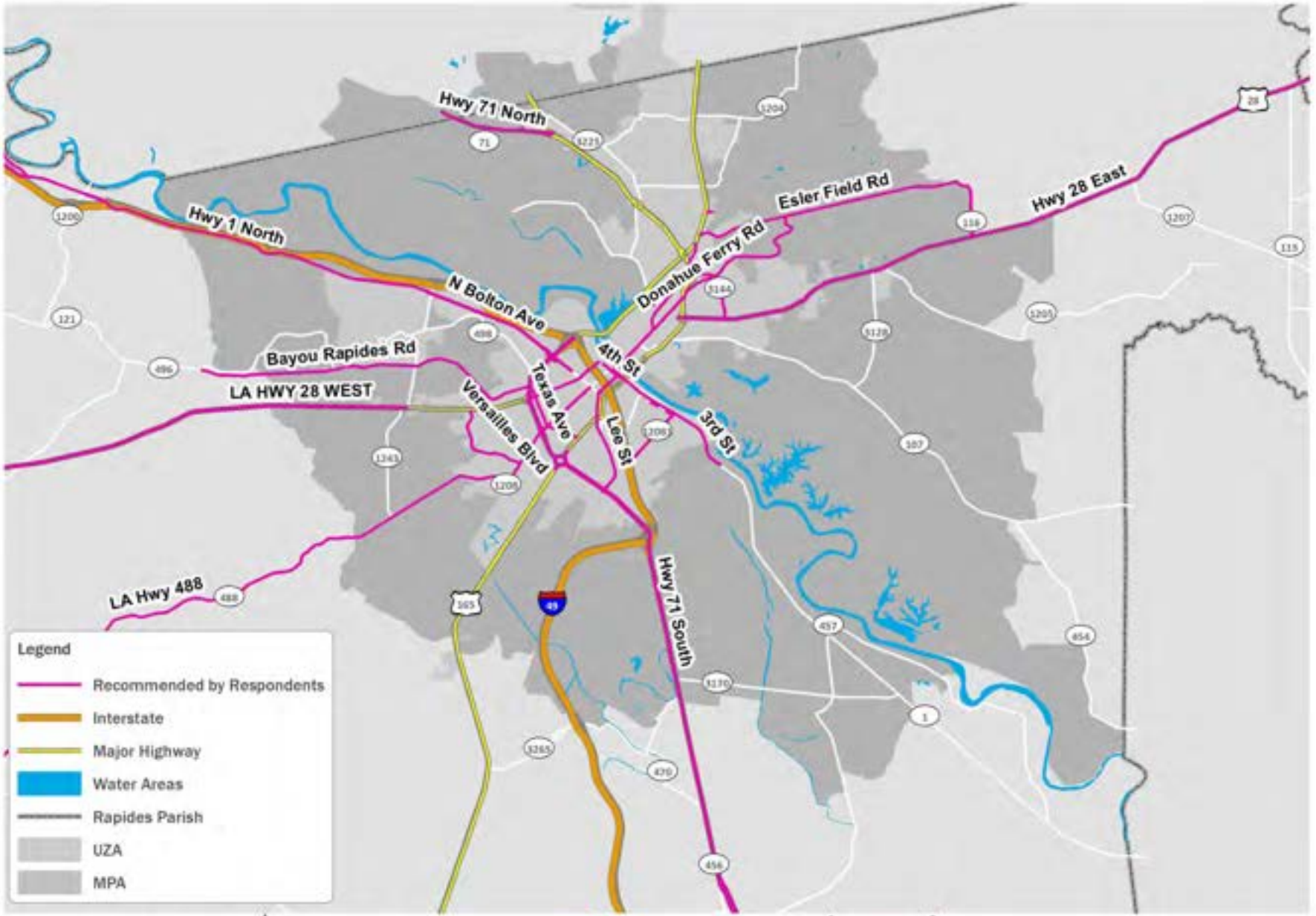
SOURCE: *RAPC Bicycle & Pedestrian User Survey, 2016*

Almost 50% of the respondents were "very uncomfortable" when bicycling with "No designated facility"; as more bicycle facilities were added, more people become "very comfortable". Also, 63.41% of the respondents were "very comfortable" with "protected bike lanes". Interestingly, the survey result shows that even though the overall level of comfort increases when "Shared Lane Markings" are in place, there are still roughly one third of the respondents who felt "somewhat uncomfortable".

When asked about design features that respondents would like to experience in their communities, the majority of respondents picked "Protected Bike Lane", "On Street Bike Lane" and "Shared-use Signs and Symbols". Over 70% of respondents believed these improvements are most important. The second tier of most desirable design features are "buffered bike lanes" and "bike signals".

Finally, all respondents were invited to identify their ideal locations for improvements. The following streets were identified across multiple responses (Map 3-12):

- MacArthur Drive (US 71)
- Jackson Street Extension (LA1208-3)
- Bayou Rapides Road
- Twin Bridges Road
- Monroe Street
- Texas Avenue
- Lee Street
- 3rd and 4th Street in Alexandria
- Military Highway
- LA 28 (east and west section)
- Versailles Boulevard
- Donahue Ferry Road
- Edgewood Drive
- LA 1 (continued signage for shared road only)



Map 3-12
Survey Result

Data Source: RAPC

0 1 2 4 Miles

RAPC

Note:
Road segement mentioned by survey respondents as desired locations for improvements are highlighed in pink.

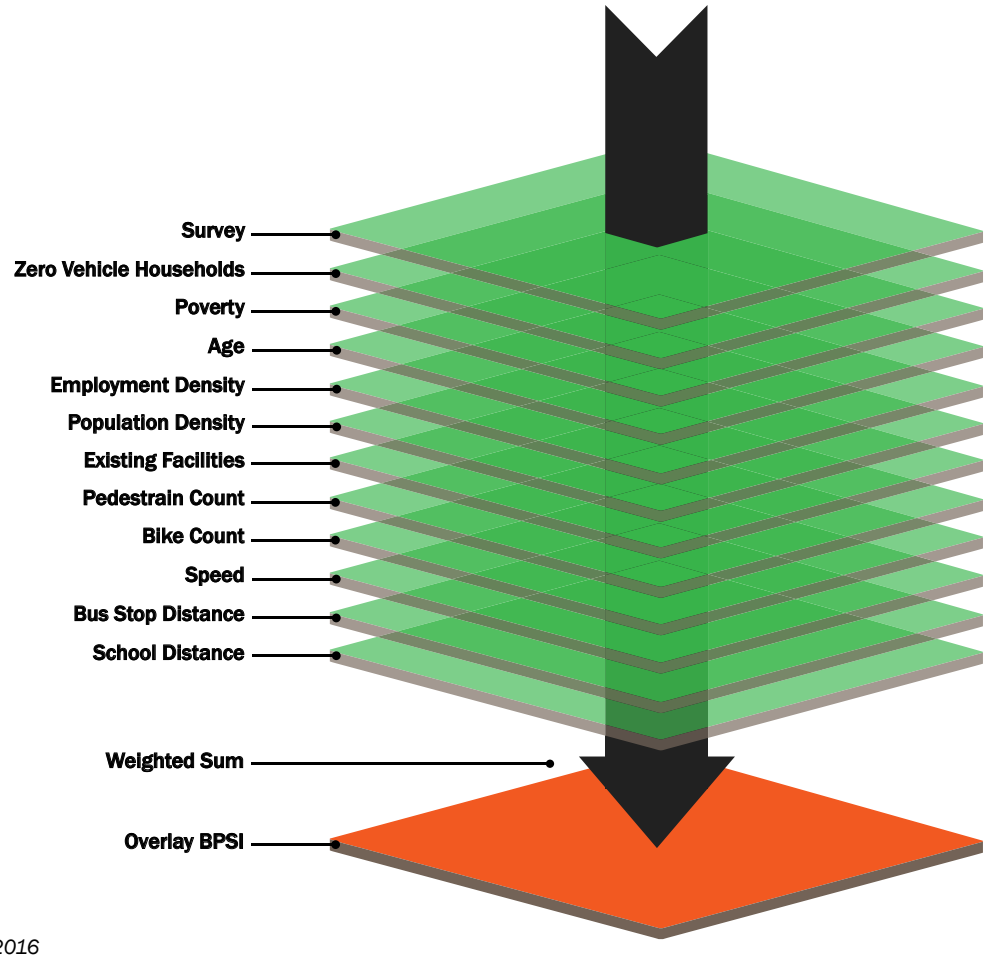
3.6 Bicycle & Pedestrian Suitability Index

The Utah Collaborative Active Transportation Study (UCATC) has developed a Latent Demand Model for bicycle and pedestrian demand, based on a US Environmental Protection Agency (EPA) report on the relationship between land use, transportation and environmental quality (EPA, 2001) and subsequent studies. The variables were selected from the "4Ds" of travel behavior framework: Density, Diversity, Destination and Design (Utah Collaborative Active Transportation Study, 2013).

Similarly, RAPC has developed a Bicycle and Pedestrian Suitability Index Model (BPSI), which includes additional three factors: transit, demographics, and community input. The analysis uses GIS Spatial Analyst tool sets, assigning scores based on each variable(detailed scoring methodology is listed in Appendix D). The variables are outlined in the following table (Table 3-4). These variables are subjected to ranking criteria to create a scoring index for each street segment within the study area. All layers are then overlaid using the ArcGIS Weighted Overlay Tool with equal weight[7].

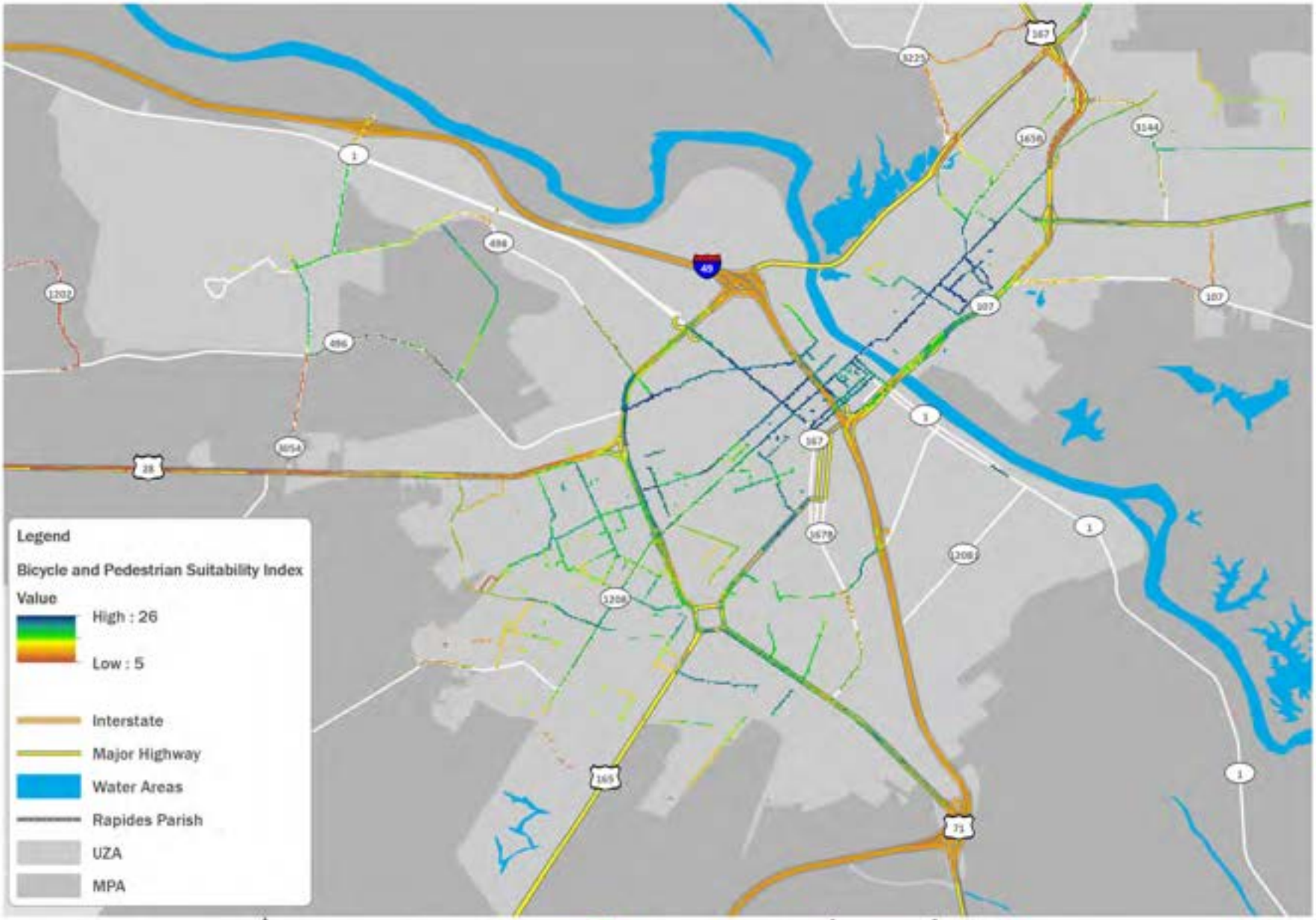
The BPSI model was developed for the entire MPA. Walking and bicycling demand scores were calculated for all 4847 street segments within the MPA. The results are shown in Map 3-13. A higher index score (represented in blue) indicates a higher likelihood of pedestrian and bicycling activity, based on the analysis of factors identified Figure 3-9. Some key areas of high activity include the downtown areas of the *City of Alexandria such as Bolton Ave, Rapides Avenue Street, Elliot Street, Texas Avenue Broadway Avenue from Dallas Avenue to Lee Street, Lower 3rd Street; Main Street in the City of Pineville as well as streets in and around Louisiana College*.

Figure 3-9: Bicycle and Pedestrian Suitability Index Model (BPSI)



SOURCE: *RAPC, 2016*

[7]http://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/overlay-analysis-approaches.htm



Map 3-13
Bicycle and Pedestrian Suitability Index

23 USC 409 Disclaimer

This document and the information contained herein is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

Chapter 4:
GOALS & STRATEGIES

Chapter 4: Goals & Strategies

Chapter 4 focuses on the vision, goals and strategies of the Bicycle and Pedestrian Plan. FHWA recommends Performance-Based Planning, which could be effectively implemented by organizing a bicycle and pedestrian planning process for transportation agencies around goals and strategies (FHWA, 2014). For the Alexandria/Pineville Area Bicycle and Pedestrian Plan (BPP), the vision statement, goals and strategies have been identified from citizen advisory committee meetings, input from MPO staff, online survey and agency consultations.

4.1 Vision Statement

Having a vision that guides a community to incorporate active transportation is the first step in seeing a plan to be implemented. It acts as a blue print and direction to improve walking and biking facilities in our community, allowing for the city and citizenry to move forward on seeing a network of bike paths, pedestrian facilities, and access to a wide range of transportation options. Knowledge gained from the planning process have been combined, condensed, and crafted into the vision statement for the BPP. The statement below builds upon current walking and bicycling conditions in the Alexandria/ Pineville Metropolitan Area and expresses the desired outcome of the plan.

4.2 Goals & Strategies

Goals and strategies support and promote the vision statement in addition to providing a framework when developing recommendations, projects and priorities (Chapter 5&6).

To initiate awareness, build partnerships, consider vulnerabilities of existing conditions, the plan proposes four key components for goal-setting, outlined in Figure 4-1.

Figure 4-0: BPP Vision Statement

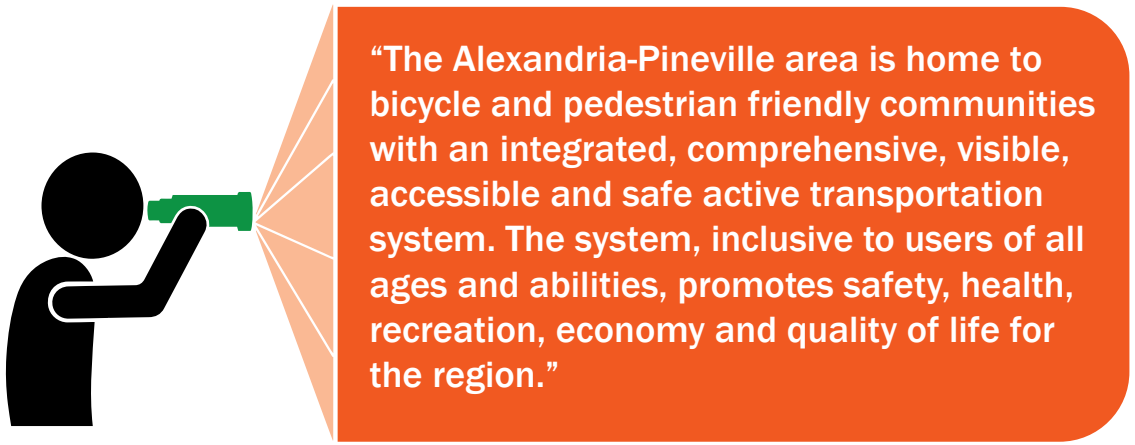
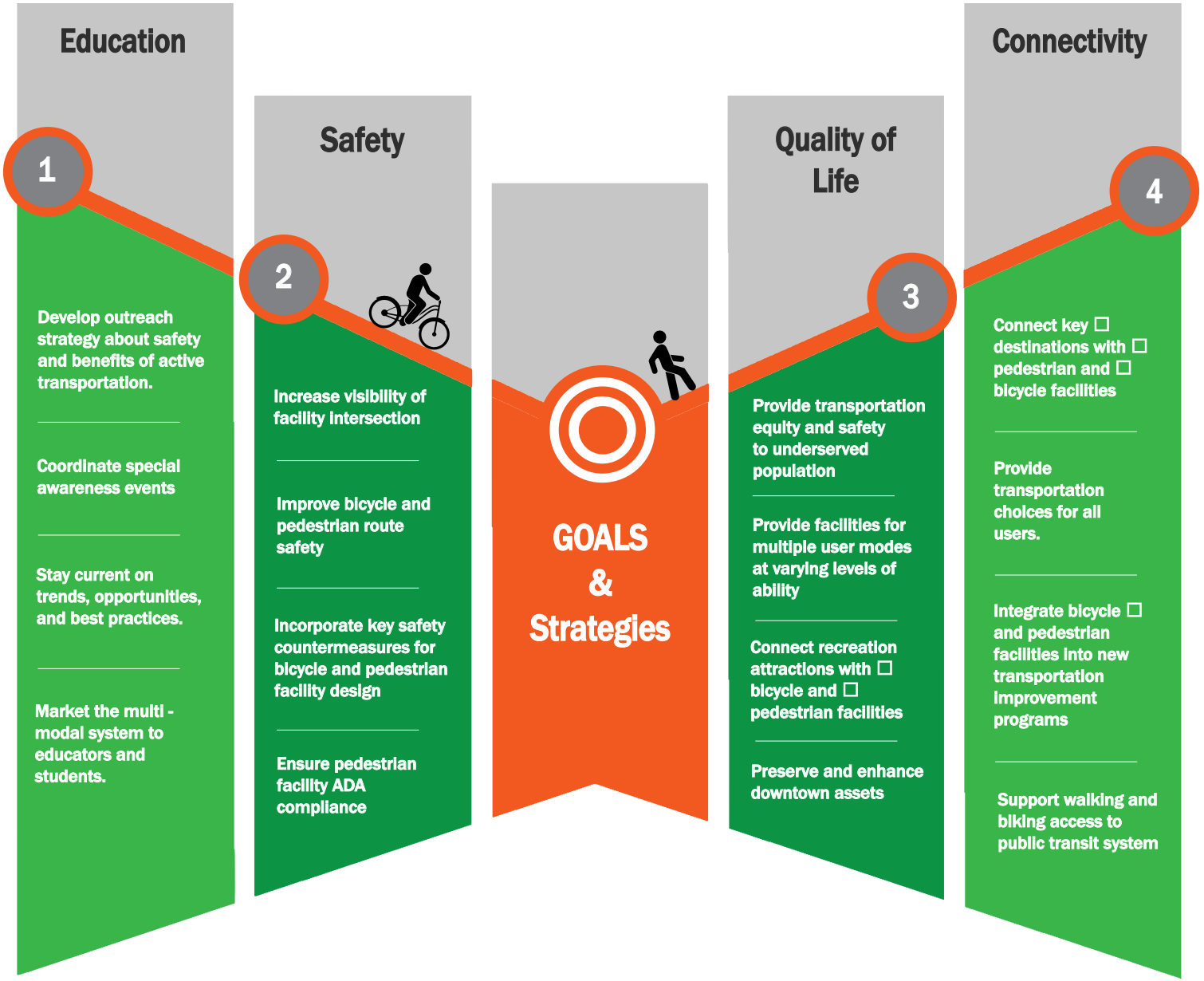


Figure 4-1: BPP Goals & Strategies



GOAL 1: Increase accessibility for all road users by providing a connected bicycle and pedestrian network.

The Revised LADOTD Complete Street Policy (April, 2016) states that "the intent…is to create a comprehensive, integrated, connected transportation network that balances access, mobility and safety needs of motorists, transit users, bicyclists, and pedestrian of all ages and abilities". Filling the gap in the sidewalk and bicycle network will make it easier to walk or bike to neighborhood destinations and to make connections with the transit system.

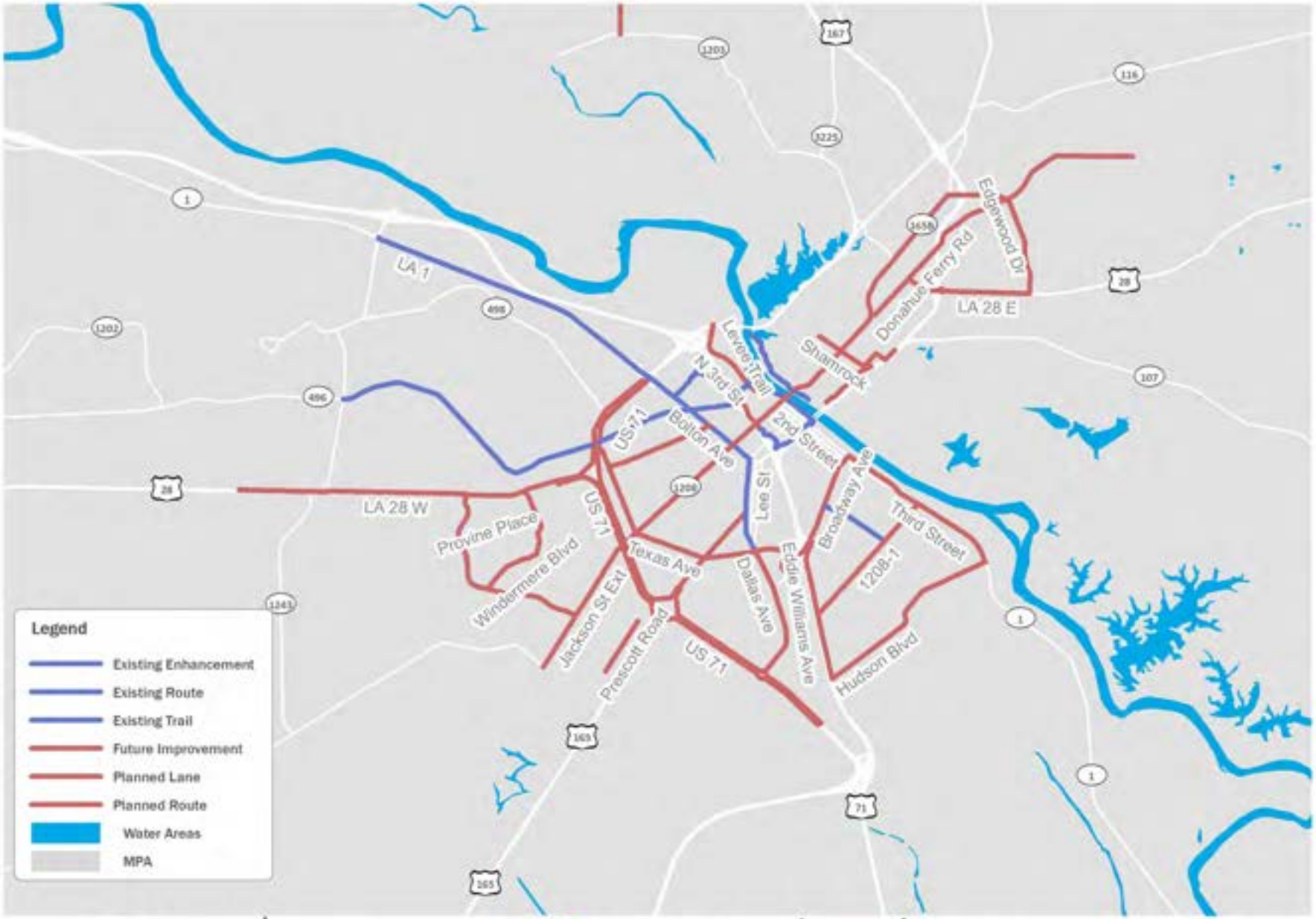
Furthermore, extending the bicycle and pedestrian network will alleviate traffic congestion for motorists, mitigate travel demand management and reduce air pollution from auto vehicle emissions. When planning for future routes and projects (red lines in Map 4-1), it is essential to plan and design around fixing connectivity and accessibility issues.

In addition, the BPP proposes the following strategies and measures to fulfill this goal:

- **Strategy 1** - Develop a comprehensive GIS inventory for existing bicycle and pedestrian facilities; design and prioritize future improvements to connect with or fill the gap of existing conditions
- **Strategy 2** - Connect neighborhoods, parks, shopping centers, schools, employment centers, bus stops, levee trails, and regional destinations with a greater number and broader range of pedestrian and bicycle facility choices for users of all abilities and comfort levels
- **Strategy 3** - Promote public transit and connect public transit to biking and walking.
- **Strategy 4** - Consider bicycle and pedestrian facilities for new construction projects
- **Strategy 5** - Maintain and improve existing trails, bike lanes and sidewalk; encourage use of existing facilities.
- **Strategy 6** - Develop, adopt, and implement a Complete Street Policy for the MPA

Measures:

- Miles of bike lanes and sidewalk added
- Gaps of bicycle and pedestrian facilities connected
- Number of intersections improved for pedestrian crossing
- Number of projects implemented accommodating Complete Streets



GOAL 2:Increase safety for bicyclists and pedestrians.

Safety is one of the highest concerns based on inputs from the BPAC and the survey respondents. To provide safe and convenient transportation choices to all people is one of the criteria for livable communities. 23% of fatal crashes in the Alexandria/ Pineville Metropolitan Planning Area involved bicycle or pedestrian or both from 2011 to 2015.

In 2012, FHWA issued an updated "Guidance Memorandum on Promoting the Implementation of Proven Safety Countermeasures", which listed nine proven safety countermeasures to be applied when considering safety improvements. Three of the nine countermeasures are directly related to pedestrian and bicyclists, which are: **Medians and Pedestrian Crossing Islands in Urban and Suburban Areas, Pedestrian Hybrid Beacon and "Road Diet"**.

Additionally, the Pedestrian and Bicycle Safety Guide and Countermeasure Selection System listed respectively 67 and 46 engineering, education, and enforcement countermeasures for pedestrian and bicycle safety (Figure 4-2).

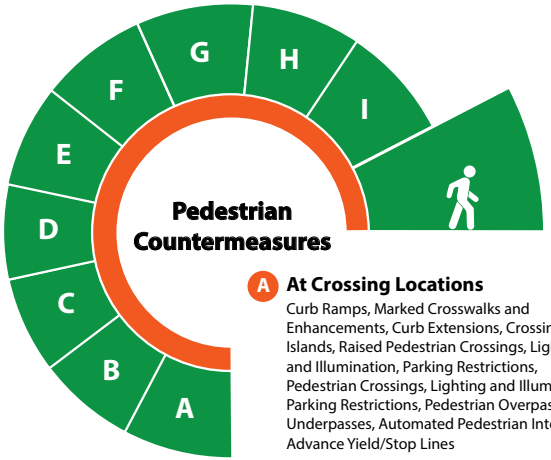
The BPP proposes the following strategies as recommendations to reach its safety goal:

- **Strategy 1** - Analyze crash reports and understand crash trends while engage public workshop, safety coalition and law enforcement to identify safety problems before crashes occur
- **Strategy 2** - Identify appropriate counter-measures and implement in problematic location
- **Strategy 3** - Increase visibility for high crash intersections, roadways and neighborhoods
- **Strategy 4** - Collaborate with law enforcement agencies to enforce at school zone, right-of-way preservation, speed monitoring and education

Measures:

- Reduction in bicycle and pedestrian fatalities and serious injuries
- Number of bicycle and pedestrian safety projects implemented
- Number of traffic safety education for all users and enforcement agencies

Figure 4-2: Bike & Pedestrian Safety Countermeasures



A At Crossing Locations
Curb Ramps, Marked Crosswalks and Enhancements, Curb Extensions, Crossing Islands, Raised Pedestrian Crossings, Lighting and Illumination, Parking Restrictions, Pedestrian Crossings, Lighting and Illumination, Parking Restrictions, Pedestrian Overpasses/ Underpasses, Automated Pedestrian Interval, Advance Yield/Stop Lines

B Intersection Design
Roundabouts, Modified T-Intersections, Intersection Median Barriers, Curb Radius Reduction, Modify Skewed Intersections, Pedestrian Accommodations at Complex Interchanges

C Signals & Signs
Traffic Signals, Pedestrian Signals, Pedestrian Signal Timing, Traffic Signal Enhancements, Right-Turn-on-Red Restrictions, Advanced Stop Lines at Traffic Signals, Left Turn Phasing, Push Buttons & Signal Timing, Pedestrian Hybrid Beacon (PHB), Rectangular Rapid Flash Beacon (RRFB), Puffin Crossing, Signing

D Roadway Design
Bicycle Lanes, Lane Narrowing, Lane Reduction (Road Diet), Driveway Improvements, Raised Medians, One-way/Two-way Conversions, Improved Right-Turn Slip-Lane Design

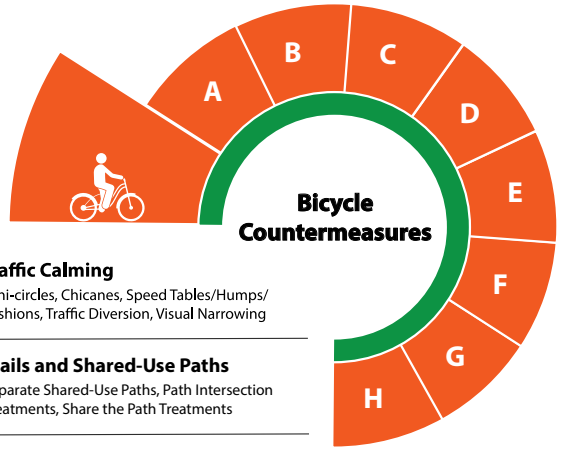
E Along the Roadway
Sidewalks, Walkways and Paved Shoulders, Street Furniture/Walking Environment

F Traffic Calming
Temporary Installations for Traffic Calming, Chokers, Chicanes, Mini-Circles, Speed Humps, Speed Tables, Gateways, Landscaping, Specific Paving Treatments, Serpentine Design

G Traffic Management
Diverters, Full Street Closure, Partial Street Closure, Left Turn Prohibitions

H Transit
Transit Stop Improvements, Access to Transit, Bus Bulb Outs

I Other Measures
School Zone Improvement, Neighborhood Identity, Speed-Monitoring, On-Street Parking Enhancements, Pedestrian/Driver Education, Police Enforcement, Automated Enforcement Systems, Pedestrian Streets/Malls, Pedestrian Detours at Work Zones, Pedestrian Safety at Railroad Crossings, Shared Streets, Streetcar Planning and Design



A Shared Roadway
Roadway Surface Improvements, Bridge and Overpass Access, Tunnel and Underpass Access, Lighting Improvements, Parking Treatments, Median/Crossing Island, Driveway Improvements, Lane Reductions (Road Diet), Lane Narrowing, Streetcar Track Improvements

B Markings, Signs, Signals
Optimizing Signal Timing for Bicyclists, Bike-activated Signal Detection, Sign Improvements for Bicyclists, Pavement Marking Improvements, School-zone Improvements, Rectangular Rapid Flashing Beacons (RRFB), Pedestrian Hybrid Beacon, Bicycle Signal Heads

C On-Road Bike Facilities
Bike Lanes, Wide Curb Lanes, Paved Shoulders, Shared Bus-Bike Lanes, Contraflow Bike Lanes, Separated Bike Lanes

D Intersection Treatments
Curb Radius Reduction, Roundabouts, Intersection Markings, Sight Distance Improvements, Turning Restrictions, Merge and Weave Area Redesign

E Maintenance
Repetitive/Short-term Maintenance, Major Maintenance, Hazard Identification Program

F Traffic Calming
Mini-circles, Chicanes, Speed Tables/Humps/ Cushions, Traffic Diversion, Visual Narrowing

G Trails and Shared-Use Paths
Separate Shared-Use Paths, Path Intersection Treatments, Share the Path Treatments

H Other Measures
Law Enforcement, Bicyclist/Motorist Education, Transit Access, Wayfinding, Landscaping/ Aesthetics

SOURCE: *www.pedbikesafe.org, FHWA 2016*

Goal 3: Raise awareness of the necessity and responsibilities for active transportation modes and promote the benefits of multi-modal transportation system.

Members of the BPAC have identified "awareness" as one of the biggest challenges for bicyclists and pedestrians in the area. Providing education, outreach, and training is a key strategy in increasing bicyclist and motorist awareness and improving interactions among various travel modes. Not only do bicyclists need safe places to ride, they need to know how to ride safely and responsibly with motorists. Motorists should be educated about how to share the road with bicyclists, which is especially important for motorists who are not bicyclists themselves. Beyond sharing information, the primary goal of an educational strategy is to motivate people to taking a second perspective and reduce the possibilities of reckless actions.

Several broad approaches can assist the BPP to achieve its goal in the education aspect, include:

- Highlighting bicycle accommodations when introducing new infrastructure;
- Conducting internal campaigns within the organization to build staff support for bicycle safety programs;
- Incorporating bicycle safety messages into public relations efforts;
- Developing relationships with relevant state agencies and statewide consumer groups; and;
- Marketing alternative travel modes.

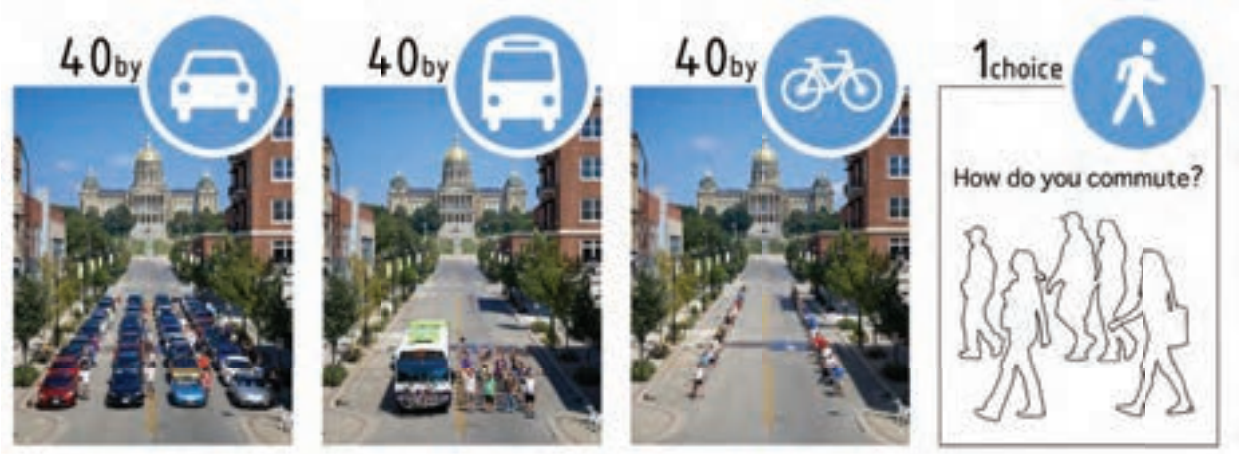
Based on these recommendations, the BPP proposes the following strategies:

- **Strategy 1** - Provide education, outreach, and training to increase pedestrian, bicyclists and motorists' awareness in sharing roles and responsibilities on the road
- **Strategy 2** - Coordinate special events to raise awareness
- **Strategy 3** - Participate in national, statewide, and local media campaigns
- **Strategy 4** – Partnering with the Travel Demand Management and other transportation programs to initiate regional bicycle and pedestrian safety education programs to schools and major employers

Measures:

- Number of bicycle and pedestrian program implemented
- Number of campaigns participated
- Number of campaigns initiated
- Number of public outreach program completed

Figure 4-3: Space Required to Transport Passengers Using Multi-modal Transportation

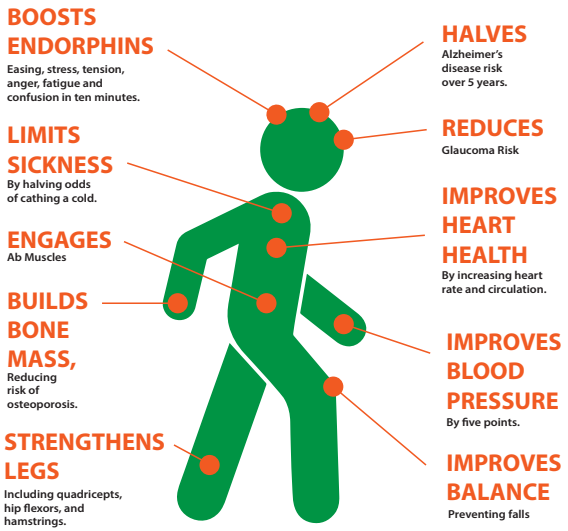


SOURCE: *Urban Ambassadors, Des Moines, Iowa, 2010*

Goal 4: Improve the overall quality of life by connecting biking and walking to its health, environment and economic benefits.

In his book about happiest places in the world, Dan Buettner concluded that one of the key factors for a happy life is health and cities that "build sidewalk, add bike lanes...increase the activity levels of residents" (Buettner, 2010). On the other hand, Atlanta's SMARTRAQ analysis states that travel patterns of residents in the region's least walkable neighborhoods generated about 20 percent higher CO_2 emissions than those who live in the most walkable neighborhoods (EESI, 2016). While walking and biking are affordable means of transportation, studies have also showed active transportation increase property values, support local business and spur economic development in communities.

Figure 4-4: Health Benefits of Bicycling & Walking

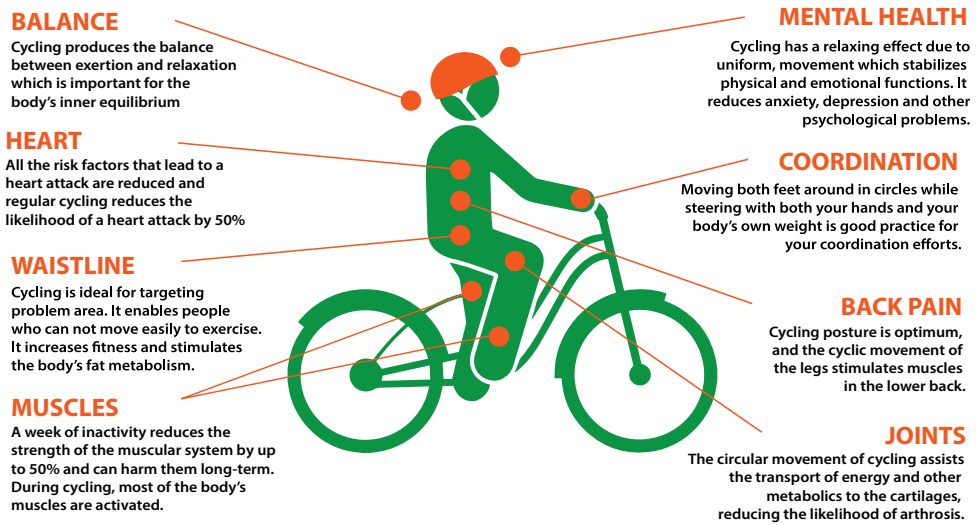


The following strategies are proposed by the BPP to coordinate bicycle and pedestrian resources and future improvements to forge a stronger economy, improve mobility options, build healthy communities, ease environment burdens, and the overall quality of life:

- **Strategy 1** - Prioritize projects that connects community destinations, recreation resources, schools and downtown local businesses
- **Strategy 2** - Design bicycle and pedestrian facilities that support regional Travel Demand Management, Ozone Advance program, Highway Safety Coalition Program and other opportunities
- **Strategy 3** - Design bicycle and pedestrian facilities that fulfills regional economic goals, support mixed use development and small businesses
- **Strategy 4** - Provide facilities to disadvantaged neighborhoods and users with varied level of abilities
- **Strategy 5** – Collaborate with community activists, property owner and Red River Levee District to connect a levee trail system along the river.

Measures:

- Increase in commuting mode share for biking and walking
- Increase in bicyclists and pedestrian counts



SOURCE: *Cycling and Health: What's the Evidence? Cycling England, 2007; www.everybodywalk.org, 2016*

Chapter 5:
RECOMMENDATIONS *for* IMPROVEMENTS

Chapter 5: Recommendation for Improvements

This chapter presents an overview of general design standards for bicycle and pedestrian facilities based on national and state guidance. Next, challenges in the pedestrian and bicycle network are identified and grouped into intersection and roadway issues. Recommendations are provided to address common issues such as complex intersection, lighting, and excessive auto-orientation. This chapter concludes with a set of recommendations for bicyclists and pedestrian improvements and policies.

5.1 Elements & Design Guidelines

The American Association of State Highway and Transportation Officials (AASHTO) published the Guide for the development of Bicycle Facilities, 4th Edition in 2012, known as the Green Book for bicycle transportation systems. The National Association of City Transportation Officials (NACTO) developed the Urban Bikeway Guide for design guidelines and real-world cases from around the world. The size and use of signs and markings are specified in the Manual of Uniform Traffic Control Devices (MUTCD). Such standardizations eliminate confusions from inter-judicial and even international travels.

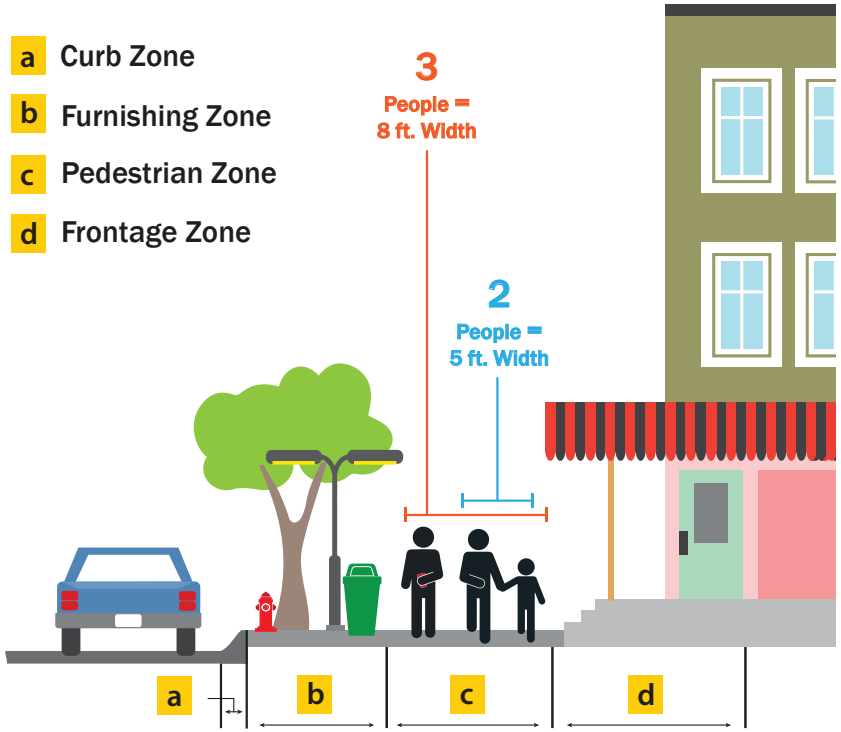
Table 5-1 lists AASHTO minimum standards for bicycle facilities. Table 5-2 summarizes prevalent bicycle and pedestrian types, descriptions, and their salient features. Table 5-3 summaries AASHTO minimum standards for pedestrian systems. AASHTO recommends landscape buffers between sidewalks and streets. The minimum recommended width for local road or collectors is 2 to 4 feet whereas 5 to 6 feet for arterial or major streets.

Table 5-1: Summary of AASHTO Minimum Standards for Bicycle Facilities

Bike Lanes	• 4 feet clear width from the lip of the gutter • 5 feet clear width between travel lane and parking lane
Shared Lanes	14 feet minimum outside lane
Signs	Should provide timely information to motorists and bicyclists where and when bicyclists may be present – should not impede clear path for bicyclists
Parking	Bicyclists should be able to secure the frame and front and back tires

SOURCE: *AASHTO, 2012*

Figure 5-1: Sidewalk Zones



SOURCE: *Philadelphia Bicycle and Pedestrian Plan, 2012*

Table 5-2: Bicycle & Pedestrian Facilities

FACILITY TYPE	DESCRIPTION	SILENT FEATURES (min./max. dimensions)	SAMPLE PICTURES
Paved Shoulder	Paved shoulders provide separated space for the operation of bicycles. However, paved shoulders are not considered travel lanes, and therefore may be used for temporary storage of disabled vehicles and vehicle parking, unless prohibited.	Shoulder widths are typically a function of the amount of bicycle usage, motor vehicle speeds, topography, percentage of truck and bus traffic, etc., although widths are sometimes purely a function of available right-of-way.	
Bike Lane	Designated by a white stripe, a bicycle symbol, and signage that alerts all road users that a portion of the roadway is for exclusive use by bicyclists.	• Min 4 feet, preferable 5 feet • Conventional bike lanes and buffered bike lanes are usually placed by the right side	
Bike Routes/ Marked Shared Lanes	All roadways, except where prohibited by law, are shared by bicycles and motor vehicles. A shared-lane pavement marking can also be used to provide a higher level of guidance to bicyclists and motorists.	• Signs that say SHARE THE ROAD or BICYCLES MAY USE FULL LANE help alert motorists that they may encounter bicyclists and encourage them to be respectful. • A lane width of 14 to 15 - for vehicles to pass bicyclists without switching lanes • Low traffic volume, neighborhood roads are safer and comfortable than major roadways for bicyclists.	
Bike Trail/ Shared-Use Paths/Side-paths	Shared-use paths provide off-road connections that can be used for recreation and commuting.	These paths are often found along waterways, abandoned or active railroad and utility rights-of-way, limited access highways, or within parks and open space areas.	
Sidewalk/ Walkways	Sidewalks and walkways are “pedestrian lanes” that provide people with space to travel within the public right-of-way that is separated from roadway vehicles.	Minimum width of 5 feet for a sidewalk or walkway, which allows two people to pass comfortably or to walk side-by-side. Preferred 6 feet - FHWA	

SOURCE: *Pedestrian and Bicycle Information Center; FHWA Bicycle and Pedestrian Program Guidance*

PHOTO SOURCE: *Rural California, cycling made more pleasant with bike lanes or cycle able paved shoulders. Half Moon Bay CA. ©Photograph by H-JEH Becker, 2012/ 40th Street/MacArthur BART Bicycle Access Project, City of Oakland http://www2.oaklandnet.com/government/o/PWA/o/EC/s/BicycleandPedestrianProgram/OAK043755/ http://www.streetsblog.org/2006/11/13/birth-of-a-class-iii-bike-route/http://www.chron.com/news/houston-texas/article/Grant-money-to-string-beads-of-city-s-bike-paths-3656812.php/ http://www3.alexandriava.gov/freedmens/photos/neighborhood/TypicalOldTownSidewalkPaving.JPG*

Table 5-3: AASHTO Minimum Standards for Pedestrian Facilities

SIDEWALK	
Effective Width	4 feet, 5 feet periodically for passing
Shy Distance	2 feet from buildings, less for less massive objects
Buffer Width	2-4 feet from local or collector road
Grade	• 5-6 feet from arterial or major street • Cross slopes should not exceed 2%
Stairs	Minimum width of 42” with handrail on one side that extends 12” beyond top and bottom stair
Ramps	Minimum 4 feet clear path ending in at least 2 feet of tactile warning
GRADE-SEPARATED CROSSING	
Bridges	• Open bridge for pedestrian only - 8 feet minimum width • Open bridge for pedestrian & bicyclists - 14 feet minimum • Enclosed bridge - 14 feet minimum
TUNNELS	
	• Rural - 12 feet minimum • Urban < 60 feet long - 14 feet minimum width, 8 feet minimum height • Urban > 60 feet long - 16 feet minimum width, 10 feet minimum height
PEDESTRIAN-FRIENDLY SIGNALS	
	Moving to “countdown” signals
SIGNS	
	Should provide timely information to motorists and pedestrians where and when pedestrians may be present – should not impede clear path for pedestrians
LIGHTING & OTHER AMENITIES	
	All elements should be scaled for pedestrians and not impede the clear path

SOURCE: *AASHTO, 2012*

5.2 Recommendations

The recommendations listed in this chapter are based on current best practices, keen observations, and knowledge from the local advisory committee to address several common issues along roadways and at intersections for bicycle and pedestrian facilities. Special emphasis is placed on safety as the primary challenge, however, the overall goal is to provide a safe, convenient, and comfortable transportation system for all users.

Pedestrian Network

In May, 2008, FHWA published Crash Reduction Factors(CRF) of a specific or a group of counter-measures being implemented in terms of pedestrian crashes. CRF is defined as the “percentage crash reduction that might be expected after implementing a given countermeasure”. CRF can be negative or positive. The CRFs were categorized based on three group of countermeasures: signalization counter-measures; geometric countermeasures; signs/ markings/operations countermeasures . CRF is presented as CRF(standard error)[reference] in Table 5-3.

Table 5-4: Crash Reduction Factor for Pedestrian Countermeasures

- (*) Blank cells mean that no information reported in the source document.
- (**) Only applies to "walking along the roadway" crashes.
- (***) Only applies to nighttime crashes.

	Countermeasures	Crash Severity	Left-Turn Crashes	Pedestrian Crashes
Signalization Countermeasures	Add exclusive pedestrian phasing	All	*	34[4]
	Improve signal timing	Fatal/Injury		37[8]
	Replace existing WALK / DON'T WALK signals with pedestrian countdown signal heads	All		25[5]
	Modify signal phasing (implement a leading pedestrian interval)	All		5[4]
	Remove unwarranted signals (one-way street)	All		17[7]
	Convert permissive or permissive/protected to protected only left-turn phasing	All	99[10]	
	Convert permissive to permissive/protected left-turn phasing	All	16[10]	
Geometric Countermeasures	Convert unsignalized intersection to roundabout	Fatal/Injury		27(12)[2]
	Install pedestrian overpass/underpass	Fatal/Injury		90[3]
		All	86[3]	
	Install pedestrian overpass/underpass (unsignalized intersection)	All		13[4]
	Install raised median	All		25[3]
	Install raised median (marked crosswalk) at unsignalized intersection	All		46[9]
	Install raised median (unmarked crosswalk) at unsignalized intersection	All		39[9]
	Install raised pedestrian crossing	Fatal/Injury	36(54)[1]	
		All	30(67)[1]	
	Install refuge islands	Fatal/Injury	36(54)[1]	Install refuge islands
	Install sidewalk (to avoid walking along roadway)	All		88[6]**
	Provide paved shoulder (of at least 4 feet)	All		71[3]**
	Narrow roadway cross section from four lanes to three lanes (two through lanes with center turn lane)	All	29[10]	
Signs/Markings/ Operational Countermeasures	Add Intersection Lighting	Injury	27[10]***	
		All	27[10]***	
	Add segment lighting Injury	Injury	23[10]***	
		All	20[10]***	
	Improve pavement friction (skid treatment with overlay)	Fatal/Injury		23[11]
	Increase enforcement	All		23[11]

SOURCE: *See Pedestrian Countermeasure CRF Reference Appendix E*

Through crash data analysis, field studies and recommendations from the BPAC Technical Subcommittee, the BPP has identified the following general recommendations to improve the overall level of comfort and safety for pedestrian road users.

Along the Road:

- **Insufficient Sidewalk Capacity** – some roads lack sidewalk altogether while others have gaps. In area with high levels of pedestrian use, there may not be wide enough sidewalk to accommodate all users (e.g. wheelchair). Pedestrians are forced to walk on the street, posing risks to themselves and to traffic flow. Recommendation in such area is to resolving sidewalk gaps, especially near schools, transit, public parks, and other public places.

- **Maintenance** – some sidewalks are blocked by vegetation erosion or badly maintained, making it difficult for pedestrian, especially wheelchair users to pass. Maintenance recommendation include keeping minimum clear width standards. There are examples of cities who have successfully implemented the "Point-Of-Sale" program to require sidewalk repairs before sale (Shoup, 2010), which has proven effective to ensure sidewalk maintenance in communities[2].

- Exposure to High Speed/Volume Vehicular Traffic - Pedestrians walking along streets with excessive auto-orientation usually feel unsafe, especially if the sidewalks are not buffered from traffic by a landscaped strip or parked cars. The heavier the traffic volume and the higher the speed of adjacent traffic, the less comfortable pedestrians will feel. Recommendations in areas with high vehicular traffic are widening sidewalks; installing buffers; using traffic calming treatment; access management; installing speed cameras and speed feedback signs (especially in school zones).

Intersection:

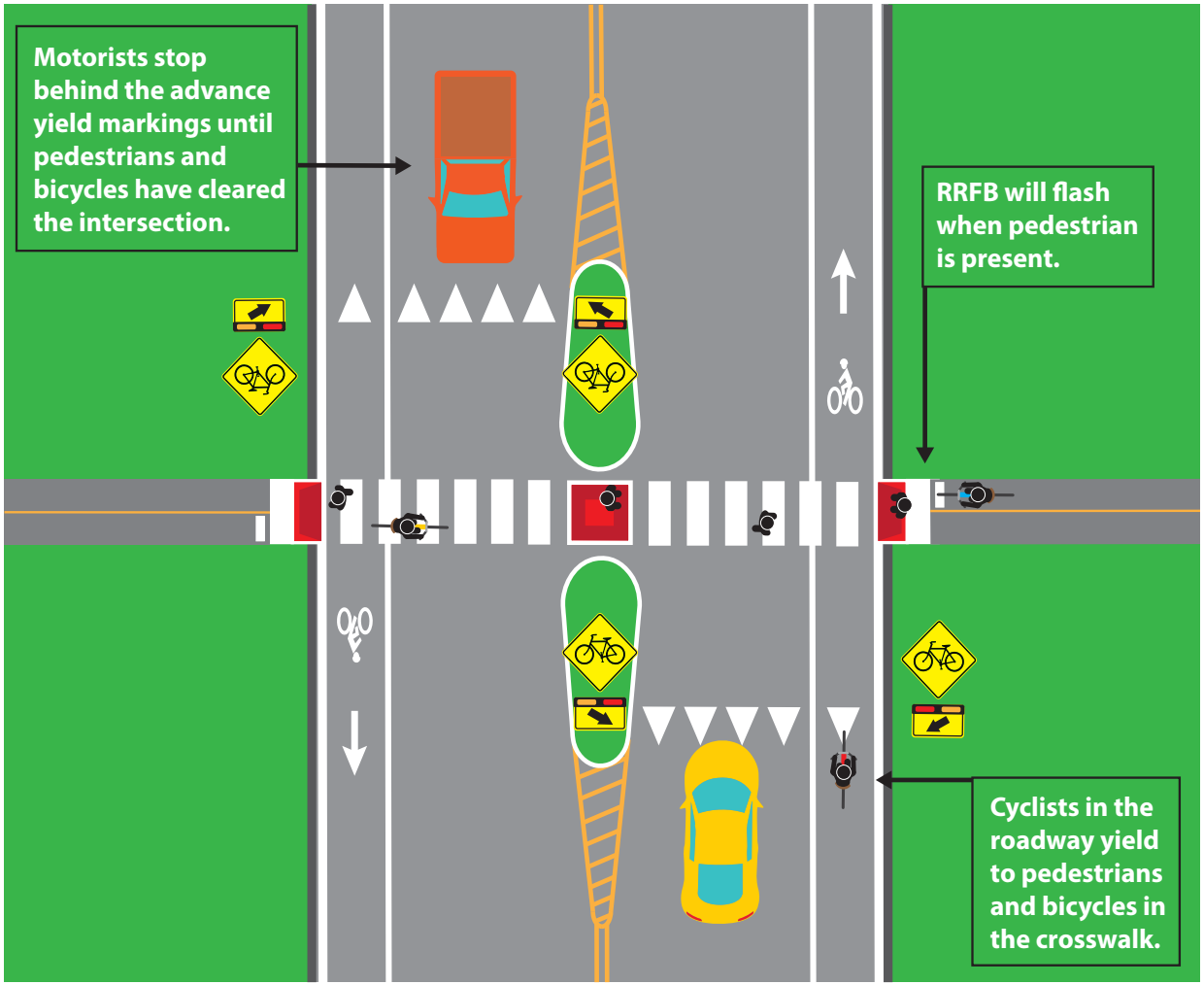
- **Auto-Orientation** – From the perspective of a pedestrian crossing, excessively auto-oriented streets typically have a speed limit of 35 mph or higher, four or more travel lanes and over 10,000 traffic count per day. Pedestrians have the legal right-of-way while walking across all driveways unless traffic signals control available. However, motorists are unlikely to yield to pedestrians crossing wide driveways that allow vehicles to turn into them at speeds over 10-15 mph. Modifications include curb extensions, clear pedestrian crossings, planted buffers, ADA ramps, and pedestrian countdown signals.

- **Lighting** – In the MPA, 56% (69 out of 123) of pedestrian related crashes from 2011 to 2015 happened from 6PM to 6 AM; 61.5% of all pedestrian related fetal crashes occurred during this time. Examining areas where crashes are highly concentrated, it is a common trend that crashes involving pedestrians are more likely to occur in poor lighting areas. Even though consistent lighting is provided along the arterial roads (US 71 and LA 28); however, lighting on the service roads needs improvements, especially when pedestrians are more likely to utilize service roads. Furthermore, lighting is extremely essential to commercial areas. Proper street lighting illuminates pedestrian crosswalks and reduces glare to motorists. It can enhance commercial districts and improve nighttime security. The BPP recommends that pedestrian walkways and crosswalks to be well-lit and to install lighting on both sides of streets in commercial and peripheral residential areas.

[2]*Point of Sale Program - A city can require that the escrow documents at sale include a certificate of compliance with the sidewalk ordinance. The process starts when an owner requests the city to inspect a sidewalk. If the sidewalk is in good repair, the inspector issues a compliance certificate. If the sidewalk is damaged, the inspector estimates what the city would charge to repair it. The owner has several options: Pay the city to repair the sidewalk; Accept a lien on the property for the estimated cost of the repair; the owner chooses to have a private contractor.*

- **Inadequate or Missing Crossing Facilities** – Several high pedestrian crash locations, as identified in Chapter 3, can be improved by adding pedestrian space, crossing islands and alert systems. Newer treatments, such as the Rapid Rectangular Flashing Beacons (RRFB, Figure 5-2), can be installed independently of an intersection signalization system to provide additional protection for pedestrians. They are especially effective in shopping area, school zone, near bus stops and other facilities. Signage with high visibility can work as an alert to motorists as well. Multi-lane roadways present challenges to both pedestrians and motorists. The BPP recommends including access management in future review and approval process.

Figure 5-2: Rapid Rectangle Flashing Beacon



SOURCE: *RAPC, 2016*

- **Complex Intersections -** Intersections of more than three streets can create challenges for pedestrian safety and comfort, especially when traffic controls and other pedestrian crossing facilities are unable to meet pedestrian needs. Some wide or diagonal intersections also fall under complex intersections. Offset intersections pose threats to vulnerable road users, often pedestrians who need to be more aware when crossing, especially with little or no traffic controls. Figure 5-3 is one example of intersections clustered with more severe crashes (blue zones in Map 3-9) US 71@LA28, also known as MacArthur@Coliseum. Two out of the three pedestrian crashes occurred around this area were fatal and at night time with low visibility (Table 5-5). If a pedestrian were to travel from the east side of MacArthur (US71) to the west side shopping plaza with a grocery store serving fresh produce, he or she would have to cross a two-lane service road, a four-way divided arterial highway, followed by another two-lane service road. Complex intersections with high demand for pedestrian activities are recommended with higher priority in the BPP.

Table 5-5: Pedestrian Crashes Near Intersection of US 71 & LA 28, 2011 - 2015

OBJECT ID	Severity	Date	Hour	Day Of Week	Month	Weather	Predicted Alcohol	No Restraint
1	FATAL	2/21/2011	08 - 09 P.M.	Monday	February	CLEAR	Yes	No
2	NO INJURY	11/21/2012	05 - 06 P.M.	Wednesday	November	CLEAR		
3	FATAL	9/30/2015	10 - 11 P.M.	Wednesday	September	CLEAR		

Figure 5-3: US 71 & LA 28 Intersection Pedestrian Crash Location

IMAGE SOURCE: *Google Maps, 2016*

Table 5-6: Challenges and Recommended Pedestrian Improvements

ISSUE	RECOMMENDATION
Along the Road	
Insufficient Sidewalk Capacity and Maintenance	• Fill sidewalk gaps, especially near neighborhood destinations such as school, transit stops and parks. • Prevent parking on the sidewalk by adding bike racks or bollards. • Implement public-private partnership between city/parish with property owner or developer through redevelopment process to ensure sidewalk availability and maintenance. • Maintain minimum clear width standards through encroachment redevelopment process.
Exposure to High Speed/ Volume Vehicular Traffic	• Widen sidewalks • Install buffers between sidewalk and travel lane • Use traffic calming devices in areas with high pedestrian volume • Include access management in the long run for plan review and requirement • Install speed cameras and speed feedback signs
Pedestrian Crossing	
Auto-Orientation	• Create mid-block crossing with appropriate warning for motorists • Narrow travel lanes at intersections and reduce turning radii, where possible • Install pedestrian refuge in median • Stripe high-visibility crosswalks and alerting signs • Install enforcement cameras • Install warning signs reminding pedestrian right of way
Inadequate or missing crossing facilities/Lighting	• Add pedestrian signals where missing, if possible • Upgrade devices where such pedestrian crossing signals were outdated • Install pedestrian refuge in median and install second pedestrian signals • Install curb extensions to decrease crossing distance • Add stop signs where appropriate • Install the Rectangular Rapid Flashing Beacons at desired locations • Increase lighting conditions for pedestrians, especially in commercial area and peripheral residential areas
Complex Intersections/Wide or diagonal intersections	• Install medians and provide pedestrian refuge • If more than two phase signal, allow pedestrian to cross on all phases • Add warning signs and signals to alert motorists for pedestrian crossing • Stripe high-visibility crosswalks

Table 5-6 is a summary of common challenges related to pedestrian improvements and recommendations.

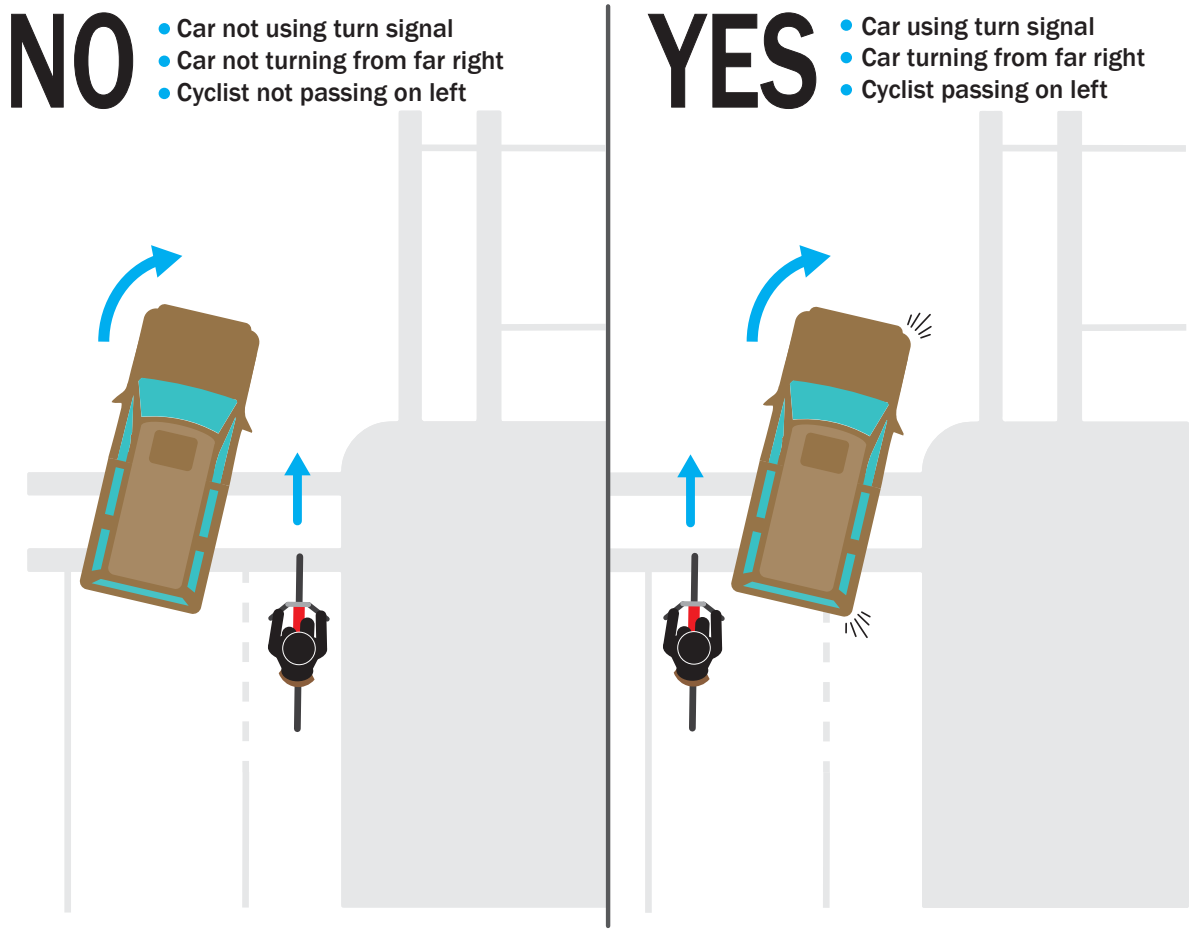
Bicycle Network

67 Throughout the planning process, the BPP has identified some key issues to be addressed when planning and implementing bicycle facilities. The issues focus on the overall level of comfort, safety, accessibility, and ease of use for bicycle infrastructure to be implemented and should be considered into all planning and designing efforts. These issues include:

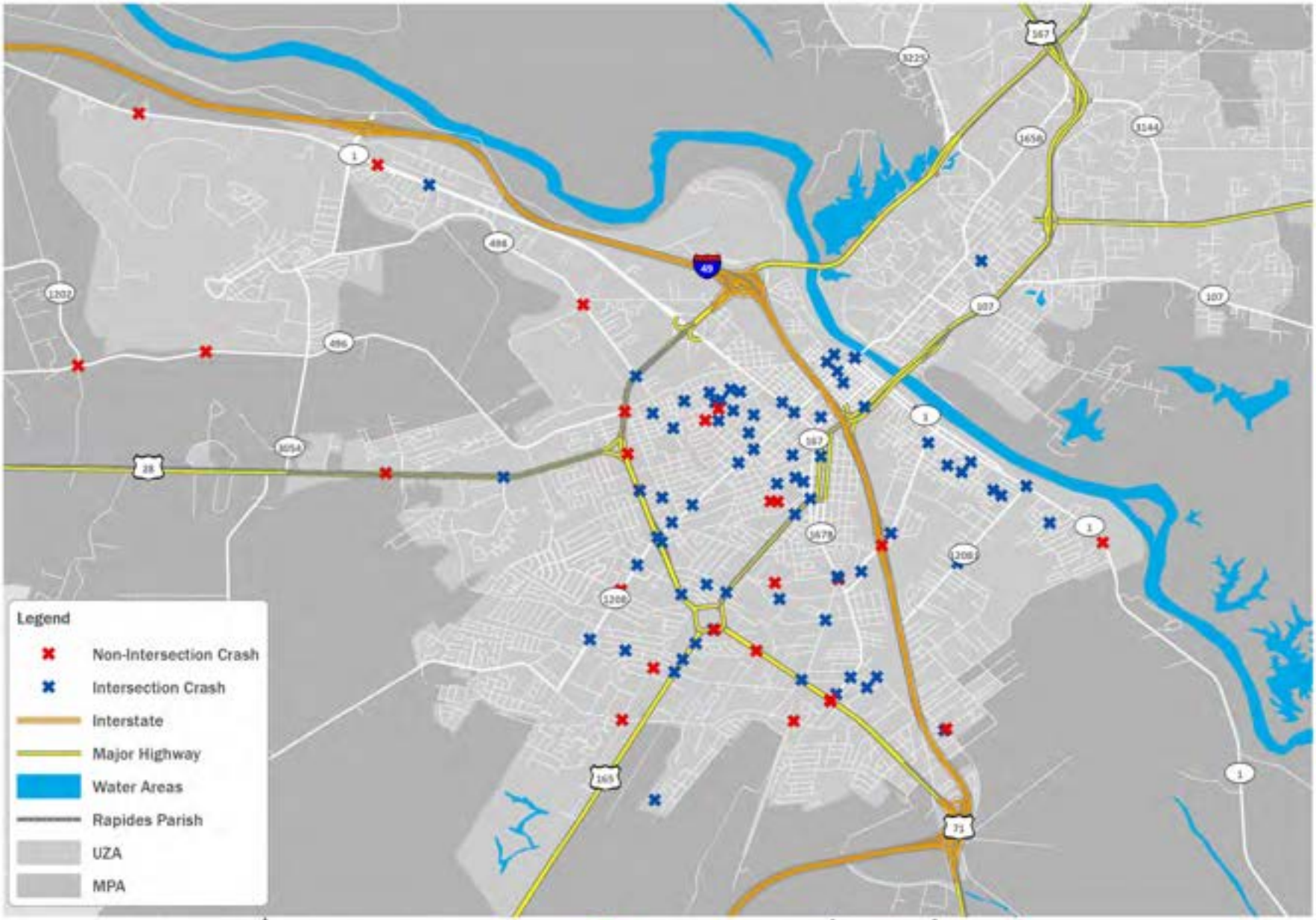
- Intersection Improvements
- Conflicts with On-street Parking
- Riding on Sidewalk
- Bicycle and Transit
- Bicycle Specific Signage

Intersection Improvements – The majority of bicycle related crashes occurred in the MPA from 2011 to 2015 were intersection crashes (75%, or 81 out of 108, Map 5-1). Good intersection design makes biking more attractive and reduces the number crashes and severity of injury. A clear and obvious path for bicyclists should be provided at intersections. If there are turning conflicts or longer time for crossings, extend the bicycle markings. Removal of parking spaces may be required to provide visibility for bike lanes. In addition to bike lanes, consider dedicated turning lanes to reduce conflicts between through bicyclists and turning motor vehicles (Figure 5-4). Another consideration could be to add bicycle signals at locations with high conflicts. Such signals should coordinate with pedestrian movements to increase safety and minimize delay; however conflicts between bicyclist and pedestrians should also be minimized.

Figure 5-4: Right Turn Conflict Reduction

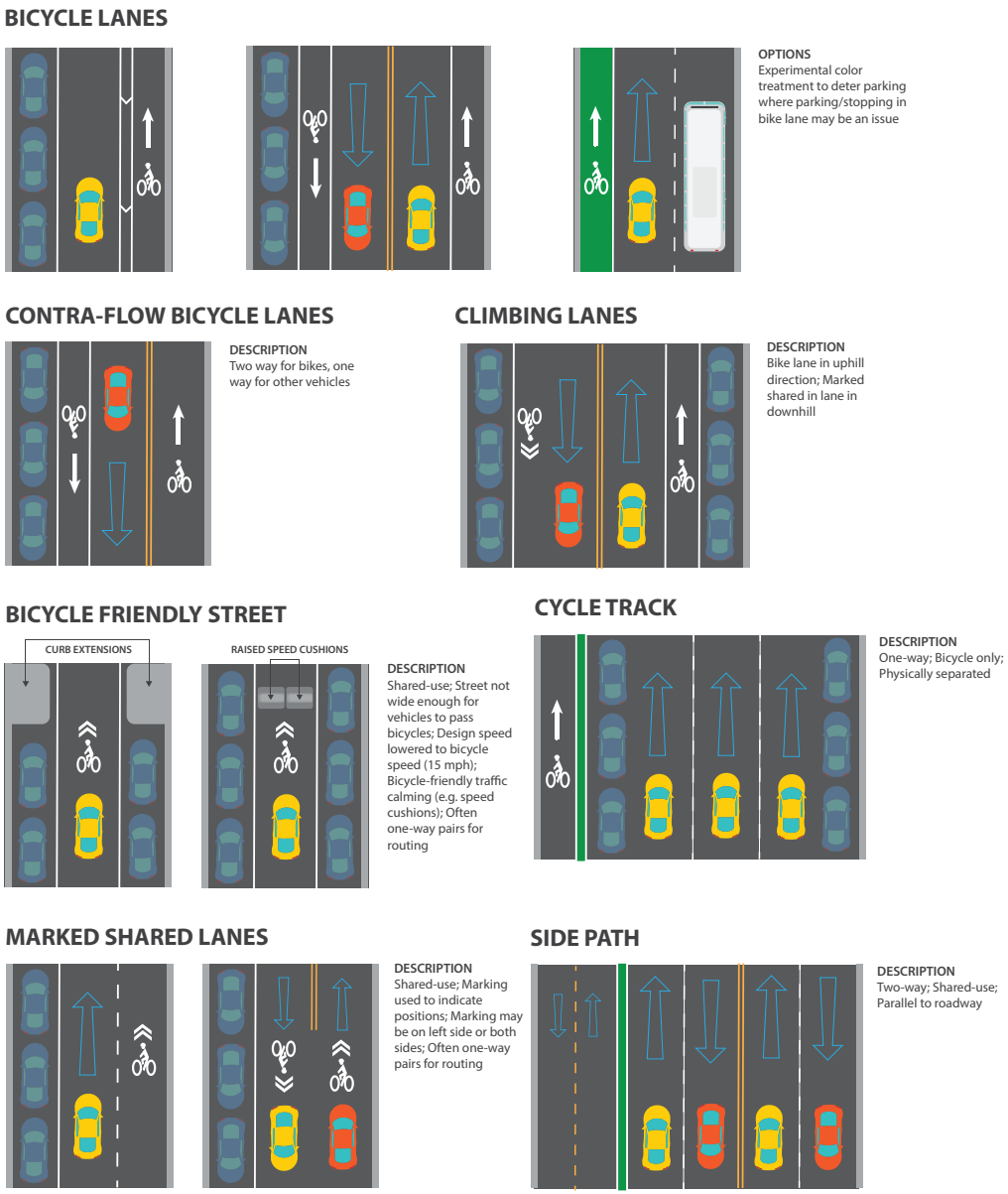


SOURCE: *http://blog.esurance.com/bike-lanes-what-are-the-rules-exactly/*



Map 5-1
Bicycle Crashes at Intersections

Figure 5-5: Bike Facility Types



SOURCE: *Philadelphia Bicycle and Pedestrian Plan, 2012*

Conflicts with On-street Parking – Bicyclists experience problems with motorists' double parking in bike lanes or shared lanes. Parking in curb-side bike lanes and open doors pose danger to bicyclists. To combat this conflict, it requires a multi-disciplinary approach through education, enforcement, and engineering. Motorists need to be educated on laws and regulations about parking in bike lanes and/or on streets while bicyclists should be educated to wear proper safety harness equipment to alleviate the risk of serious injuries and even fatalities. Left-side bike lanes leave bicyclists with fewer threats to open motor vehicle doors. Bicycle safety campaigns, for instance, NHTSA's Bicycle Safety Month, Louisiana's "Be a 'Roll' Model" or local bicycle events/campaigns are great opportunities to raise awareness. Enforcement plays a key role in reducing improper parking in bike lanes while well defined bike lanes by contrasting colors or cycle tracks helps motorists, especially those who are unfamiliar with the area, identify travel lanes and parking area.

Riding on Sidewalks – Both the City of Alexandria and the City of Pineville specifically state in their city Codes that it is"unlawful for any person to ride or propel a bicycle on any of the sidewalks of the city" (City of Alexandria, Code 1956, §6-4 and City of Pineville, Code ode 1971, § 4½-8). Biking on sidewalk poses potential risks to both pedestrians and bicyclists. Although bicyclists may perceive it "safer to bike on sidewalk", due to potential increase of conflicts at driveways, riding on sidewalks could be more dangerous. Even though sidewalk may appear as safer and faster route to many bicyclists when both traffic volume and speed are high, it is regulation and safety concerns make riding on sidewalks illegal and risky. Well-marked bikeways tend to reduce the temptation to bike on sidewalks; while targeted enforcement should also be considered. Upon planning and designing projects linking destinations routes, bike lanes or appropriate facilities should be considered as potential increase in biking activities.

Bicycle and Transit – There are two aspects to consider when relating biking with public transit for planning purposes: conflicts of travel and collaboration on mode-share. The BPP proposes the following recommendations address biking and transit issues:

- Ensuring sufficient length of transit stops so vehicles can pull fully to the curb. The ATRANS routes cover roadways with on-street bike lanes (Bolton Avenue and Lee Street), which requires adequate length for buses to pull to the curb.
- Parking at transit stops are illegal and prevent buses from fully pulling up on curbs. Enforcement to reduce the number of illegal parking benefit bicyclists as well as transit riders.
- Consider left-side bike lanes when transit route is in place.
- Install bike racks and educate proper use of such racks to encourage ridership and reduce liability issues.
- Educate transit vehicle operators and bicyclists on proper rules and regulations for right of ways to reduce conflicts between these users.

Bicycle Signage – Properly placed signs alert users to change of condition, address safety issues and assist in wayfinding. Lines, symbols, and arrows are identifier for bike lanes. Signs such as “Shared the Road” or “May use full lane” may also carry educational influence. When installing signs, it is vital to maintain MUTCD standard.

Table 5-7, page 71, includes details on proper signs and symbols associated with popular bike facilities as well as their estimated costs. It is recommended by the Louisiana Long Range Bicycle Map, as a planning tool for cost estimate, project prioritization and application.

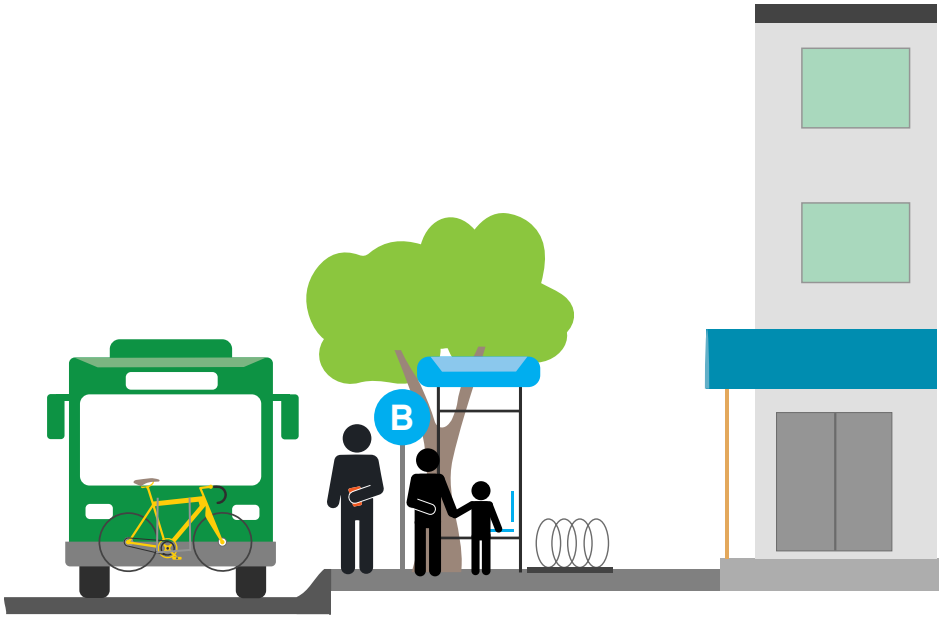


Table 5-7: Bicycle Facility Cost Estimates

FACILITY TYPE	ELEMENTS	DETAIL	NECESSITY	UNIT	QUANTITY	COST	COST PER MILE	FACILITY TYPE COST	COST BY IMPROVEMENT
Paved Shoulder	Paved Shoulder	Superpaved Asphaltic Concrete	Required	Foot	10,560	$10.05	$106,000	$10,600	$106,128.00
Marked Shared Lane	Shared Lane Pavement Marking	Plastic Pavement Legends and Symbols (Arrow)	Required	Each	20	$218.91	$4,378.20		
		Plastic Pavement Legends and Symbols (Bicycle)	Required	Each	20	$409.07	$8,181.40		
	Bikes May Use Full Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	Required	Each	4	$93.81	$375.24		
		U-Channel Post	Required	Each	4	$81.11	$324.44	$13,000	$13,259.28
Bike Lane	Inside Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Outside Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	Required	Each	30	$218.91	$6,567.30		
		Plastic Pavement Legends and Symbols (Bicycle)	Required	Each	30	$409.07	$12,272.10		
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	Required	Each	4	$93.81	$375.24		
		U-Channel Post	Required	Each	4	$81.11	$324.11		
	Colored Pavement in Conflicted Areas		Optional					$42,000	$41,748.79
Buffered Bike Lane	Inside Stripe (*2)	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Outside Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Diagonal Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	0.1	$5,552.51	$555.25		
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	Required	Each	20	$218.91	$4,378.20		
		Plastic Pavement Legends and Symbols (Bicycle)	Required	Each	20	$409.07	$8,181.40		
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	Required	Each	4	$93.81	$375.24		
		U-Channel Post	Required	Each	4	$81.11	$324.44		
	Colored Pavement in Conflicted Areas		Optional					$36,000	$36,024.57
Separated Bike Lane	Inside Stripe (*2)	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Outside Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Diagonal Stripe	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	0.1	$5,552.51	$555.25		
	Inside Stripe (*2)	Plastic Pavement Striping (6" wide solid line)(Thermoplastic 90 mil)	Required	Mile	2	$5,552.51	$11,105.02		
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	Required	Each	40	$218.91	$8,756.40		
		Plastic Pavement Legends and Symbols (Bicycle)	Required	Each	40	$409.07	$16,362.80		
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	Required	Each	4	$93.81	$375.24		
		U-Channel Post	Required	Each	4	$81.11	$324.44		
	Colored Pavement in Conflicted Areas		Optional					$49,000	$48,584.17

SOURCE: *DOTD Long Range Bicycle Map - Statewide*

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Chapter 6:

IMPLEMENTATION, PRIORITIZATION & FUNDING SOURCES

Chapter 6: Implementation, Prioritization, & Funding Sources

Chapter 6 focuses on the implementation of the Bicycle and Pedestrian Plan (BPP), featuring a project list with estimated cost, prioritization, and a comprehensive list of funding sources as of November, 2016. The projects have been identified through a combination of GIS analysis, community, stakeholder and BPAC input to address major goals outlined in Chapter 4: safety, connectivity, education, and quality of life. Recommendation for treatments are based on countermeasures discussed in the prior chapter to promote a safe, comfortable, efficient and connected alternative transportation network. The project list and recommendations assist decision makers to prioritize improvements, however, it is not intended to supersede engineering judgment or new information that may be revealed at the time of project development.

Figure 6-0: Bolton Avenue Streetscape Project

6.1 Implementation

General approaches for Implementation for bicycle and pedestrian project are:

- Coordinate pedestrian and bicycle recommendations to avoid potential conflicts and take advantage of opportunities for dual improvements;
- Act on opportunities to make pedestrian and bicycle network improvements, whether as part of corridor projects (such as resurfacing, restriping, or streetscape projects), as part of development/redevelopment projects, or through specific spot improvements;
- Establish a collaborative relationship with parallel and complementary programs, such as the Ozone Advance Program and the Regional Strategic Highway Safety Plan/ Safety Coalition Program hosted by the MPO; and
- Pursue additional funding to program the design and construction of pedestrian and bicycle improvements on a regular basis.

LADOTD adopted the Complete Street Policy in 2009, which suggested transportation agencies responsible for projects that involve federal or state funding to follow the same provision:

- Plan, fund and design sidewalks and other pedestrian facilities on all new and reconstruction roadway projects that serve adjacent areas with existing or reasonably foreseeable future development or transit services.
- Provide bicycle accommodations appropriate to the context of the roadway – in urban and suburban areas – on all new and reconstruction roadway projects. The preferred facility is bike lane, however, depending on the context, paved shoulder with sufficient width, shared used trail or marked shared use lanes may be adequate.
- Exception for not accommodating bicyclists, pedestrians and transit users will require the approval of the LADOTD Chief Engineer[1].

The Complete Street Policy Final Report also provided a list of actions and tools to “advance Complete Street in Louisiana”, including administrative, legislative strategies and through coordinating and collaborating with local agencies.

[1] http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Complete_Streets/Misc%20Documents/Complete%20Streets%20Final%20Report%2007292010.pdf

6.2 Prioritization

As in many places, pedestrian and bicycle improvements are often not accomplished as stand-alone projects, but rather as part of a larger roadway and streetscape improvement project. For this reason, it is difficult to develop precise phasing strategies for recommendations listed in the BPP. However, staff at the MPO have consistently consulted key stakeholders, for instance, LADOTD and City of Alexandria to develop the following implementation strategies and prioritization.

The Bolton Avenue Streetscape project in the City of Alexandria proved that it is effective to consider alternatives for bicycle and pedestrian activities at planning and design stage (Figure 6-0 Bolton Ave Streetscaping Project). The City of Alexandria has provided a list of capital projects within the city limit from 2011 to 2015 as well as anticipated projects, as summarized in Table 6-1 and Table 6-2.

Table 6-1: Anticipated City of Alexandria Bicycle & Walking Infrastructure Projects

	Project Name	Project Summary	Project Limit
1	Bolton Ave. Phase III	Streetscape, Sidewalk and Lighting	Lee Street to Elliott Street
2	Bolton/Rapides Ave. Intersection Improvements	Roundabout	Bolton at Lee Street
3	6th and 7th/Cotton Street to Monroe	New Bridge over Rapides Bayou and Street Construction	Third Street to Monroe Street.
4	Fosiy Street Reconstruction	Replace Box Culvert and Rebuild Street	Monroe to Mason Street
5	Hudson Blvd. Reconstruction	Reconstruction of Existing Street	Hynson Bayou to Eddie Williams
6	Tulane Ave. Reconstruction	Reconstruction of Existing Street	Clinton Street to Eddie Williams
7	Horseshoe Drive Reconstruction	Reconstruction of Existing Street	Jackson Street to MacArthur Drive
8	Provine Place Extension	New Street	Cloverleaf to McKeithan Drive
9	Masonic Drive Road Diet	Bike lane and median with Single lane traffic each way	Texas Ave. to Lee Street
10	Lee Street Streetscape	Streetscape, Sidewalk, Lighting	Masonic Drive to Bolton Ave.
11	Applewhite Street Bridge Replacement	Replace Bridge	Applewhite at Chatlin Lake Canal
12	Baldwin Ave. Extension	New Construction	Allen Street to Sterkx Road
13	Belleau Wood Crossing at Bayou Roberts	New Street and Box Culvert	Belleau Wood at Bayou Roberts
14	Empire Drive Reconstruction and Drainage	Reconstruction of Existing Street	Sterkx to Baldwin
15	North Drive - Memorial Drive Intersection Imp.	Roundabout	North Drive and Memorial Drive
16	Toria Drive Crossing Goodearth Ditch	Bridge and Street Construction	Toria Drive at Goodearth Ditch
17	Versailles Blvd. at Provine Place Intersection Imp.	Roundabout	Versailles Blvd. at Provine Place
18	Tulane Ave. Bridge Replacement	Replace Existing Bridge	Tulane at Hynson Bayou

SOURCE: *City of Alexandria, Engineering Department*

Sidewalk Prioritization Model

Similar to the Bicycle and Pedestrian Suitability Index Model in Chapter 3, a sidewalk prioritization model is a recommended approach to quantify prioritization for each project. The first step of the Sidewalk Prioritization Model is the Inventory System, which requires a complete database for sidewalk geometric and geographic information, such as location, condition, length, width etc.

Very few cities have detailed data on sidewalks; however, the MPO and LADOTD have contracted with Fugro to collect road feature data for asset inventory, which can be used to develop a GIS based public roadway inventory. Data pertaining bicycling and walking facilities to be collected and delivered by this project including:

- Number of travel lanes
- Start and end location of sidewalk on both sides of road
- Street Signs
- Striping [2]

The second step is to develop a scoring system using pedestrian trip generators as part of the input, as well as current sidewalk characteristics to identify priorities for future projects.

Figure 6-1: Existing Pedestrian Facilities

[2] As of November 30th, 2016, delivery of Fugro GIS data packet is pending.

Table 6-2: Bicycle & Pedestrian Capital Projects List in City of Alexandria - Recently Completed & Financed

	Project Name	Date Completed	Description	Project Limits
	City Projects from October 2011 to October 2015, Except MPO Projects			
9	Masonic Drive Streetscape Phase I	July. 2011	Sidewalk and Streetscape including lighting	Lee Street to Texas Avenue
2	Enterprise Road Sidewalk Improvements	Nov. 2011	New Sidewalk on South side of Enterprise	LA Highway 1 to Cole Street
1	Aaron Street Sidewalk Improvements	Feb. 2012	New Sidewalks on North side of Arron Street	Willow Glen River Road to Davis Street
6	Monroe Street Sidewalk Improvements	Aug. 2012	New Sidewalks on North side of Monroe	Prospect Street to Harmon Park
4	Lincoln Road and Drainage Improvements	Dec. 2012	Reconstruction of Lincoln Road including widening and sidewalk on both sides.	Hudson Street to Sugarhouse Road
5	Masonic Drive at Horseshoe Drive Improvements	Dec. 2012	Widening and addition of left turn lanes on Horseshoe Drive	Intersection of Masonic Drive and Horseshoe Drive
7	Bolton Avenue Core Zone	July. 2013	Sidewalk and Streetscape including lighting	Elliott Street to Monroe Street
13	Bike Lane Striping	July. 2013	Bike lane striping on each side of Bolton Avenue and Lee Street	Bolton Ave. from Lee Street to Rapides Avenue and Lee Street
3	Green Oaks Street and Drainage Improvements	Sep. 2013	Reconstruction of Green Oaks Street	Third Street to 7th Street
15	Toria Drive Construction	July. 2014	Complete Street Construction	Tot Drive to Ragan Street
14	Belleau Wood Extension	July. 2015	Extension of Belleau Wood	Jackson Street to North Property line of Walmart
8	Bolton Avenue Phase II	July. 2015	Sidewalk and Streetscape including lighting	Monroe Street to Rapides Avenue
11	Duel Left Turn Lane Jackson at Peterman	Aug. 2015	Added Duel Left Turn Lanes at Jackson Street and Peterman Drive	Jackson Street and Peterman Drive
12	Jackson Street Sidewalk Improvement	Dec. 2015	Sidewalk Replacement and Bulb Outs on Jackson, 8th Street and 9th Street including parking striping on 8th and 9th	Jackson Street from 8th Street to 9th Street including 8th and 9th Streets.
16	Hudson Boulevard - Hynson Bayou Bridge Replacement	Dec. 2015	Replacement of Existing Bridge over Hynson Bayou	Hudson Boulevard at Hynson Bayou
10	Jones Avenue Bike Lane	March. 2016	Bike lane on each side of Jones Avenue	Willow Glen River Road to Broadway Avenue
	Funded City Projects Under Design and Construction, Except MPO Projects			
1	Third Street Improvements	Under Contract	Streetscape, Lighting, Surfacing Bike Lane	Third Street from Mason to Broadway
2	Masonic Drive Phase II	Under Design	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	Masonic Drive from Texas to MacAuther Drive
3	Masonic Drive Phase III	Under Design	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	South side of Masonic Drive from Rensselaer to Texas Avenue
4	Hudson Boulevard - Chatlin Lake Bridge Replacement	Under Design	Replacement of Existing Bridge over Chatlin Lake Canal	
5	Prescott Road Sidewalk Improvements	Under Construction	Install Sidewalks on North side of Prescott Road	Roanoke Street to Cherokee Elementary
6	Cloverleaf Boulevard Extension	Under Design Funded FY 16-17	Widening and Connection to Provine Place	LA Highway 28 West to Provine Place
	Private Project to be Accepted by City			
1	Pecan Bayou Subdivision	Under Construction	Various Street for Subdivision	Versailles Boulevard South of Provine Place
2	The Lake District Subdivision	Under Construction	Various Street for Subdivision	Versailles Boulevard South of Ansley Boulevard
3	Ansley Boulevard Extension	Under Construction	New Street	Dead end of Ansley Boulevard to Versailles Boulevard
4	Provine Place	Under Construction	New Street	Versailles Boulevard to Cloverleaf Boulevard
	5 Year Capital Projects Except MPO Projects			
1	North 16th Street Bridge Replacement	FY 18-19	Replace bridge over Rapides Bayou	North 16th Street and Rapides Bayou
2	City Park Bridge Repair	FY 16-17	New Retaining Walls on Existing Box, Repair Street	Hynson Bayou at Carol Court and Parkway Drive

SOURCE: *City of Alexandria, Engineering Department*

Bicycle Network Prioritization

79 Recommended prioritization for bikeways in the BPP is based on assessments and analysis of current conditions (Chapter 3), recommended improvements and costs (Chapter 5), related plan recommendations (MTP 2040, Louisiana LRBMS) and public participation (BPAC and community survey). While providing the highest level of bicyclists comfort might be the most desirable, for instance, bike lanes as recommended by the LADOTD Complete Street policy, it is often not feasible considering right of way issues, current width and traffic, which poses demand for parking or loading. Ideally, increase in the number of bicyclists and changes in travel/commuting patterns may make bicycle design options more feasible.

To provide on-street bike facilities on existing streets may be achieved by the following recommendations:

- Reduce the number of travel lanes, also known as Road Diet;
- Narrow the width of travel and parking lanes
- Remove or consolidate on-street parking;
- Re-striping and reconfiguration of existing traffic regulations; and
- Design existing shoulders or excess roadway space for bicycle use.

Figure 6-2: Typical Road Diet Basic Design

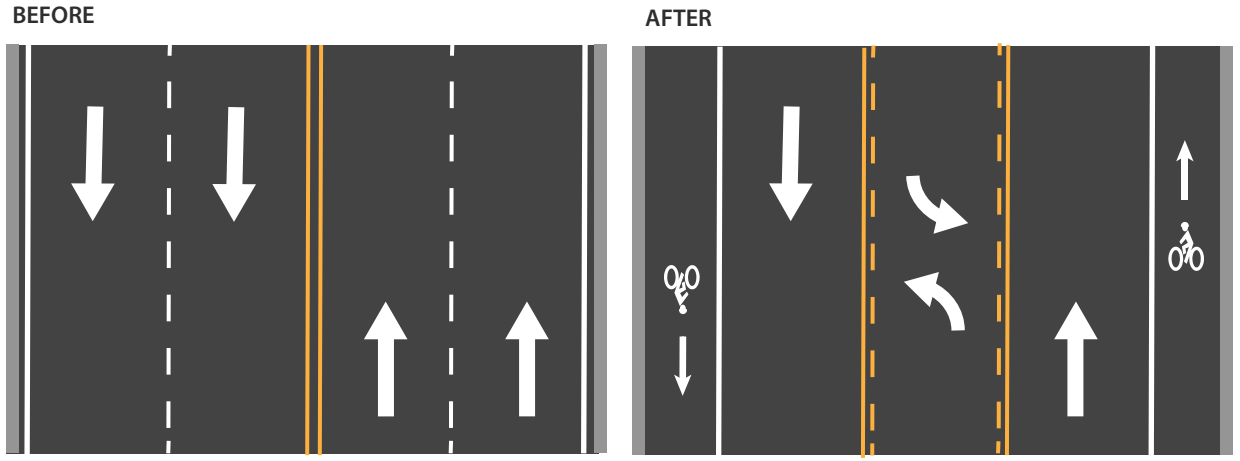


Figure 6-3: Mid-block Conflict Points for Four-Lane Undivided Roadway & Three-Lane Cross Section

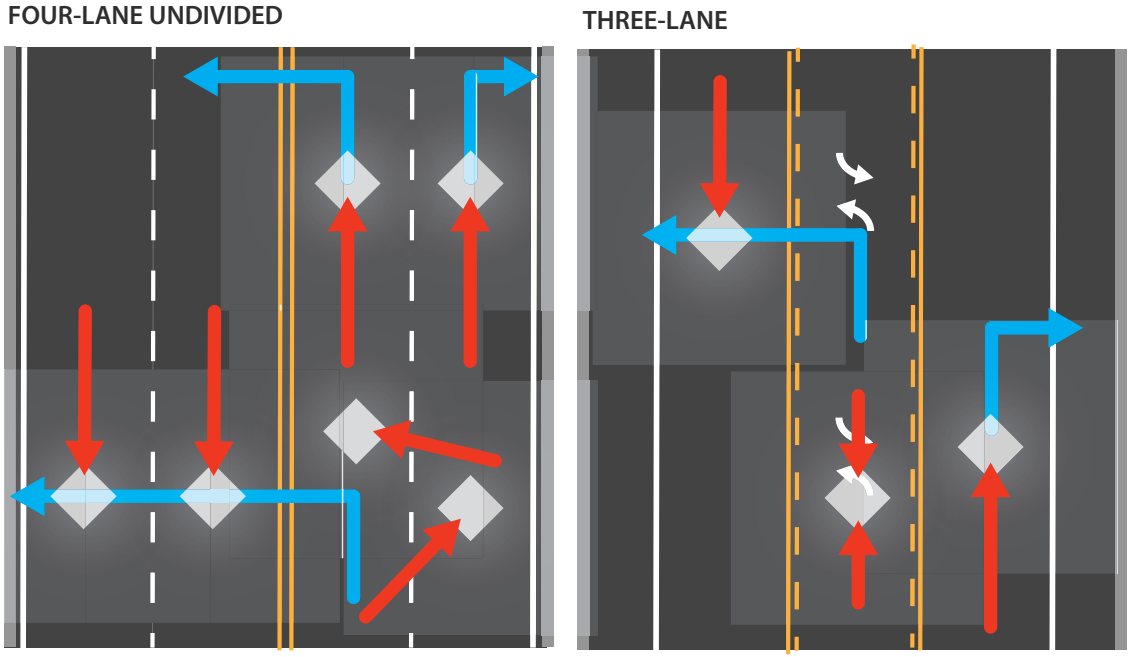
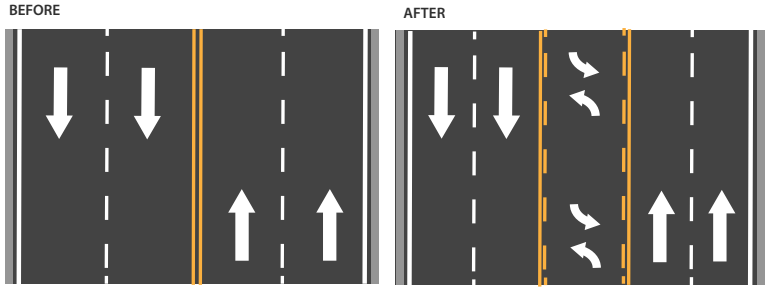
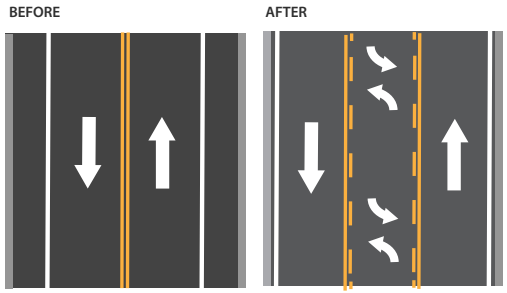


Figure 6-4: Other Roadway Reconfigurations

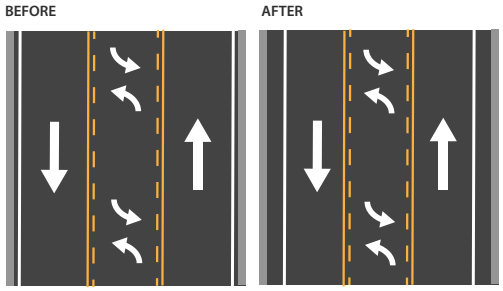
4-lane to 5-lane:
In some cases it is necessary to keep two lanes in each direction for capacity purposes. Narrowing lane width to provide a TWLTL introduces the benefits of separating turning vehicles and reducing operating speeds.



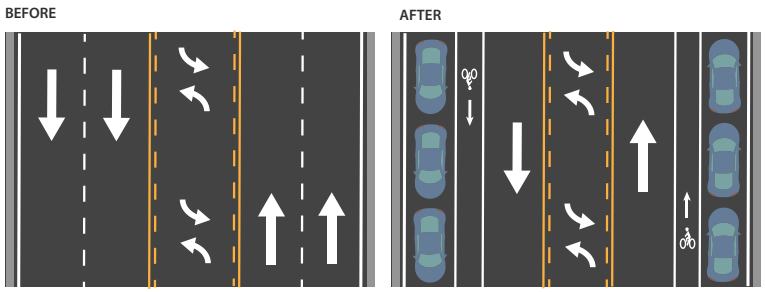
2-lane to 3-lane:
If a capacity expansion of an existing two-lane road is desired, in some cases a three-lane cross section can provide similar operational benefits to a four-lane cross section while maintaining the safety benefits of the three-lane configuration.



3-lane to 3-lane:
In some cases practitioners could reduce the width of each lane instead of reducing the number of lanes. Converting an existing three-lane roadway to a three-lane cross section with narrowed lanes can accommodate bicycle lanes or parking, and provide some traffic calming benefit.



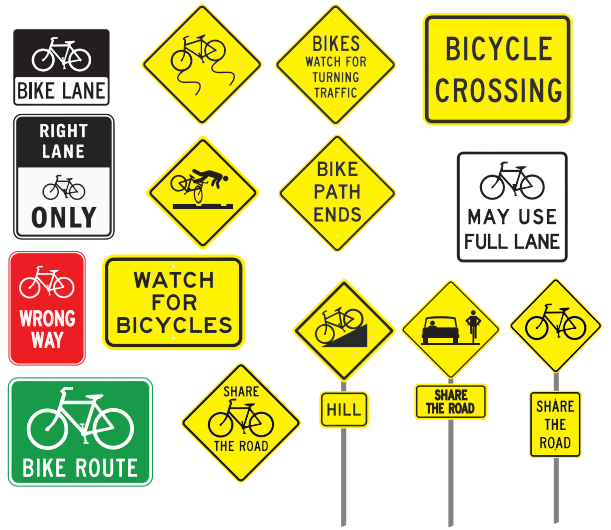
5-lane to 3-lane:
In some cases ijurisdictions have reconfigured five-lane sections to three lanes, adding features such as diagonal parking and protected bicycle lanes with the extra cross section width.

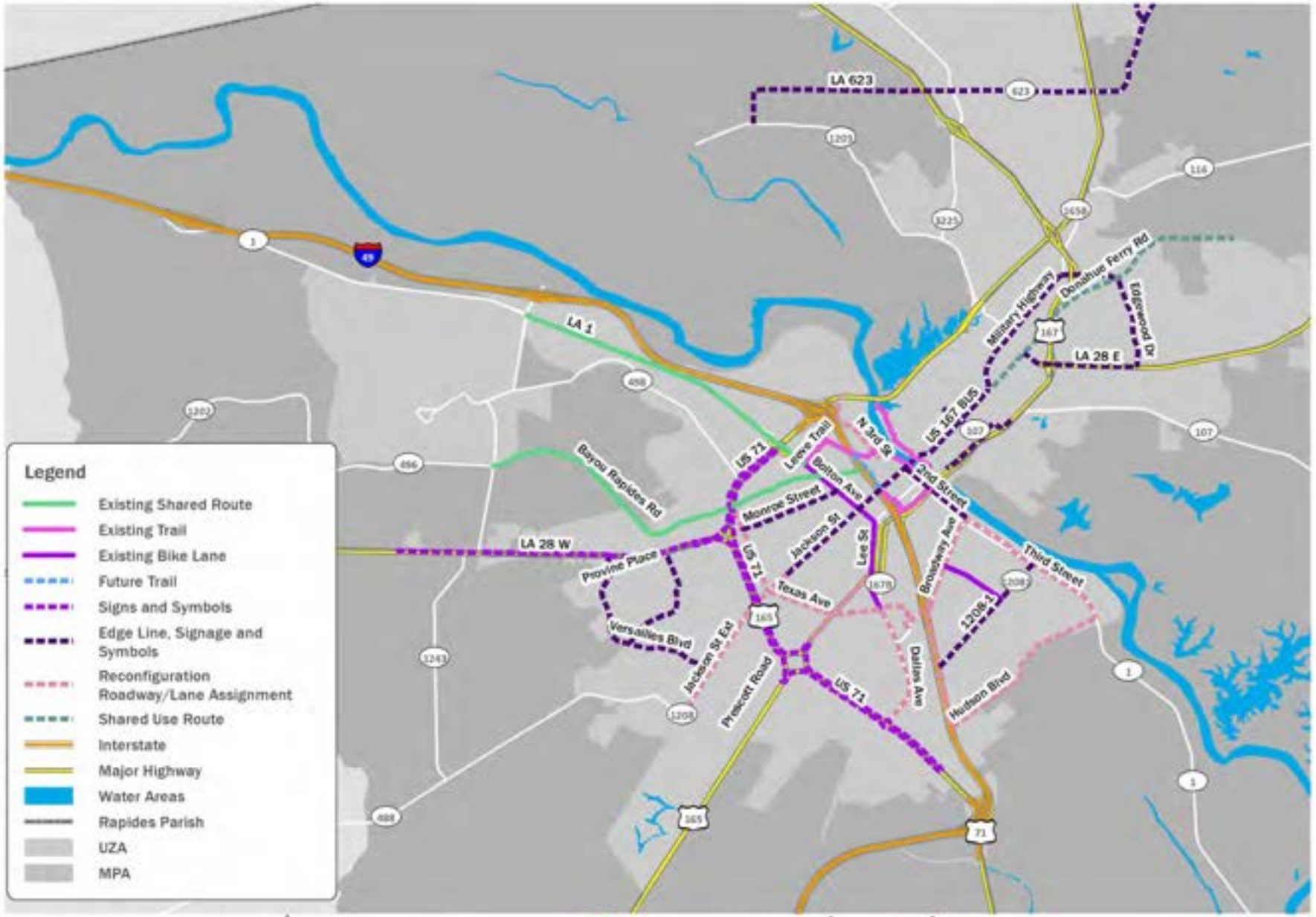


In addition, as suggested by public survey respondents in Chapter 3, signs and symbols such as “shared the road” or “May Use Full Lane” are encouraged to be placed along roadways more frequently visited by bicyclists. Such signs not only alert motorists but also carry an educational message to inform the public about rules, regulations and right-of-way for vulnerable road users. It is important to follow MUTCD rules when placing signs.

Map 6-1 shows proposed bicycle network and recommendations in the BPP study area, followed by two map indicating the level of priority for each project in comparison to crash density and the BPSI result. Table 6-3 estimated costs for projects identified by the BPP based on recommended costs listed in Chapter 5.

Figure 6-5: BPP Road Signs & Signals





Map 6-1
Proposed Bicycle Network

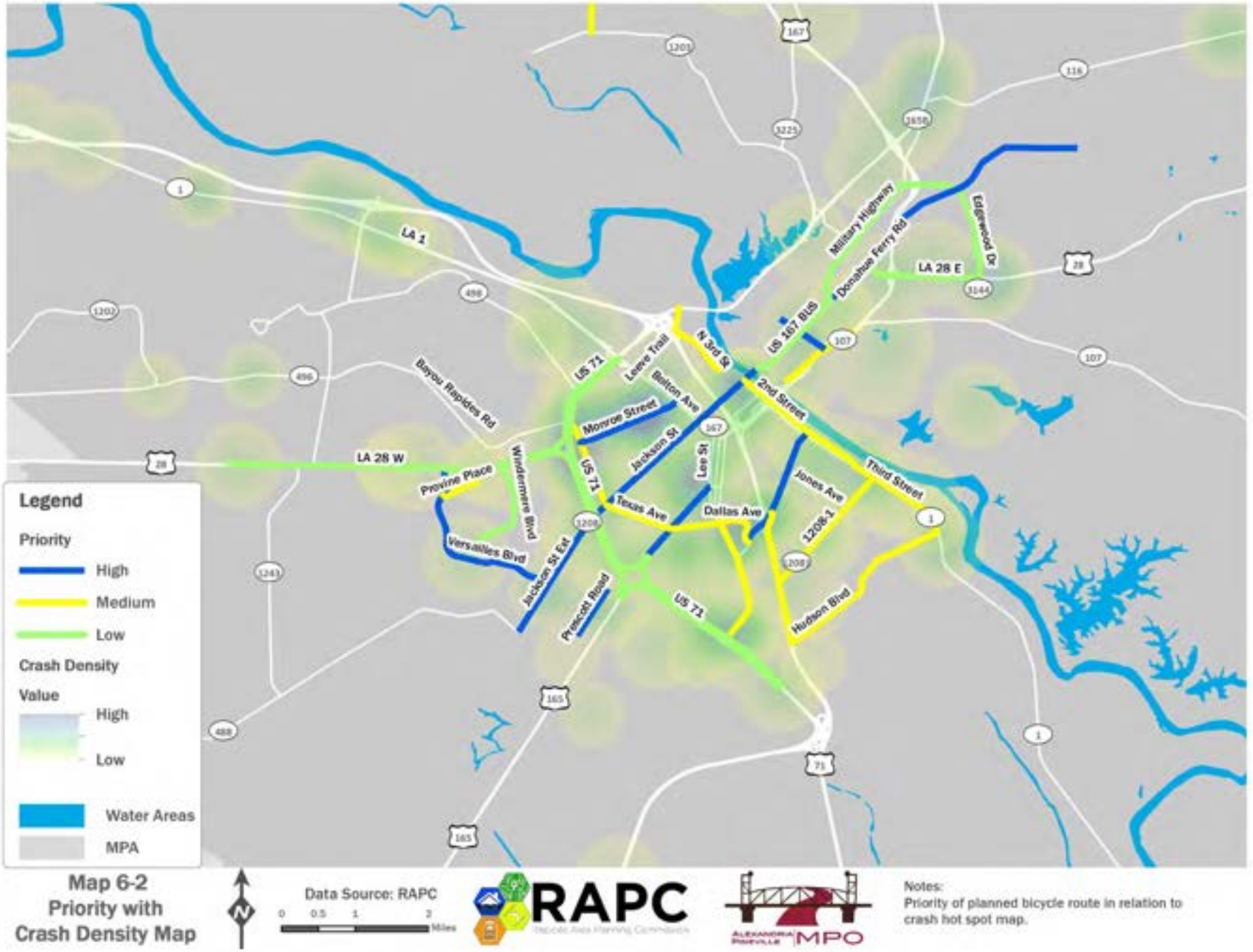
Data Source: RAPC

0 0.5 1 2 Miles

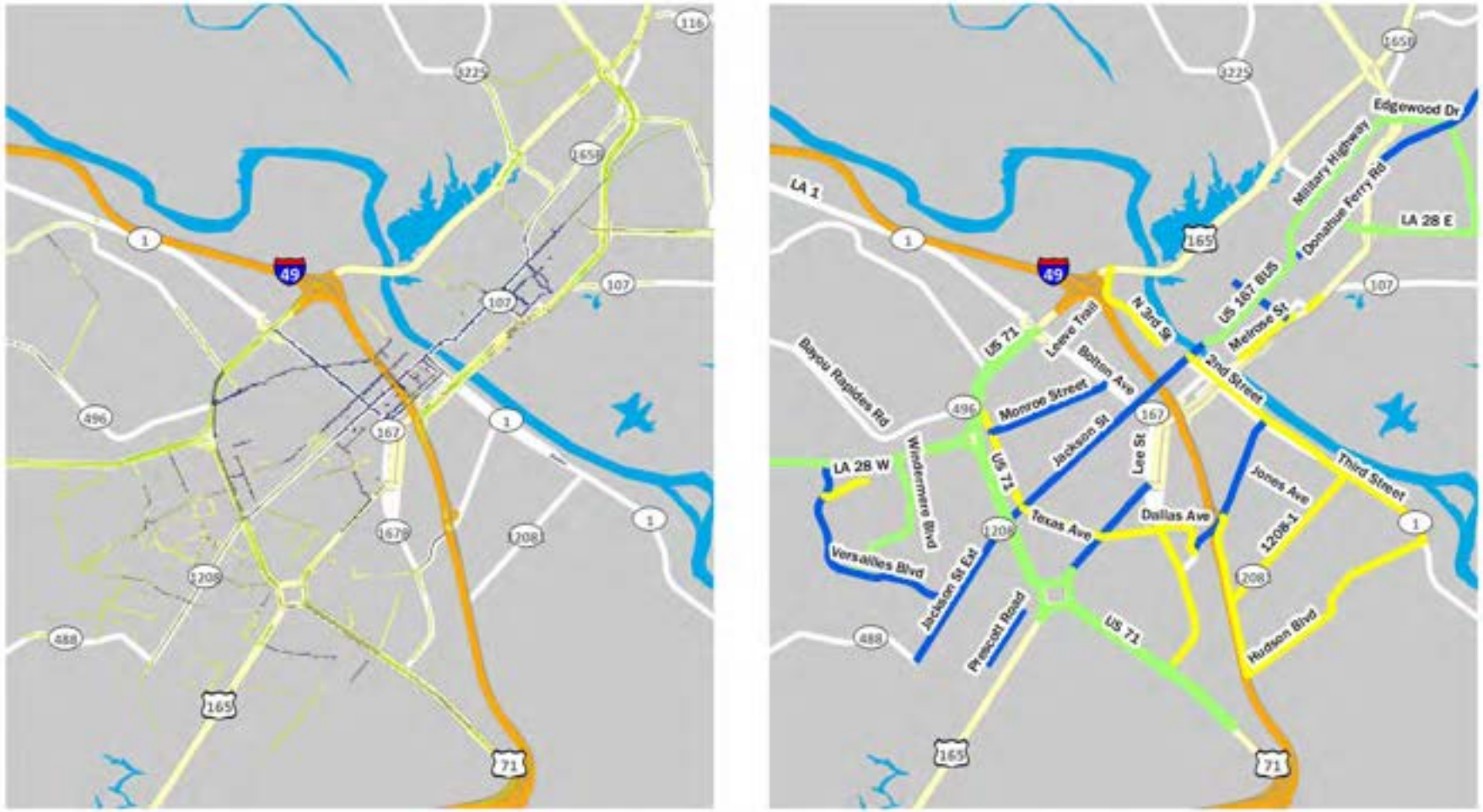
RAPC

ALEXANDRIA PINEVILLE MPO

Note:
Existing and planned route based on spatial analysis and agency consultation.



Map 6-2
Priority with Crash Density Map



Map 6-3 Priority & BPSI Value

Data Source: RAPC

0 0.5 1 2 Miles

Note:
BPSI = Bicycle and Pedestrian Suitability Index, blue indicates higher BPSI score, i.e. more suitibility for bicycle and pedestrian facilities.

Table 6-3: Bicycle & Pedestrian Project Prioritization & Project Cost

Priority Level	Project Location	Delineation	Recommendation	Length (mile)	Cost multiplier	Final Cost	Note
High	**Masonic Drive Phase II**	Masonic Drive from Texas to MacArthur Drive	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	0.46	$106,128.00	$48,818.88	Sidewalk
High	**Jackson Street**	Texas Ave to 2nd Street	Reconfiguration Roadway/Lane Assignment	2.24	$41,748.79	$93,517.29	Bike Lane
High	**Monroe Street**	MacArthur Dr to Bolton Ave	Edge Line, signage and Symbols	1.25	$13,259.28	$16,574.10	Marked Shared Lane
High	**Masonic Drive Road Diet**	Texas Avenue to Lee Street	Bike lane and median with Single lane traffic each way	1.2	$36,024.57	$43,229.48	Buffered Bike Lane
High	**10th Street Trail**	10th Street to Elliot Street	Bike Trail	0.62	$106,128.00	$65,799.36	Paved Shoulder
High	**Pineville Main Street**	Hardtner Street to Donahue Ferry Rd	Edge Line, signage and Symbols	1.26	$41,748.79	$52,603.48	Bike Lane
High	**Masonic Drive Phase III**	South side of Masonic Drive from Rensselear to Texas Ave.	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	0.54	$106,128.00	$57,309.12	Sidewalk
High	**Jackson Street Bridge**	2nd Street to Hardtner Street	Edge Line, signage and Symbols	0.15	$13,259.28	$1,988.89	Marked Shared Lane
High	**Jackson Street Extension**	Horseshoe Drive to Texas Ave.	Reconfiguration Roadway/Lane Assignment	2.01	$41,748.79	$83,915.07	Bike Lane
High	**Lee Street**	Dallas Ave to S. MacArthur Street	Reconfiguration Roadway/Lane Assignment	1.21	$41,748.79	$50,516.04	Bike Lane
High	**Donahue Ferry Rd**	Main Street to Pinehurst Dr	Shared use route with signage	3.77	$13,259.28	$49,987.49	Marked Shared Lane
High	**Prescott Road Sidewalk**	Roanoke Street to Cherokee Elementary	Install Sidewalks on North side of Prescott Road	0.73	$53,064.00	$38,736.72	Sidewalk on one side of road
High	**Bolton Ave. Phase III**	Lee Street to Elliott Street	Streetscape, Sidewalk and Lighting	0.4	$106,128.00	$42,451.20	Sidewalk
High	**Versailles Blvd**	Coliseum Blvd. to Jackson Ext.	Edge Line, signage and Symbols	2.43	$41,748.79	$101,449.56	Bike Lane
High	**Broadway Avenue**	Lee Street to 2nd Street	Reconfiguration Roadway/Lane Assignment	1.67	$41,748.79	$69,720.48	Bike Lane
Medium	**Lee Street Streetscape**	Masonic Drive to Bolton Ave.	Streetscape, Sidewalk, Lighting	0.7	$106,128.00	$74,289.60	Sidewalk
Medium	**Provine Place Sidewalk**	Ansley to Versailles	Sidewalks on Provine Place	0.45	$106,128.00	$47,757.60	Sidewalk
Medium	**Dallas Avenue**	Lee Street to Broadway Ave.	Reconfiguration Roadway/Lane Assignment	0.6	$36,024.57	$21,614.74	Buffered Bike Lane
Medium	**2nd Street**	Jackson Street to Broadway Ave.	Edge Line, signage and Symbols	1.02	$13,259.28	$13,524.47	Marked Shared Lane
Medium	**Texas Ave**	MacArthur Dr to Lee St	Reconfiguration Roadway/Lane Assignment	3.14	$41,748.79	$131,091.20	Bike Lane
Medium	**3rd Street**	Broadway to Hudson Blvd	Reconfiguration Roadway/Lane Assignment	1.06	$36,024.57	$38,186.04	Buffered Bike Lane
Medium	**1208-1**	3rd Street to Eddie Williams Ave	Sign and Symbols/Lane Assignment	1.81	$13,259.28	$23,999.30	Marked Shared Lane
Medium	**Hudson Blvd**	3rd Street to Eddie Williams Ave	Reconfiguration Roadway/Lane Assignment	2.34	$36,024.57	$84,297.49	Buffered Bike Lane
Medium	**Eddie Williams Ave**	Broadway to Hudson Blvd	Reconfiguration Roadway/Lane Assignment	1.82	$36,024.57	$65,564.72	Buffered Bike Lane
Medium	**LA 623**	LA 1204 to Hickory Hill Rd, plus Shanghai Rd	Edge Line, signage and Symbols	7.91	$13,259.28	$104,880.90	Marked Shared Lane
Low	**Windermere Blvd**	Coliseum Blvd. to Versailles	Edge Line, signage and Symbols	1.57	$13,259.28	$20,817.07	Marked Shared Lane
Low	**MacArthur Drive/US 71**	LA 1(Bolton) to Lee Street	Sign and Symbols/Lane Assignment	6.01	$13,259.28	$79,688.27	Marked Shared Lane
Low	**Coliseum Blvd**	Monroe to Vandenburg Dr.	Sign and Symbols/Lane Assignment	3.52	$13,259.28	$46,672.67	Marked Shared Lane
Low	**Military Highway**	Donahue Ferry Rd to Edgewood Dr	Edge Line, signage and Symbols	1.84	$13,259.28	$24,397.08	Marked Shared Lane
Low	**Edgewood Drive**	Military Highway to 28 East	Edge Line, signage and Symbols	1.74	$13,259.28	$23,071.15	Marked Shared Lane
Low	**LA 28 East**	Edgewood Dr. to Donahue Ferry Rd	Edge Line, signage and Symbols	1.43	$13,259.28	$18,960.77	Marked Shared Lane

Typically, an important factor in prioritizing projects is the availability of funds. This section lists a variety of potential sources for funding.

Local Funding Resources

Local jurisdictions have various options for funding pedestrian and bicycle improvements. The first option is for a municipality to dedicate a portion of their general funds to support the costs of upgrading and maintaining the non-motorized transportation network. Likewise, local governments can issue general obligation bonds, which require a voter referendum. Special assessment districts, Tax Increment Financing, impact fees, dedicated sales and property taxes can also be local sources of funding for bicycle and pedestrian facilities. In addition, developers can be encouraged to integrate bicycle and pedestrian facilities into new developments.

State Funding Resources

There are no dedicated bicycle and pedestrian funding programs funded by the State of Louisiana. Federally funded programs are administered by LADOTD, which may provide local match funding for incidental bicycle and pedestrian projects as part of its Complete Streets Policy. The State's capital outlay budget has also historically provided funding for certain bicycle and pedestrian projects.

Federal Funding Resources

There are various Federal sources of funding for non-motorized projects and programs. The U.S. Department of Transportation (USDOT) is the largest source of this funding, channeling financial assistance for bicycle and pedestrian facilities through the FHWA and FTA. Most of these grant programs require an 80 percent Federal share and 20 percent non-Federal match. However, other federal agencies also provide funding sources for bicycle and pedestrian projects.

Table 6-4: Pedestrian Funding Opportunities

Key: $ = Funds may be used for this activity (restrictions may apply). S* = See program-specific info for restrictions. ~$ = Eligible, but not competitive unless part of a larger project.

	Pedestrian Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds											
Activity or Project Type	**TIGER**	**TIFIA**	**FTA**	**ATI**	**CMAQ**	**HSIP**	**NHPP**	**STBG**	**PLAN**	**NHTSA 402**	**NHTSA 405**	**FLTTP**
Pedestrian plans			$					$	$			$
Recreational trails	~$	~$						$				$
Road Diets (pedestrian and bicycle portions)	$	$				$	$	$				$
Road Safety Assessment for pedestrians and bicyclists						$		$	$			$
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike safety								$	$*	$*	$*	
Safety education positions								$		$*		
Safety enforcement (including police patrols)								$		$*	$*	
Safety program technical assessment (for peds/bicyclists)								$	$*	$		
Separated bicycle lanes	$	$	$	$	$	$	$	$				$
Shared use paths / transportation trails	$	$	$	$	$*	$	$	$				$
Sidewalks (new or retrofit)	$	$	$	$	$	$	$	$				$
Signs / signals / signal improvements	$	$	$	$	$	$	$	$				$
Signed pedestrian or bicycle routes	$	$	$	$	$		$	$				$
Spot improvement programs	$	$	$			$	$	$				$
Stormwater impacts related to pedestrian and bicycle projects	$	$	$	$		$	$	$				$
Traffic calming	$	$	$			$	$	$				$
Trail bridges	$	$			$*	$	$	$				$
Trail construction and maintenance equipment								$RTP				
Trail/highway intersections	$	$			$*	$	$	$				$
Trailside and trailhead facilities (includes restrooms and water, but not general park amenities; see guidance)	~$*	~$*										$
Training					$	$		$	$*	$*		
Training for law enforcement on ped/bicyclist safety laws								$			$*	
Tunnels / undercrossings for pedestrians and/or bicyclists	$	$	$	$	$*	$	$	$				$

ADA/504: *Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973*

TIGER: *Transportation Investment Generating Economic Recovery Discretionary Grant program*

TIFIA: *Transportation Infrastructure Finance and Innovation Act (loans)*

FTA: *Federal Transit Administration Capital Funds*

ATI: *Associated Transit Improvement (1% set-aside of FTA)*

CMAQ: *Congestion Mitigation and Air Quality Improvement Program*

HSIP: *Highway Safety Improvement Program*

NHPP: *National Highway Performance Program*

STBG: *Surface Transportation Block Grant Program*

PLAN: *Statewide Planning and Research (SPR) or Metropolitan Planning funds*

NHTSA 402: *State and Community Highway Safety Grant Program*

NHTSA 405: *National Priority Safety Programs (Nonmotorized safety)*

FLTTP: *Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)*

Table 6-5: Bicycle Funding Opportunities

Key: $ = Funds may be used for this activity (restrictions may apply). S* = See program-specific notes for restrictions. ~$ = Eligible, but not competitive unless part of a larger project.

	Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds											
Activity or Project Type	**TIGER**	**TIFIA**	**FTA**	**ATI**	**CMAQ**	**HSIP**	**NHPP**	**STBG**	**PLAN**	**NHTSA 402**	**NHTSA 405**	**FLTTP**
Access enhancements to public transportation (includes benches, bus pads)	$	$	$	$	$		$	$				$
ADA/504 Self Evaluation / Transition Plan								$	$			$
Bicycle plans			$					$	$			$
Bicycle helmets (project or training related)								$		$*		
Bicycle helmets (safety promotion)								$		$*		
Bicycle lanes on road	$	$	$	$	$	$	$	$				$
Bicycle parking	~$	~$	$	$	$		$	$				$
Bike racks on transit	$	$	$	$	$			$				$
Bicycle share (capital and equipment; not operations)	$	$	$	$	$		$	$				$
Bicycle storage or service centers at transit hubs	~$	~$	$	$	$			$				$
Bridges / overcrossings for pedestrians and/or bicyclists	$	$	$	$		$	$	$				$
Bus shelters and benches	$	$	$	$	$		$	$				$
Coordinator positions (State or local)					$1 per			$				
Crosswalks (new or retrofit)	$	$	$	$	$*	$	$	$				$
Curb cuts and ramps	$	$	$	$	$*	$	$	$				$
Counting equipment			$	$		$	$	$	$*			$
Data collection and monitoring for pedestrians and/or bicyclists			$	$		$	$	$	$*			$
Historic preservation (pedestrian and bicycle and transit facilities)	$	$	$	$				$				$
Landscaping, streetscaping (pedestrian and/or bicycle route; transit access); related amenities (benches, water fountains); generally as part of a larger project	~$	~$	$	$			$	$				$
Lighting (pedestrian and bicyclist scale associated with pedestrian/ bicyclist project)	$	$	$	$		$	$	$				$
Maps (for pedestrians and/or bicyclists)			$	$	$			$	$*			$
Paved shoulders for pedestrian and/or bicyclist use	$	$			$*	$	$	$				$

Table 6-4 & 6-5 Notes

- FHWA Bicycle and Pedestrian Guidance: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/

- Applicability of 23 U.S.C. 217(i) for Bicycle Projects: 23 U.S.C. 217(i) requires that bicycle facilities "be principally for transportation, rather than recreation, purposes". However, sections 133(b)(6) and 133(h) list "recreational trails projects" as eligible activities under STBG. Therefore, the requirement in 23 U.S.C. 217(i) does not apply to recreational trails projects (including for bicycle use) using STBG funds. Section 217(i) continues to apply to bicycle facilities other than trail-related projects, and section 217(i) continues to apply to bicycle facilities using other Federal-aid Highway Program funds (NHPP, HSIP, CMAQ). The transportation requirement under section 217(i) is applicable only to bicycle projects; it does not apply to any other trail use or transportation mode.

- There may be occasional DOT or agency incentive grants for specific research or technical assistance purposes.

- Aspects of many DOT initiatives may be eligible as individual projects. For example, activities above may benefit Ladders of Opportunity; safe, comfortable, interconnected networks; environmental justice; equity; etc.

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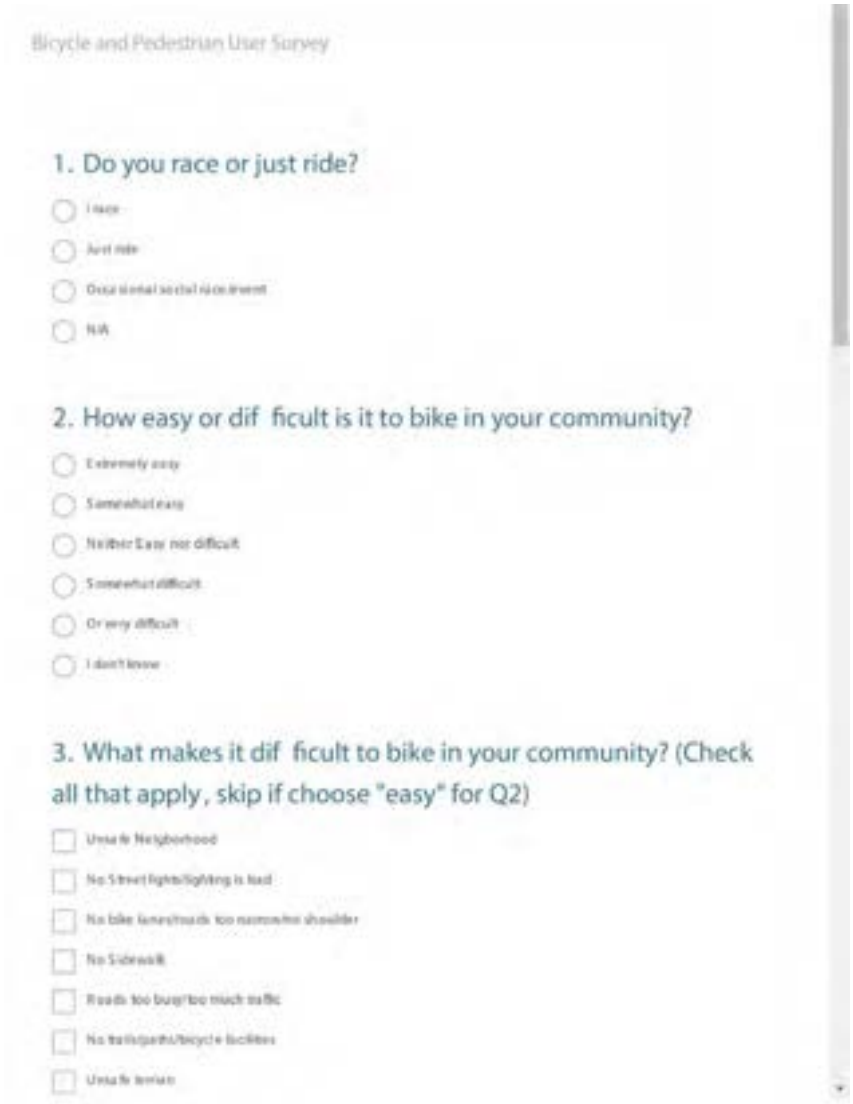
Appendices

Appendix A: Bicycle & Pedestrian User Survey



Bicycle and Pedestrian User Survey

1. Do you race or just ride?

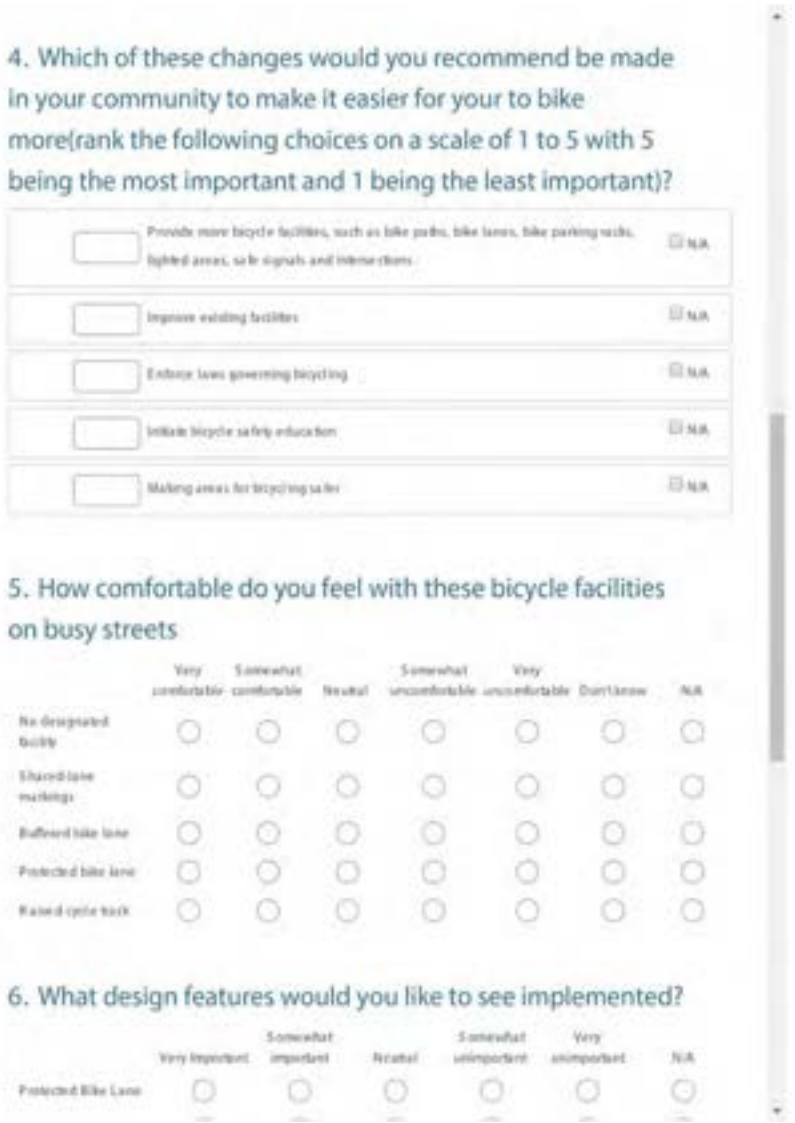
- I race
- Just ride
- Occasional social race event
- N/A

2. How easy or dif ficult is it to bike in your community?

- Extremely easy
- Somewhat easy
- Neither Easy nor difficult
- Somewhat difficult
- Or very difficult
- I don't know

3. What makes it dif ficult to bike in your community? (Check all that apply, skip if choose "easy" for Q2)

- Unsafe Neighborhood
- No Street lights/lighting is bad
- No bike lanes/roads too narrow/no shoulder
- No Sidewalk
- Roads too busy/too much traffic
- No trails/paths/bicycle facilities
- Unsafe terrain



4. Which of these changes would you recommend be made in your community to make it easier for your to bike more(rank the following choices on a scale of 1 to 5 with 5 being the most important and 1 being the least important)?

- Provide more bicycle facilities, such as bike paths, bike lanes, bike parking racks, lighted areas, safe signals and intersections — N/A
- Improve existing facilities — N/A
- Enforce laws governing bicycling — N/A
- Initiate bicycle safety education — N/A
- Making areas for bicycling safer — N/A

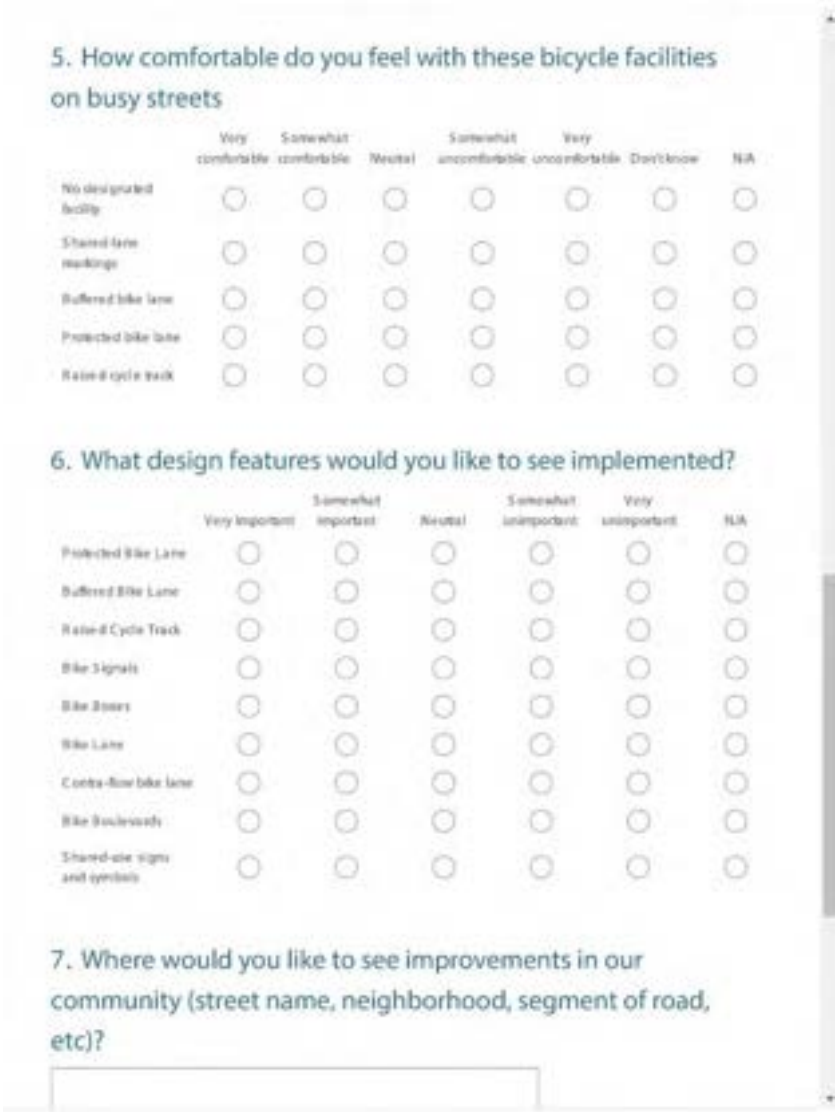
5. How comfortable do you feel with these bicycle facilities on busy streets

	Very comfortable	Somewhat comfortable	Neutral	Somewhat uncomfortable	Very uncomfortable	Don't know	N/A
No designated facility	○	○	○	○	○	○	○
Shared lane markings	○	○	○	○	○	○	○
Buffered bike lane	○	○	○	○	○	○	○
Protected bike lane	○	○	○	○	○	○	○
Raised cycle track	○	○	○	○	○	○	○

6. What design features would you like to see implemented?

	Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant	N/A
Protected Bike Lane	○	○	○	○	○	○

Appendix A-2 Survey Notice



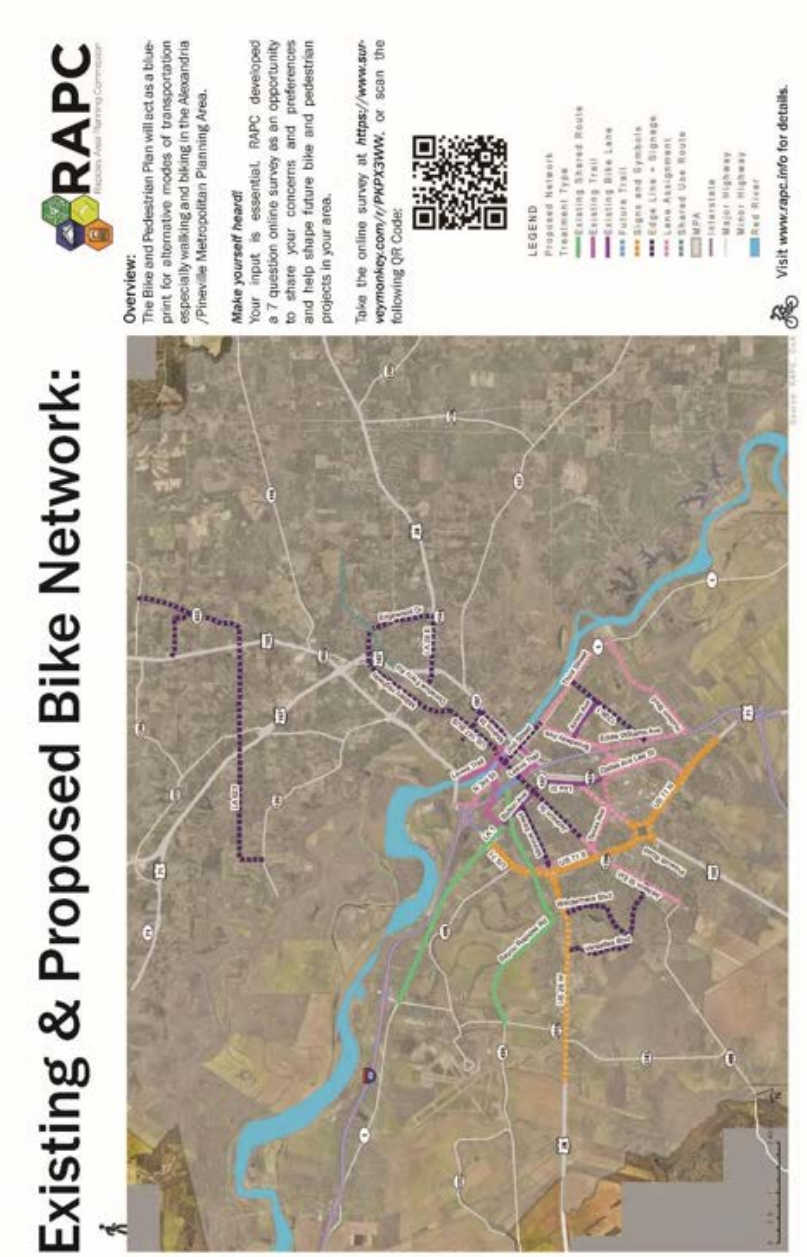
5. How comfortable do you feel with these bicycle facilities on busy streets

	Very comfortable	Somewhat comfortable	Neutral	Somewhat uncomfortable	Very uncomfortable	Don't know	N/A
No designated facility	○	○	○	○	○	○	○
Shared-lane markings	○	○	○	○	○	○	○
Buffered bike lane	○	○	○	○	○	○	○
Protected bike lane	○	○	○	○	○	○	○
Raised cycle track	○	○	○	○	○	○	○

6. What design features would you like to see implemented?

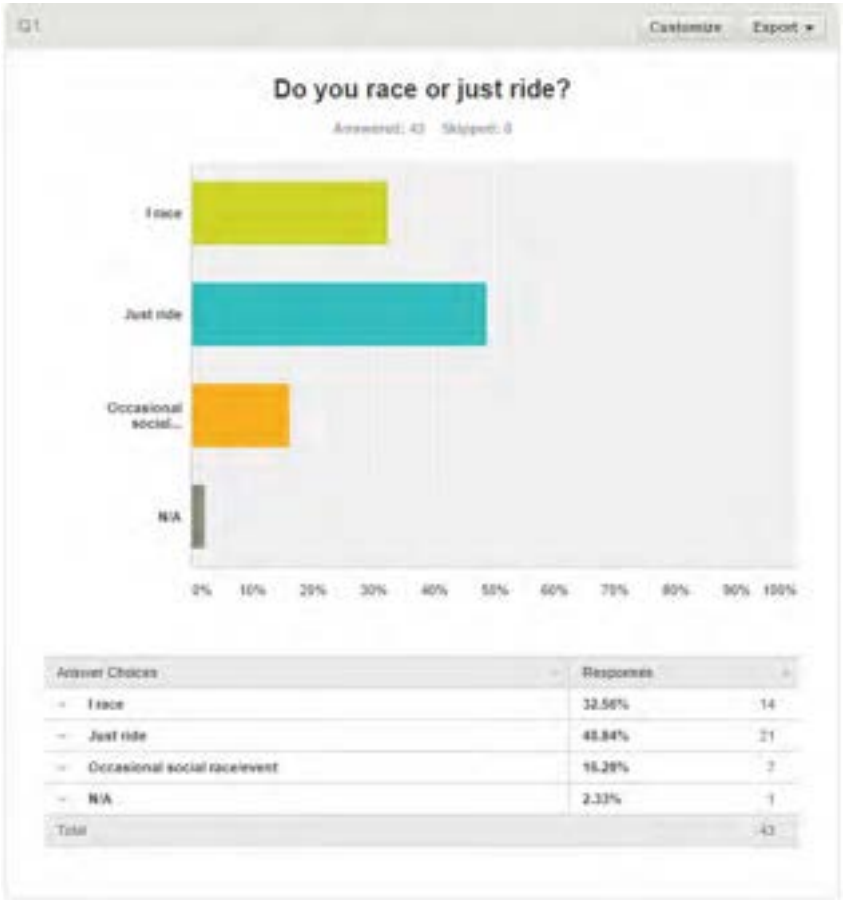
	Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant	N/A
Protected Bike Lane	○	○	○	○	○	○
Buffered Bike Lane	○	○	○	○	○	○
Raised Cycle Track	○	○	○	○	○	○
Bike Signals	○	○	○	○	○	○
Bike Boxes	○	○	○	○	○	○
Bike Lane	○	○	○	○	○	○
Contra-flow bike lane	○	○	○	○	○	○
Bike Boulevards	○	○	○	○	○	○
Shared-use signs and symbols	○	○	○	○	○	○

7. Where would you like to see improvements in our community (street name, neighborhood, segment of road, etc)?

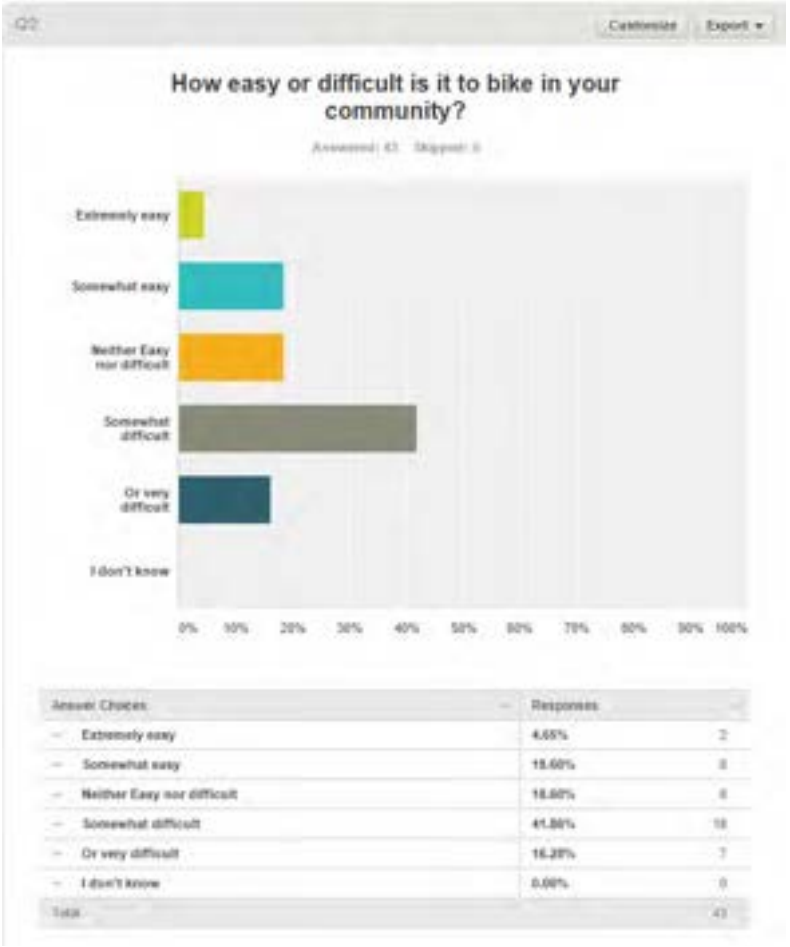


Appendix A: Bicycle & Pedestrian User Survey

Appendix A-3 Survey Result



Answer Choices	Responses	
I race	32.56%	14
Just ride	48.84%	21
Occasional social race/event	16.28%	7
N/A	2.33%	1
Total		43



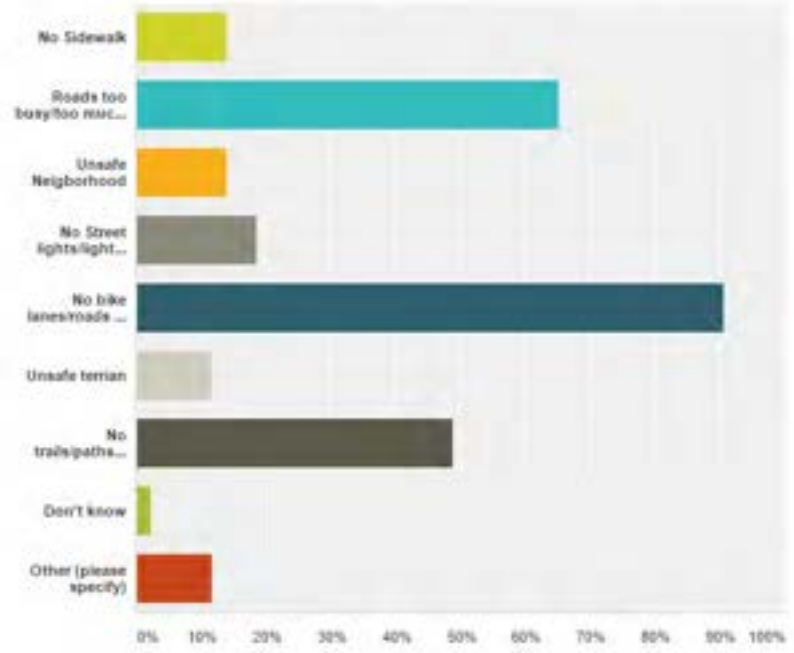
Answer Choices	Responses	
Extremely easy	4.65%	2
Somewhat easy	18.60%	8
Neither Easy nor difficult	18.60%	8
Somewhat difficult	41.86%	18
Or very difficult	16.28%	7
I don't know	0.00%	0
Total		43

Q3

Customize Export

What makes it difficult to bike in your community? (Check all that apply, skip if choose "easy" for Q2)

Answered: 43 Skipped: 0



Answer Choices	Responses	
No Sidewalk	13.95%	6
Roads too busy/too much traffic	65.12%	28
Unsafe Neigborhood	13.95%	6
No Street lights/lighting is bad	18.60%	8
No bike lanes/roads too narrow/no shoulder	90.70%	39
Unsafe terrian	11.63%	5
No trails/paths/bicycle facilities	48.84%	21
Don't know	2.33%	1
Other (please specify) Responses	11.63%	5

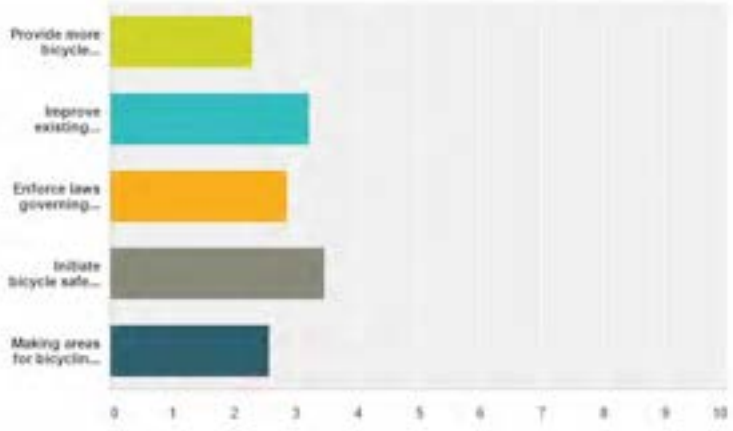
Total Respondents: 43

Q4

Customize Export

Which of these changes would you recommend be made in your community to make it easier for your to bike more(rank the following choices on a scale of 1 to 5 with 5 being the most important and 1 being the least important)?

Answered: 42 Skipped: 1



	1	2	3	4	5	N/A	Total	Score
Provide more bicycle facilities, such as bike paths, bike lanes, bike parking racks, lighted areas, safe signals and intersections	17.65% 6	5.88% 2	14.71% 5	14.71% 5	47.06% 16	0.00% 0	34	2.32
Improve existing facilities	23.53% 8	17.65% 6	26.47% 9	17.65% 6	11.76% 4	2.94% 1	34	3.24
Enforce laws governing bicycling	23.53% 8	17.65% 6	11.76% 4	17.65% 6	29.41% 10	0.00% 0	34	2.88
Initiate bicycle safety education	22.86% 8	31.43% 11	22.86% 8	17.14% 6	5.71% 2	0.00% 0	35	3.49
Making areas for bicycling safer	5.26% 2	18.42% 7	26.32% 10	28.95% 11	21.05% 8	0.00% 0	38	2.58

Appendix A: Bicycle & Pedestrian User Survey

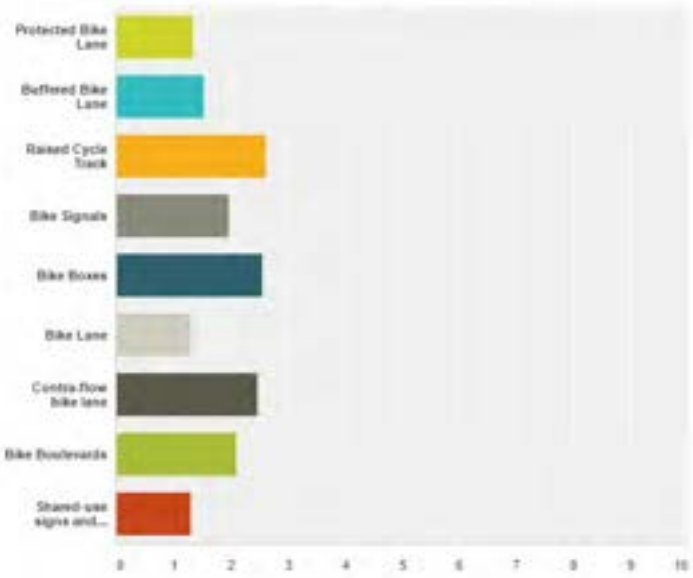
	1	2	3	4	5	N/A	Total	Score
Provide more bicycle facilities, such as bike paths, bike lanes, bike parking racks, lighted areas, safe signals and intersections	17.65% 6	5.88% 2	14.71% 5	14.71% 5	47.06% 16	0.00% 0	34	2.32
Improve existing facilities	23.53% 8	17.65% 6	26.47% 9	17.65% 6	11.76% 4	2.94% 1	34	3.24
Enforce laws governing bicycling	23.53% 8	17.65% 6	11.76% 4	17.65% 6	29.41% 10	0.00% 0	34	2.88
Initiate bicycle safety education	22.86% 8	31.43% 11	22.86% 8	17.14% 6	5.71% 2	0.00% 0	35	3.49
Making areas for bicycling safer	5.26% 2	18.42% 7	26.32% 10	26.95% 11	21.05% 8	0.00% 0	38	2.58

	Very comfortable	Somewhat comfortable	Neutral	Somewhat uncomfortable	Very uncomfortable	Don't know	N/A	Total	Weighted Average
No designated facility	0.00% 0	2.50% 1	7.50% 3	27.50% 11	55.00% 22	0.00% 0	7.50% 3	40	4.46
Shared-lane markings	4.76% 2	35.71% 15	14.29% 6	33.33% 14	9.52% 4	0.00% 0	2.38% 1	42	3.07
Buffered bike lane	27.50% 11	37.50% 15	17.50% 7	7.50% 3	2.50% 1	5.00% 2	2.50% 1	40	2.33
Protected bike lane	63.41% 26	21.95% 9	4.88% 2	2.44% 1	2.44% 1	2.44% 1	2.44% 1	41	1.63
Raised cycle track	43.90% 18	7.32% 3	17.07% 7	2.44% 1	0.00% 0	19.51% 8	9.76% 4	41	2.42

Q6 Customize Export

What design features would you like to see implemented?

Answered: 42 Skipped: 1



	Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant	N/A	Total	Weighted Average
Protected Bike Lane	70.73% 29	19.51% 8	7.32% 3	0.00% 0	0.00% 0	2.44% 1	41	1.35
Buffered Bike Lane	51.22% 21	43.90% 18	4.88% 2	0.00% 0	0.00% 0	0.00% 0	41	1.54
Raised Cycle Track	23.08% 9	15.38% 6	33.33% 13	7.69% 3	10.26% 4	10.26% 4	39	2.63
Bike Signals	50.00% 20	12.50% 5	27.50% 11	10.00% 4	0.00% 0	0.00% 0	40	1.98
Bike Boxes	18.42% 7	10.53% 4	52.63% 20	7.89% 3	0.00% 0	10.53% 4	38	2.58
Bike Lane	73.81% 31	21.43% 9	4.76% 2	0.00% 0	0.00% 0	0.00% 0	42	1.31
Contra-flow bike lane	21.05% 8	13.16% 5	52.63% 20	2.63% 1	2.63% 1	7.89% 3	38	2.49
Bike Boulevards	36.59% 15	21.95% 9	34.15% 14	2.44% 1	2.44% 1	2.44% 1	41	2.10
Shared-use signs and symbols	76.19% 32	19.05% 8	2.38% 1	2.38% 1	0.00% 0	0.00% 0	42	1.31

Q7 Export

Where would you like to see improvements in our community (street name, neighborhood, segment of road, etc)?

Answered: 30 Skipped: 13

Responses (30) Text Analysis My Categories

PRO FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade Learn more »

Categorize as... Filter by Category

Showing 30 responses

Anything that crosses MacArthur
10/2/2016 11:35 AM View respondent's answers

Alexandria, Jackson street ext (or parallel streets), crossing MacArthur drive.
10/1/2016 6:49 PM View respondent's answers

Alexandria/Pineville Area
9/25/2016 9:07 PM View respondent's answers

All on Cenla
9/25/2016 8:55 PM View respondent's answers

Shoulder of Hwy 71 south by LSUA and bike lane on bayou Rapides road and twin bridges road
9/22/2016 8:46 AM View respondent's answers

Jackson Street between Hill and Bolton; Monroe Street between MacArthur and Bolton; Texas Avenue between Monroe and Lee Street; Lee Street between MacArthur and Texas
9/21/2016 5:18 AM View respondent's answers

bayou rapides, jackson st extension

Appendix A: Bicycle & Pedestrian User Survey

A

Twin bridges. Bayou Rapids. Garden district neighborhood (university streets that are adjacent to the park). 3rd and 4th street downtown.
9/20/2016 5:24 PM View respondent's answers

Jackson Street Twin Bridges Masonic Drive
9/20/2016 4:34 PM View respondent's answers

Twin Bridges Road !!
9/20/2016 8:17 AM View respondent's answers

Safe bicycle travel from Alexandria to Pineville. Highway 28 east and west in Alexandria, and Pineville. Twin Bridges Road to Kincaid Lake and Valentine Lake. Castor Plunge Road in Woodworth. Trail maintenance at Kincaid Lake and The Wild Azalea Trail in Woodworth.
9/19/2016 9:16 PM View respondent's answers

Better shoulders and 165 north and south for Alexandria la
9/19/2016 8:53 PM View respondent's answers

Anywhere would be a good start. The bike lanes on Bolton are not used by majority of cyclists because of neighborhood and foot traffic.

9/19/2016 8:08 PM View respondent's answers

Bayou Rapides road
9/19/2016 7:53 PM View respondent's answers

This area is full of roads that are just too narrow with little or no shoulder at all. This makes it difficult for riders and drivers on the road. I understand people are aggravated when driving and they simply can't get around local cyclists with head on traffic this causes a problem for both and the one on the bike always loses I think if we had more roads with large shoulders so we don't disrupt traffic or a distracted driver it will serve as a buffer to the vehicles on the road. I feel that the majority of drivers don't want us in their lane anymore than we do. Paved roads were originally designed for bicycles not vehicles so I think it's only fare to give us an alternative place to coexist in our community
9/19/2016 6:59 PM View respondent's answers

Versailles, Military Hwy, Donahue Ferry, Edgewood
9/19/2016 5:54 PM View respondent's answers

Cenla
9/19/2016 5:31 PM View respondent's answers

Everywhere. This area is not very bike-friendly. Facilities and public education are needed. I thought

Cenla
9/19/2016 5:31 PM View respondent's answers

Everywhere. This area is not very bike-friendly. Facilities and public education are needed. I thought Alexandria might use some of the recreation tax proceeds to improve bike facilities, but they're more interested in promoting fetes, festivals, etc. Not much facility improvement or construction has come as a result of the new revenue.
9/19/2016 4:18 PM View respondent's answers

Pineville
9/19/2016 4:11 PM View respondent's answers

Twin bridges bayou rapides
9/19/2016 3:56 PM View respondent's answers

More enforcement for drivers when aggressive towards riders, as well as cyclists when they do not follow rules of the road. Possibly provide a booklet to local bike shops and local cycling groups about or local and state laws regarding bike usage on highways.
9/19/2016 3:54 PM View respondent's answers

Appendix B: Bicycle & Pedestrian Advisory Committee Meetings

Appendix B-1 May 13th, 2015

Meeting Agenda

Alexandria/Pineville Metropolitan Area
Bicycle and Pedestrian Plan Advisory Meeting

May 13th, 2015
11:00am-12:00pm

Rapides Area Planning Commission
1405 Frank Andrews Blvd, Alexandria, LA

1. Introductions

2. Project overview

a. Purpose of the plan
b. Planning process

3. Review of initial findings and challenges

4. Committee member questions and comments

5. Next step

6. Adjourn

Lunch will be served

Meeting Presentation

Appendix B: Bicycle & Pedestrian Advisory Committee Meetings

Appendix B-2 July 15th, 2015

Louisiana Long Range Bicycle Map – Statewide

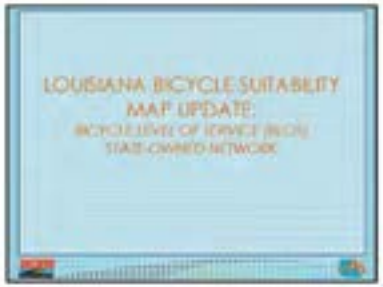
DOTD

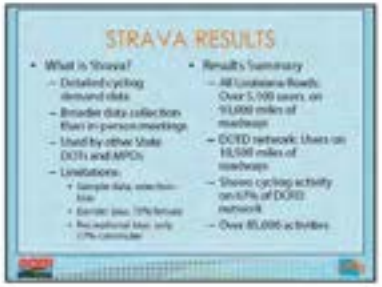
Alexandria Region

July 15, 2015 • 11:00-12:30
Rapides Area Planning Commission • Conference Room

AGENDA

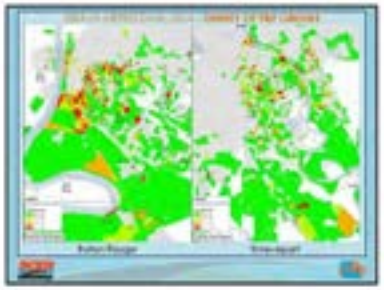
I. Introductions
II. Local Business
   a. Jackson@Horseshoe Roundabout Project
   b. Walkability Checklist
III. Project overview (Powerpoint)
   a. Louisiana Bicycle Suitability Map UPDATE
   b. Bicycling demand:
      i. Strava data analysis results
      ii. Other indicators of demand
IV. Connecting state-level and local/regional bicycle planning efforts
V. Interactive demand exercise (Group discussion)
VI. Questions and answers



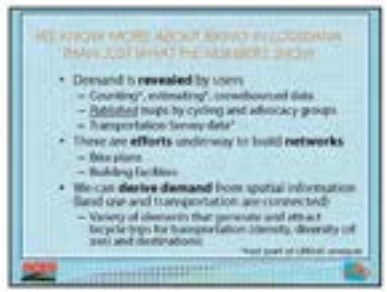


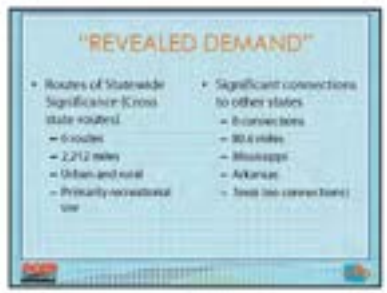
Appendix B: Bicycle & Pedestrian Advisory Committee Meetings

Regional Meeting Presentation

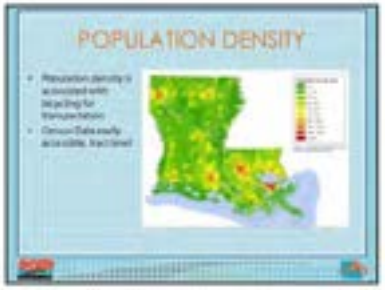


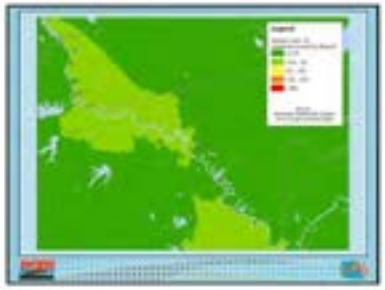
Regional Meeting Presentation





Regional Meeting Presentation





Appendix B: Bicycle & Pedestrian Advisory Committee Meetings

Regional Meeting Presentation

Regional Meeting Presentation

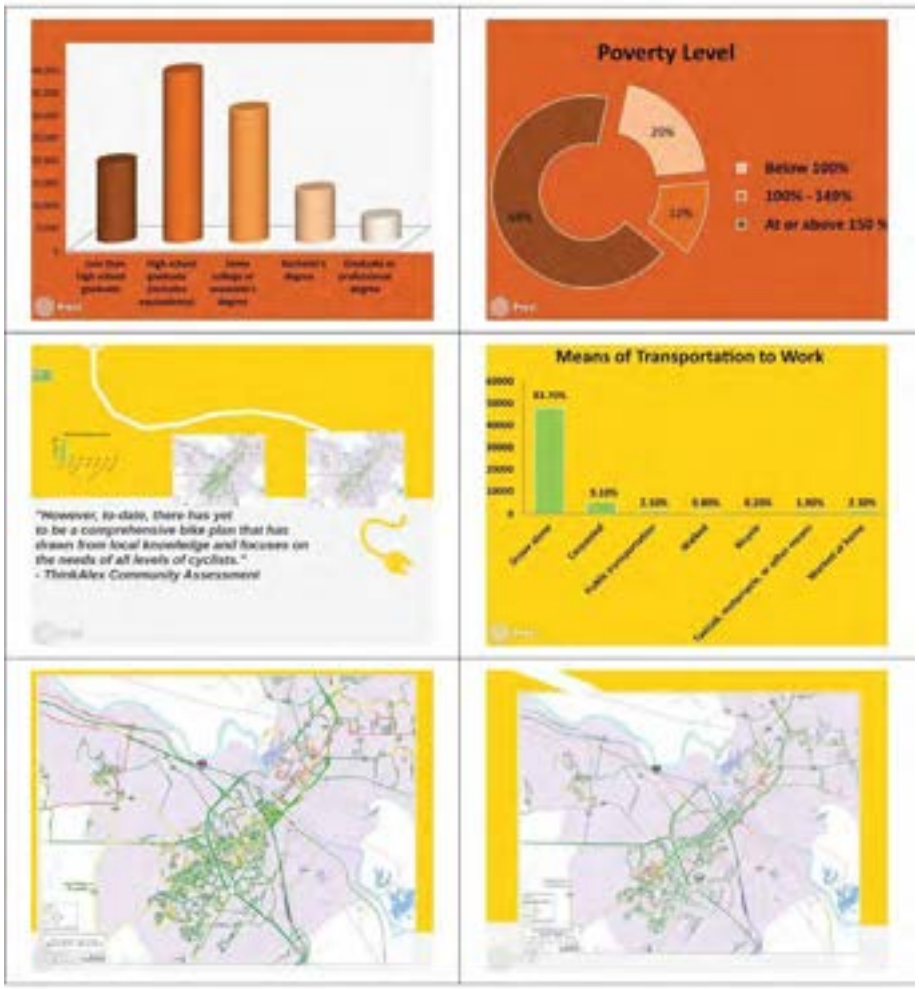
RAPC
Rapides Area Planning Commission

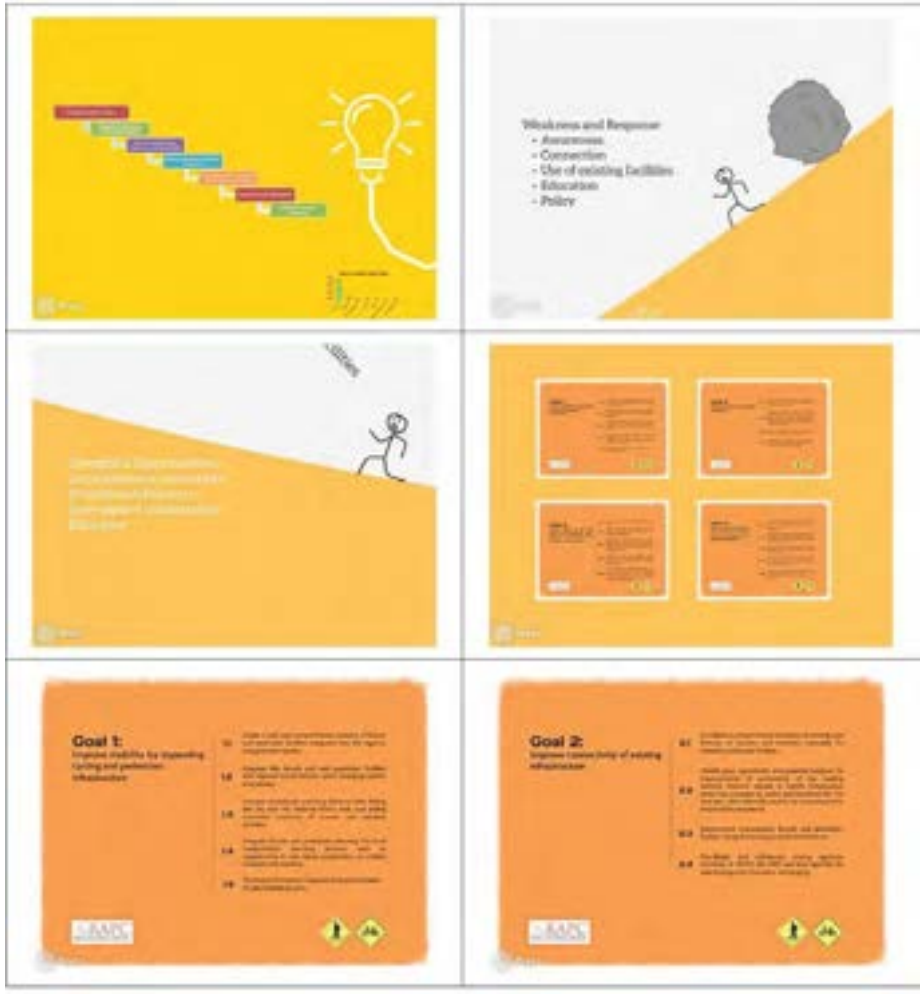
Bicycle and Pedestrian Advisory Committee
11:00 AM, July 22nd, 2016 | Location: RAPC Conference Room (Map Link)

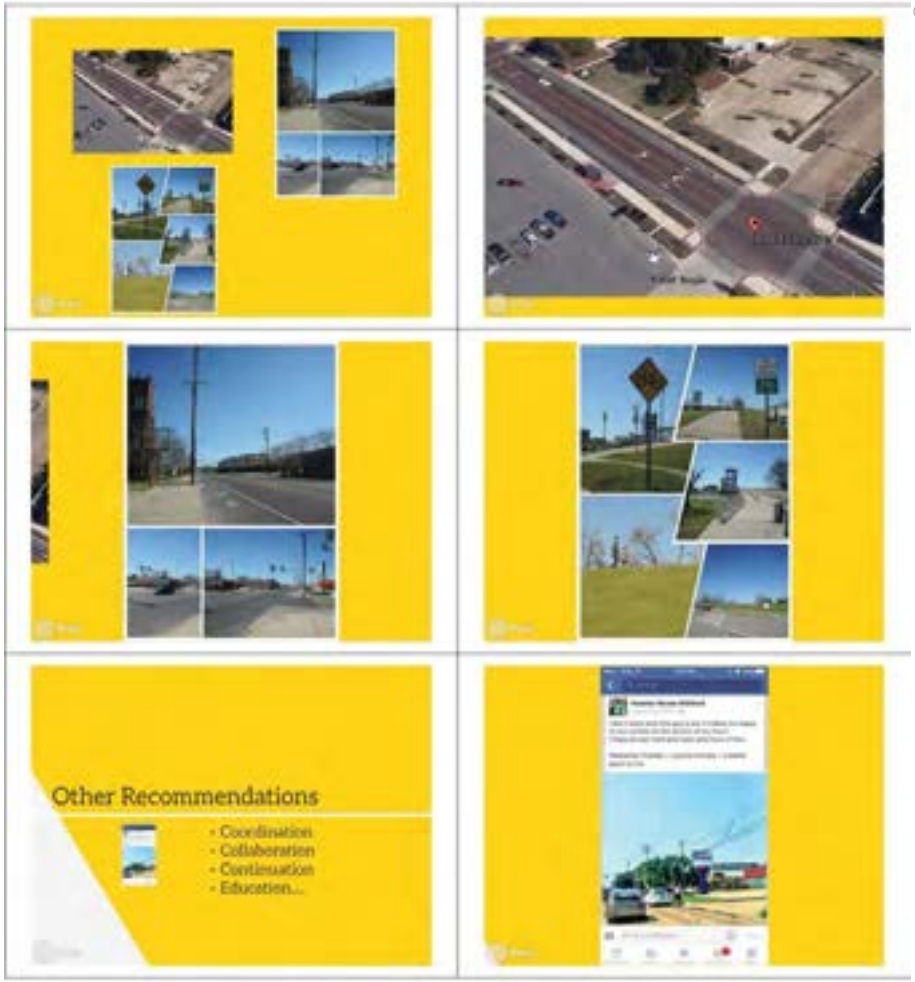
Agenda

1. Introduction
2. Needs Assessment
   a. Demographic Data
   b. Ped Count Data
   c. Local Plan Updates
3. Goals and Strategies
   a. Finalize Goals, Objective & Strategies
4. Metropolitan Transportation Plan 2040 Input
   a. Online MetroQuest Survey Results
   b. Public Meeting
   c. Travel Demand Modeling
5. Project Prioritization
6. Discussion
7. Other business

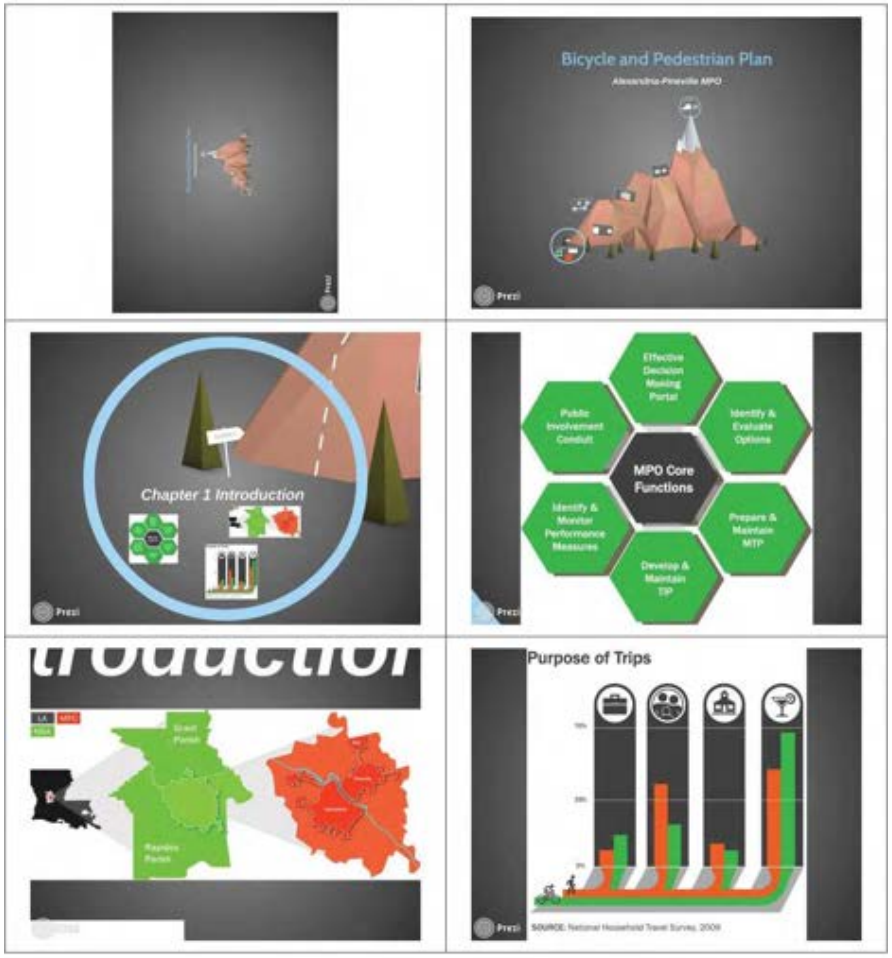
Appendix B: Bicycle & Pedestrian Advisory Committee Meetings

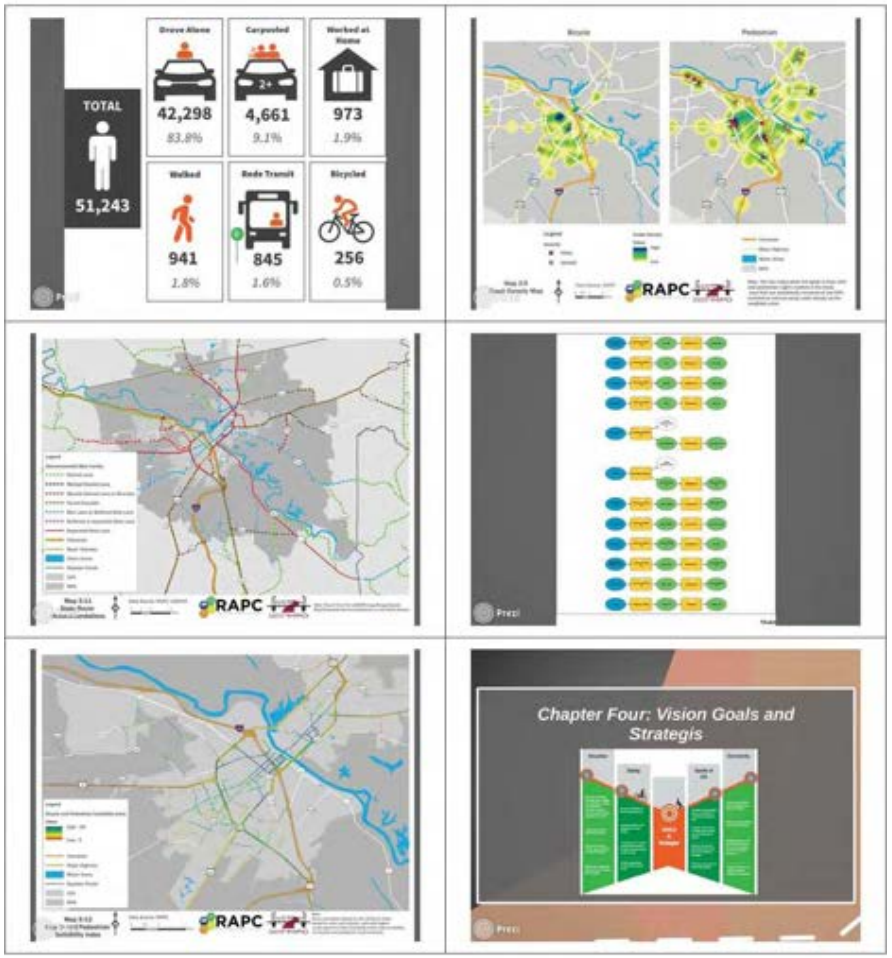


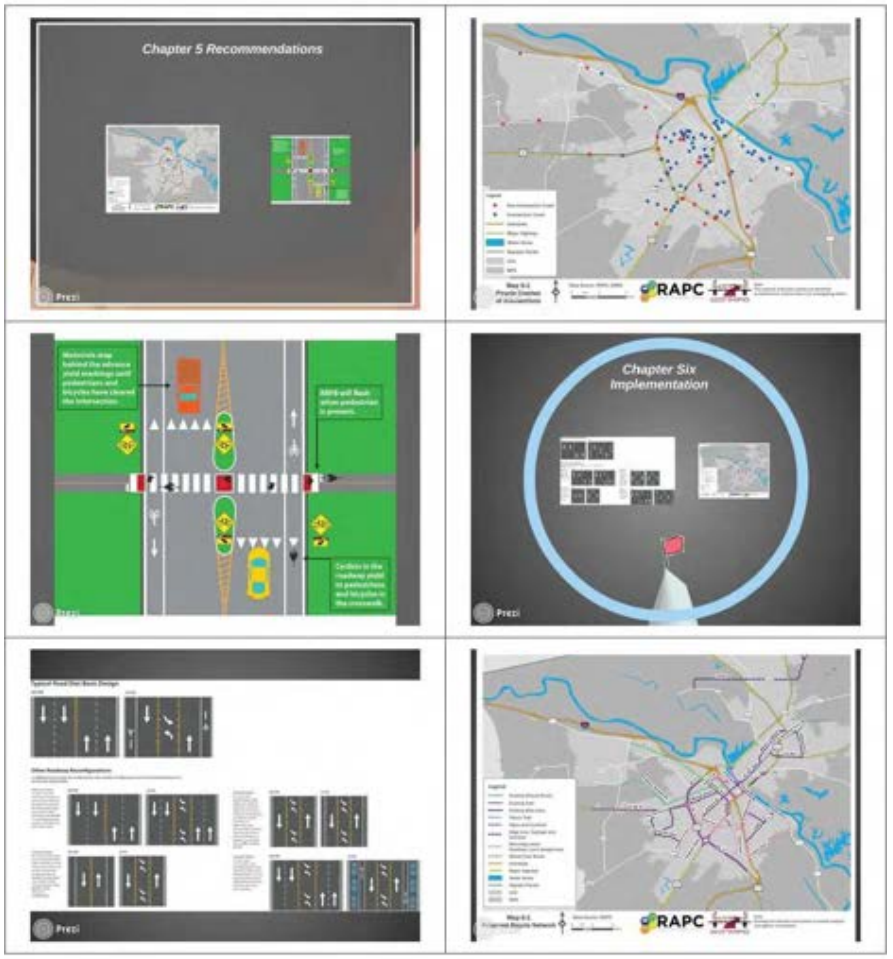




Appendix B: Bicycle & Pedestrian Advisory Committee Meetings



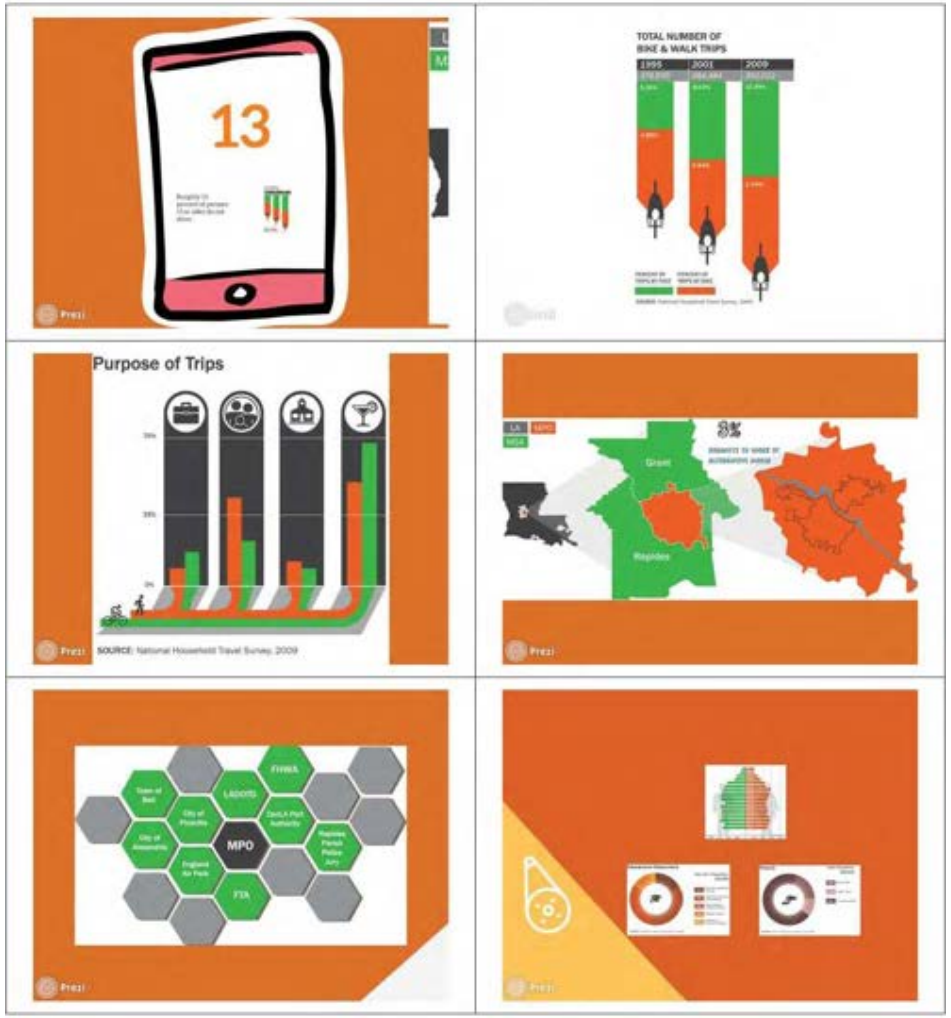




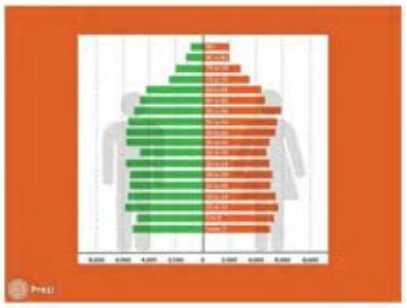
Appendix C: AMPO Meeting Presentation

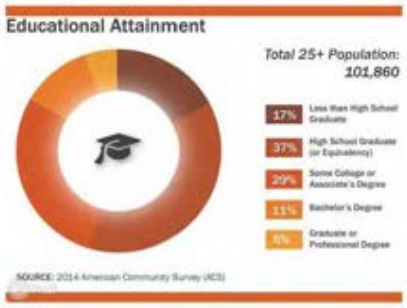
C

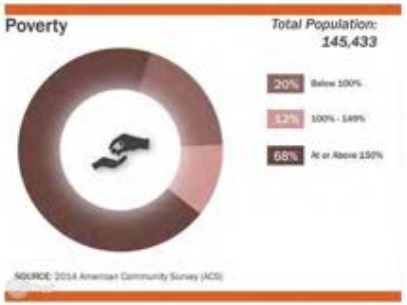
Prezi Link: http://prezi.com/fbvowhcxj3ux/?utm_campaign=share&utm_medium=copy

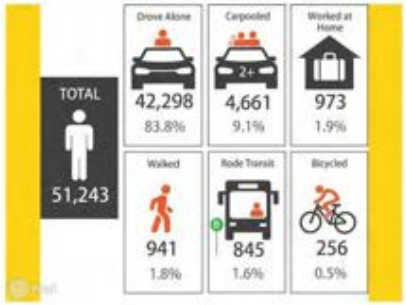


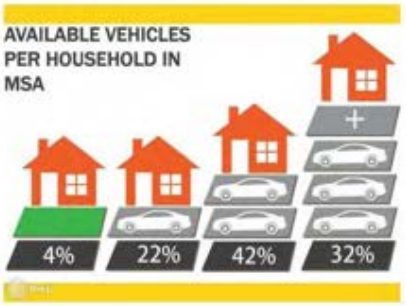
RAPC.INFO / BPP / APPENDICES

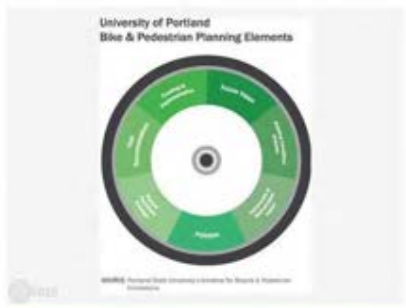




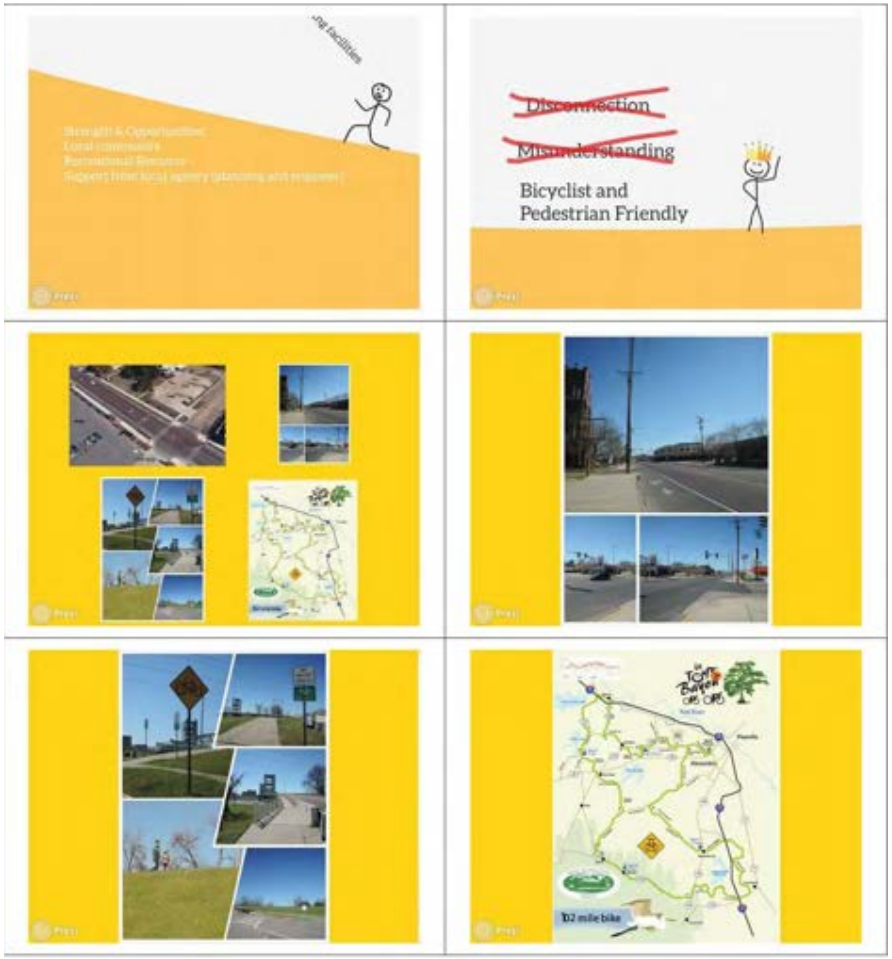


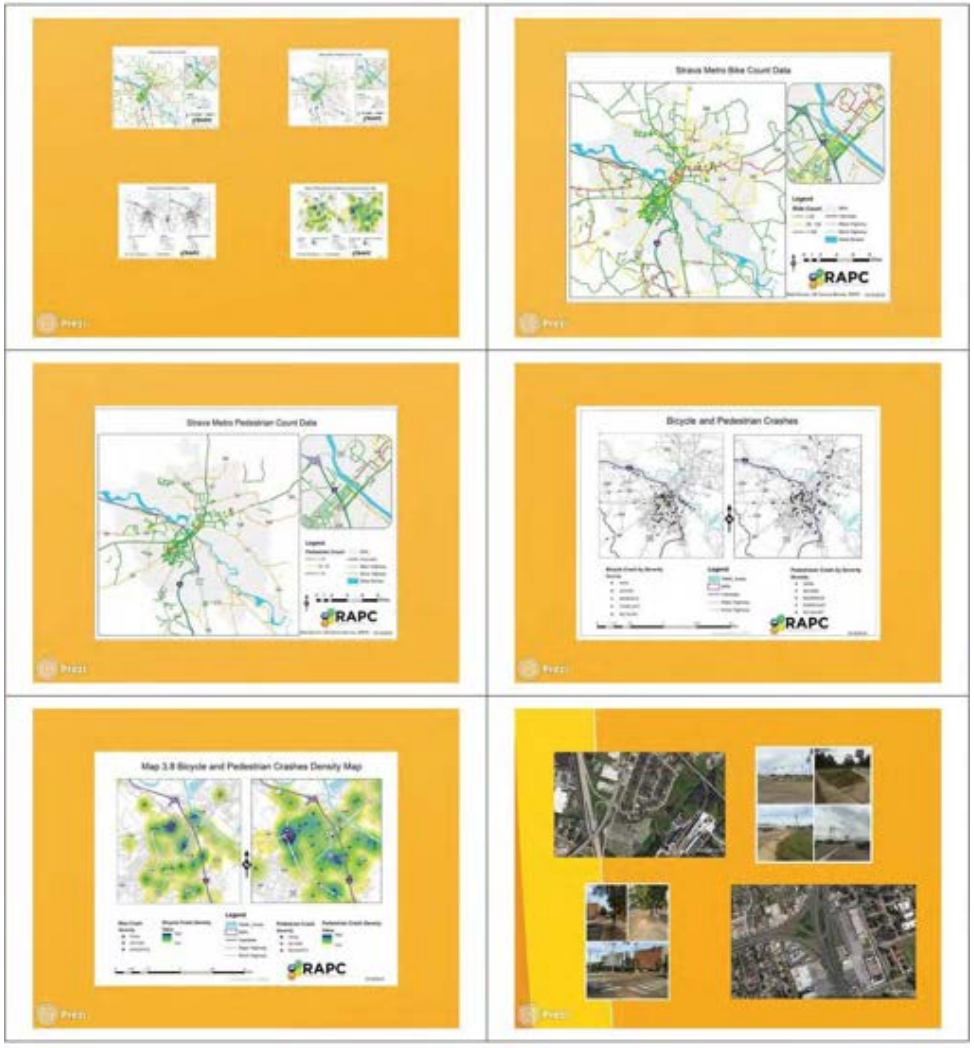


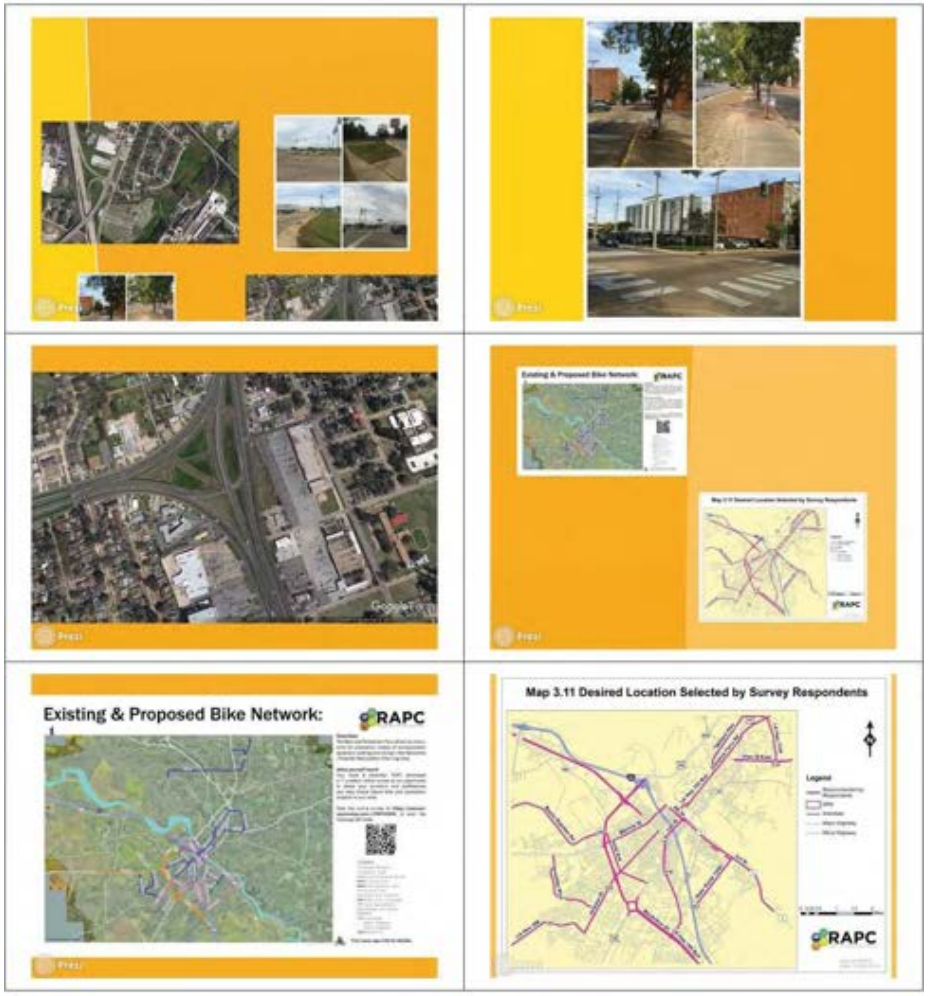




Appendix C: AMPO Meeting Presentation







Appendix D: Bicycle and Pedestrian Suitability Index Variable Scoring System

Speed[1]	Score
Less than 35	3
36 to 49	2
50 to 55	1
Over 55	0

Strava Metro Bike Count	Score
More than 100	3
100 to 50	2
Less than 50	1

Strava Metro Ped Count	Score
More than 50	3
50 to 25	2
Less than 25	1

Existing Facility	Score
Facility exists	3
No facility	0

Population Density	Score
More than 10 Per Acre	4
5.1 to 10 Per Acre	3
2.5 to 4.9 Per Acre	2
2.4 to 0 Per Acre	1
Less than 0	0

Employment Density	Score
More than 25 Per Acre	3
5.1 to 25 Per Acre	2
0 to 4.9 Per Acre	1
Less than 0	0

Distance to School/Bus Stop	Score
Less than 0.5 mile	3
0.5 to 1 mile	2
1.1 to 2 mile	1
Less than 0	0

Age under 18 and over 65	Score
Greater than 50%	3
40.1% to 50%	2
20.1% to 40%	1
Smaller than 20%	0

Poverty	Score
Greater than 50%	3
25.1% to 50%	2
10.1% to 25%	1
Smaller than 10%	0
Zero Vehicle	Score
Greater than 50%	3
25.1% to 50%	2
10.1% to 25%	1
Smaller than 10%	0

Survey	Score
Mapped by Respondents	3
Not mapped	0

[1] http://safety.fhwa.dot.gov/ped_bike/docs/txdot_3988s.pdf

Appendix E: Pedestrian Crash Reduction Factor Reference

1. Bahar, G., Parkhill, M., Hauer, E., Council, F., Persaud, B., Zegeer, C., Elvik, R., Smiley, A., and Scott, B. "Prepare Parts I and II of a Highway Safety Manual: Knowledge Base for Part II". Unpublished material from NCHRP Project 17-27, (May 2007).
2. De Brabander, B. and Vereeck, L., "Safety Effects of Roundabouts in Flanders: Signal type, speed limits and vulnerable road users." AAP-1407, Elsevier Science, (2006).
3. Gan, A., Shen, J., and Rodriguez, A., "Update of Florida Crash Reduction Factors and Countermeasures to improve the Development of District Safety Improvement Projects." Florida Department of Transportation, (2005).
4. Institute of Transportation Engineers, "Toolbox of Countermeasures and Their Potential Effectiveness to Make Intersections Safer." Briefing Sheet 8, ITE, FHWA, (2004).
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Appendix F: MPO Technical Advisory and Policy Committee

COMMITTEE MEMBERS

RAPC TRANSPORTATION TECHNICAL ADVISORY COMMITTEE

Mike Wilkinson, City of Alexandria
James Branch, City of Alexandria
Eric Duck, City of Alexandria
Tom David, Jr., Pan American Engineers, City of Pineville/Town of Ball
John Gagnard, Pan American Engineers, City of Pineville/Town of Ball
Dennis Woodward, Rapides Parish
Keith Sayer, LADOTD District 8
Larry Mathews, LADOTD District 8
Dan Broussard, LADOTD
Dawn Sholmire, LADOTD
Brandon Buckner, FHWA
Teresa Coplen, Bike/Ped. Advocate (Fit Families for Cenla)
Matt Johns, Rapides Area Planning Commission
Sooraz Patro, Rapides Area Planning Commission
Yuwen Hou, Rapides Area Planning Commission
Jonathan Bolen, Rapides Area Planning Commission

RAPC TRANSPORTATION POLICY COMMITTEE

Mayor Jacques Roy, Alexandria, LA
(Alternate, Ms. Delores Brewer)
Mr. Harry Silver, Alexandria, LA
(Alternate, Mr. Mr. Eric Duck)
Mr. James Villard, Alexandria, LA
(Alternate, Mr. James Branch)
Mayor Clarence Fields, Pineville, LA
(Alternate, Mr. Rich Dupree)
Mr. Nathan Martin, Pineville, LA
(Alternate, Mr. Charlie Moore)
Mr. Richard Billings, President, RPPJ
Mr. Richard Vanderlick, RPPJ
Mr. Murphy LeDoux, LaDOTD, District 8 Admin.
Mr. Brandon Buckner, FHWA
(Alternate, TBD)
Mr. Blake Cooper, Regional Port Authority
(Alternate, Mr. Norman Welch)
Mayor Neil S. Kavanagh, Town of Ball
Mr. Bart Jones, England Authority
(Alternate, Mr. Jon Grafton)
Ms. Ronisha Hodge, FTA

Appendix G: Glossary

AASHTO	– American Association of State Highway and Transportation Officials
ACS	– American Community Survey
AMPO	– Association of Metropolitan Planning Organization
APMPO	– Alexandria-Pineville Metropolitan Planning Organization
ArcGIS	– Geographic Information System Software
ATrans	– Alexandria Transit System
BMP	– Bicycle Master Plan
BPP	– Bicycle and Pedestrian Plan
BPSI	– Bicycle and Pedestrian Suitability Index
CRF	– Crash Reduction Factor
EPA	– Environmental Planning Agency
FHWA	– Federal Highway Administration
FAST	– Fixing America's Surface Transportation Act
FTA	– Federal Transit Administration
GIS	– Geographic Information System
HSIP	– Highway Safety Improvement Program
HSRG	– Highway Safety Research Group
LADOTD	– Louisiana Department of Transportation and Development
LRBMS	– Long Range Bicycle Map Statewide
LTAP	– Local Technical Assistance Program
MAP-21	– Moving Ahead for Progress in the 21st Century
MPA	– Metropolitan Planning Area
MPO	– Metropolitan Planning Organization
MSA	– Metropolitan Statistical Area
MTP	– Metropolitan Transportation Plan
NACTO	– National Association of City Transportation Officials
NHTS	– National Household Travel Survey
NHTSA	– National Highway Traffic Safety Administration
PPP	– Public Participation Plan
RAPC	– Rapides Area Planning Commission
SHSP	– Strategic Highway Safety Program
SRTS	– Safe Route to School Program
STBG	– Surface Transportation Block Grant
STP	– Surface Transportation Program
TAC	– Technical Advisory Committee
TDM	– Travel Demand Management
TIGER	– Transportation Investment Generating Economy Recovery OR Topologically Integrated Geographic Encoding and Referencing
TIP	– Transportation Improvement Program
TPC	– Transportation Policy Committee
USDOT	– United Stated Department of Transportation
UZA	– Urbanized Area

Appendix H: Publication Affidavit

H

State of Louisiana
Parish of Rapides
AFFIDAVIT OF PUBLICATION

(A Correct Copy of Publication)

Rapides Area Planning Commission

Public Notice

[illegible]

I, ~~Amanda Hines~~ Jim Smilie

of THE TOWN TALK, published at Alexandria, Louisiana do solemnly swear that the

Legal Notice

advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof for 1 insertion (s) commencing with the issue dated December 18, 2016 and ending with the issue dated December 18, 2016.

[signature]

~~Amanda Hines~~ Jim Smilie

Subscribed and sworn to before me
This 3rd day of January, 2017 at
Alexandria, Louisiana.

[signature]
Carolyn J. Smilie
Bar Roll No. 19794
My commission
expires at death