

10 | Bicycle and Pedestrian

As discussed in Chapter 4 (Environment), encouraging active transportation translates into health benefits for the regions' residents and workers. In addition to health benefits, providing protected bike lanes and sidewalks improves safety and reduces potential for serious and fatal bicycle and pedestrian crashes. While adding bike lanes and sidewalks does increase project costs, such improvements add multiple economic and environmental benefits, (*Making the Case for Designing Active Cities*, Technical Report, June 2014 [Rev. Feb. 2015], Active Living Research). Increasing opportunities for biking and walking creates more connected communities allowing residents more travel choices to reach their destinations. The following chapter reviews existing data on bike and pedestrian facilities in the region, identifies future needs and outlines fiscal considerations.

10.1 | Existing Conditions and Travel Patterns

As with motorized transportation, an effective and efficient non-motorized system takes account of users of all abilities within the context of a built environment that it is continuous, connects desirable destinations, and considers public safety. Users of non-motorized transportation are distinguished from motorized users by the fact that they bypass their personally owned vehicle, car, bus, or any other form of motorized transport in favor of walking, biking, or jogging.

Safety

Bicycle and Pedestrian safety is a major concern in the CRPC-MPO study area and is addressed in more detail in Chapter 8 (Safety and Security) of this document. According to Centers for Disease Control and Prevention figures Louisiana ranks:

- 3rd highest in in child pedestrian fatalities in the country;
- 5th highest in pedestrian fatalities when combining all ages;
- 4th in the nation in childhood obesity.

In 2015 Louisiana had:

- 863 crashes involving pedestrians, with 106 resulting in fatalities;
- 338 bicycle crashes, with 33 fatal.

In the Capital Region alone there were:

- 155 crashes in which a pedestrian was involved, with 13 resulting in fatalities;
- 43 bicycle crashes, with 8 resulting in fatalities.



Due to the high incidence of crashes involving bicyclists and pedestrians, the FHWA has designated the city of Baton Rouge as a focus city for bicycle and pedestrian safety. The focus city approach is a component of a program that emphasizes a more focused approach to safety. It specifically targets the top 20 U. S. cities with the largest number of bicycle and pedestrian fatalities, as well as any city with a fatality rate per population higher than the average of the top 50 cities. This designation makes the city of Baton Rouge eligible to receive free technical assistance from FHWA to assist with the local strategic Highway Safety Plan to improve bicycle and pedestrian safety.

Capital Region Transportation Safety Coalition

The regional coalition is one of nine regional Safety Coalitions in Louisiana working towards this goal. Each coalition has emphasis areas focused on all aspects of road safety. For the Capital Region, bicycle and pedestrian safety is a major emphasis area. As noted above, the city of Baton Rouge has one the highest rates of bicycle and pedestrian crashes in the country. CRPC staff works on initiatives to promote bicycle and pedestrian education through marketing campaigns which emphasize safety on our roadways, purchase of bicycle and pedestrian safety equipment, and certification of additional bicycle and pedestrian safety instructors.

CRPC has collaborated with local stakeholders, BREC (Baton Rouge Recreation and Parks Commission) and Southern University, to conduct bicycle and pedestrian safety courses in high risk areas of the city. Other work will focus on additional data collection, from bicycle and pedestrian counts conducted in correlation with future projects.

10.2 | Bicycle and Pedestrian Demand Analysis

Communications, Coalition Building and Data Collection

Communication, networking to build support, and data-based education are crucial in promoting active living. Bringing together public health and planning groups can help build broad community support and identify champions for implementing programs and policy changes.

Robust data collection and analysis of quantitative and qualitative data can help measure facilities’ bikeability and walkability. In addition to mapping potential trip origins and destinations, data can identify stressful or broken connections, and support development of guidance for complete streets retrofits. Public meetings and events create opportunities for residents to offer input on potential routes and crossing options.

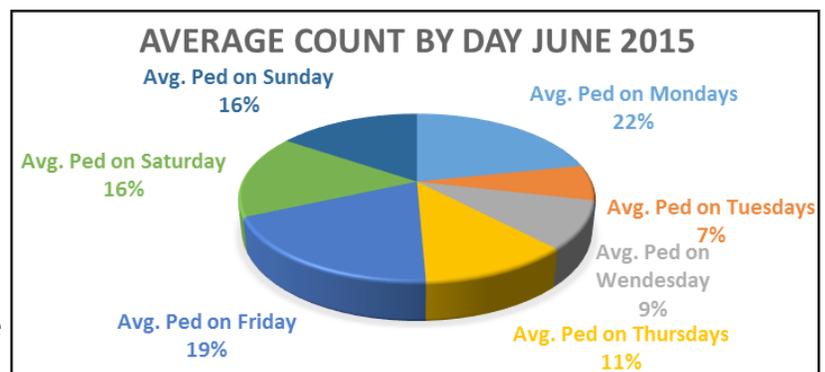
The planning process is designed to foster relationships between public health organizations, advocates and transportation professionals, through CRPC-MPO’s Complete Streets and Bicycle and Pedestrian Advisory Committees. At the local/regional level, East Baton Rouge Parish’s complete streets policy emphasizes improving travel times; paying attention to the special needs of non-drivers; providing safe alternative options for drivers and those walking and biking; and improving access to employment and education opportunities.

The CRPC-MPO has been proactive in working with Baton Rouge city-parish governments to track bicycle and pedestrian usage on current and future projects. Bicycle and Pedestrian demand is usually gauged using data from The American Community Survey. According to the most recent ACS data, 3,935 individuals indicated that they commuted to work on foot. Another 6,256 Baton Rouge residents make their daily commute via bicycle. It should be noted that the ACS primarily includes trips to work. The data therefore does not include children who walk to school, senior citizens who no longer work, and people who work from home.

Although it reports on only a portion of all commuters, the ACS does offer a small snapshot of daily commutes by both walking and bicycling. An additional limitation of ACS data is that only one response to the commute question is allowed. Thus, of all the individuals responding, the ACS only counts those who bike and walk to work every day. This means that those who sometimes walk or bike to work, but not every day, are under reported. To offset under reporting at the local level, CRPC has partnered with organizations involved in implementing local bicycling and walking projects. An example is the new trailhead established by the Downtown Development District near the intersection of Florida Boulevard and River Road. Following groundbreaking for the project in spring of 2015, CRPC conducted pedestrian counts throughout the spring and summer to capture pedestrian use in the vicinity.

CRPC staff has coordinated demand analyses with representatives of the Baton Rouge-East Baton Rouge City Parish government’s Office of Traffic and Engineering, the Baton Rouge Area Foundation, and the Downtown Development District of Baton Rouge. Various Bike/Ped counts have been taken throughout the proposed routes along the Downtown Greenway, LSU Lakes, and at the beginning stage of construction for Phase III of the levee top trail. An example of the summary data is provided in Figure 10-1.

A number of groups in the Baton Rouge MPO area are active in promoting expansion and greater use of bicycle and pedestrian facilities. These groups include: Capital Region Bicycle/Pedestrian Advisory Committee, the Baton Rouge Bicycle Club, Baton Rouge Advocates for Safe Streets and the parish and local governments of the parishes in the MPO study area. The Capital Region Bicycle/Pedestrian Advisory Committee provides a forum for all of these groups to meet and discuss engineering, education, enforcement and encouragement issues related to the two non-motorized transportation modes.



Average Pedestrian Counts by day for the month of June 2015 for the Downtown Development District at the intersection of Florida Blvd. and River Rd.

Figure 10-1: Bicycle Pedestrian Counts Example

In addition to conducting Bicycle and Pedestrian counts, CRPC staff has worked with the East Baton Rouge Parish Sustainable Transportation Action Committee (STAC) to conduct Bicycle and Pedestrian Audits throughout the parish. The East Baton Rouge Parish government has also adopted a Road Beautification program as a continuation of the city-parish Greenlight Plan.

10.3 | Planning for Bicycle Use

CRPC’s existing bicycle-Pedestrian plan, Non-Motorized Transportation Plan, 2009, established guidelines for local communities, developers and transportation agencies to use in the development of nonmotorized facilities throughout the region, (<http://crpcl.org/s/Non-Motorized-Plan.pdf>).

The Plan identifies the transportation system’s existing nonmotorized facilities, establishes a future conceptual network with a map and list of improvements, and identifies resources to help fund future additions to the non-motorized transportation network.

The plan recognizes benefits of Non-Motorized Transportation, including:

- Cost savings;
- Reduce congestion;
- Support transit;
- Provide transportation options;
- Improve Air Quality;
- Promote Economic Vitality;
- Improve Health.



The Capital Region Planning Commission is committed to encouraging the use of non-motorized modes of transportation. CRPC encourages the inclusion of bicycle and pedestrian facilities in reconstruction, resurfacing, and capacity expansion projects, to the extent deemed safe and feasible. To this end, CRPC has been proactive in implementing planning and construction efforts aimed at providing a safe and enjoyable environment for non-motorized transportation activities. As a policy, CRPC has and will continue to implement state and federal regulations, as required, and will continue to work with various stakeholders to implement these important projects.

One challenge for transportation planners, highway engineers and bicycle and pedestrian user groups is to balance competing interests within a limited amount of right-of-way, and to develop transportation infrastructure that provides access to all, a real choice of modes, and safety in equal measure for each mode of travel.

The State of Louisiana and East Baton Rouge Parish City-Parish governments have integrated cycling and walking into the transportation and recreational planning processes for the Baton Rouge Urbanized Area. Bicycle and pedestrian plans have been developed to assess the feasibility of facilities to support these activities.

The Louisiana Bicycle and Pedestrian Master Plan establishes new policies for the Louisiana Department of Transportation and Development that encourage a complete and multi-modal transportation system for the state. The Plan is intended to ensure that bicycling and walking are fully integrated into the state’s transportation system. The plan is guided by a vision statement: “to enable people to regularly walk and bike safely and comfortably along and across Louisiana’s roads to access schools, jobs social services, shopping, and transit and health and recreation. The state plan provides a detailed policy and action plan to guide the Department’s actions to help achieve this vision. The following are high-level goals established for the plan:

- Social Equity—Plan, design and fund a transportation system that enables mobility and access for all residents, whether or not these individuals have access to a motor vehicle;

- Personal Safety—Increase the safety of the walking and bicycling environment and reduce injuries and fatalities by providing a high level of care and consideration for these modes;
- Economic Development—Support Louisiana’s economic development by planning and maintaining a transportation system that supports walkable and bike-able local shopping districts, offers diversified travel options to visitors, and supports increased tourism and recreational opportunities;
- Public Health—Improve the health of Louisiana residents by increasing opportunities for combining physical activity with transportation and recreation.

Bicycle and Pedestrian Suitability Map

Over the last several years, CRPC has coordinated with both state and local officials to develop a Bicycle and Pedestrian Map based upon level of service and ease of use. As recently as 2014, the state coordinated with STRAVA (Swedish for strive) smart phone app to update the bicycle suitability map. The application tracks user data through GPS locations to monitor where people are walking, biking, or running.

At the local level, The East Baton Rouge City Parish Planning Commission has updated the Bicycle and Pedestrian Map to make it easier to use. As with the state planning efforts, public input to categorize existing corridors was gathered from local stakeholders. The information was extrapolated through STRAVA data, based upon level of use. The results were uploaded into the Online Bike BR Tool, which categorizes existing facilities in East Baton Rouge Parish. These facilities listed include Bike Lanes, Shared use paths (or “sharrows,”), Bike Racks, BREC Parks, Bike Shops, Coffee Shops, Drug Stores, Golf Courses, Grocery Stores, hospitals, libraries, police stations, schools, bus routes, retail centers, and tourist attractions. In total, the East Baton Rouge City-Parish system consists of 82 miles of bicycle pathways and 17,721 miles of pedestrian pathways.

Bicycle and Pedestrian Policies

The Louisiana Department of Transportation has developed Policies to ensure plan implementation (http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Bicycle_Ped/Misc%20Documents/BikePed_Final09282009.pdf).

Policy 1: Pedestrian and Bicycle Accommodation Policy: To varying extents, bicyclists and pedestrians are present on all highways and transportation facilities in Louisiana where they are permitted. Encouraging increased levels of bicycling and walking supports the Department’s goals of increasing mobility, reducing congestion and improving the environment. Therefore, the Department will plan and design roadways that fully accommodate walking and bicycling. The Department will consider the needs of pedestrians and bicycle riders at appropriate stages throughout all project development phases and will use current nationally recognized planning and design guidelines, manuals and best practices to ensure facilities are built to appropriate standards.

Policy 2: Pedestrian and Bicycle Safety Policy: The Department will provide for the safety and comfort of pedestrians and bicyclists and make every effort to reduce crashes and injuries associated with these modes. All projects shall consider the impact that improvements will have on pedestrian and bicycle safety and make all reasonable attempts to mitigate negative impacts on these modes. Restricting bicycle and pedestrian access shall not be considered as an appropriate strategy, with the exception of those limited access facilities where pedestrians and bicycles are prohibited.

Policy 3: Pedestrian Facility Policy: The Department will plan, fund and design sidewalks on all roadway projects that serve adjacent areas with existing or future development including: residences, apartment buildings, public transit facilities, schools, universities, shopping and employment centers, recreational facilities, community centers and public and governmental buildings.

Policy 4: Bicycle Facility Policy: The Department will provide bikeways and bicycle accommodations on all projects where feasible and appropriate. Bike lanes are the preferred facility on urban and suburban arterials and collectors. Paved shoulders are preferred on rural arterial collector roadways.

LADOTD Complete Streets Policy

In 2009, The Louisiana Department of Transportation and Development convened a working group in compliance with a mandate laid out by the Louisiana State legislature. This led to the development of a complete streets policy for DOTD and a report that outlined the working groups' recommendations for future implementation. The next step was development of the states Complete Streets Advisory Council. A core goal of the advisory council is to ensure that the state's policy is up to date, while taking into account the needs and demands of all users of all modes through the development of performance measures.

Local planning efforts

Baton Rouge Bike Master Plan

The Baton Rouge Area Foundation is developing a scope of work for a comprehensive Bicycle and Pedestrian master plan for East Baton Rouge Parishis underway in coordination with DOTD. The goal is to continuously promote healthy lifestyles, alternative modes of transportation, and improved quality of life in the parish and surrounding communities. The plan will build upon existing bicycle and pedestrian planning efforts currently ongoing in the parish. The scope of the project emphasizes, but is not limited to development of safe on-street bicycle routes that will be coordinated with off road multi-use paths. This includes development of a Greenway System of off-road, multi-use paths that connect major facilities and destinations. The project will also develop guidelines that emphasize using data to create a methodology for prioritizing development of projects and selecting projects for implementation.

BREC-Capital Area Pathways Project

The East Baton Rouge Parish Recreation and Parks Commission (BREC) is in the process of implementing a system to identify routes that increase connectivity throughout the parish and the surrounding areas. The proposed system that will encompass 155 miles in total and is designed to increase the number of recreational trails, greenways, and multi-use paths in East Baton Rouge and the surrounding areas.

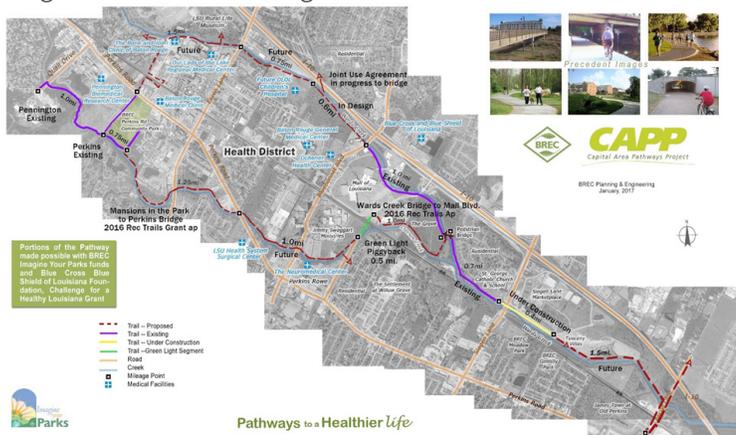


Figure 10-2: Capital Area Pathways Projects

Complete Streets

Complete streets, designed to accommodate all types of users and travel modes, can both save lives and also provide the multimodal connections that the community wants.

Complete Streets is a community design model most commonly used to promote active lifestyles. In 2014, the City-Parish of Baton Rouge-East Baton Rouge Parish developed a complete streets vision and policy statement titled The Road Forward for East Baton Rouge Parish. The plan considers mobility needs of all possible users and views streets as shared community spaces, rather than just means of getting from one place to another. This represents a fundamental change in previous practice, which emphasized maximizing automobile throughput.

What does/would a complete street look like? One size does not fit all. Typical features may include sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible transit stops, frequent and well-maintained crossing opportunities, median islands, accessible pedestrian signals, and curb extensions. The goal is to balance safety and convenience for all users. Components vary depending on whether the location is rural, suburban, or urban. Going beyond "routine accommodation" conveys the message that streets are only complete when they are safe for all users. When the needs of all possible users are considered, streets can be made safe for children to walk to school and neighborhood parks, for adults to bike and walk to work and for residents of all ages and physical abilities to safely navigate sidewalks, public transit, bike lanes, and roadways as they make their way around the community.

The Complete Streets model has been recognized as having almost unlimited capacity for improving community livability. Reaching that goal requires changes in perspective and policy and a strong information base. Studies of intersections help identify design options and educate the community. Analyses can pinpoint traffic stress points and availability of direct routes between trip origins and destinations. Walk Safety Audits can highlight the presence or absence of sidewalks, which both promote pedestrian safety and help promote transit usage.

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West Baton Rouge Parish Transportation Plan

In 2013, representatives of West Baton Rouge Parish began to convene a committee of stakeholders to advise parish government in matters that pertain to alternative modes of transportation. This group, named the West Baton Rouge Alternative Transportation Stakeholder Committee, identified local needs and concerns and identified key locations with the greatest potential for project implementation. With emphasis on bicycle facilities, public transportation, and enhanced mobility, the group also developed a project prioritization form to help identify key funding sources for implementing projects.

LSU Lakes Masterplan

In 2014, a master plan for rehabilitation and improvement of the lakes surrounding LSU’s campus was developed based upon an initial U.S. Army Corps of Engineers study regarding design of a dredging plan. The intent of the plan, which also includes additional linked parks, is to both preserve and enhance the lakes by providing bicycle and pedestrian amenities to the surrounding areas. (<http://www.batonrougelakes.org/>)

Bike Share

In 2015, through the Environmental Protection Agency’s (EPA) Building Blocks for Sustainable Communities program, the city of Baton Rouge received a technical assistance grant to assess the feasibility of implementing a bike share program in the city. That summer and fall, a series of workshops was conducted to gather input from local stakeholders to gauge public interest. Following the meetings, a thorough analysis of existing economic conditions, demographics, and geographic locations was conducted and presented in a report to participating stakeholders. Highlights from the report included:

- ✓ The population growth and the redevelopment of areas in and around the downtown area increases the demand for Bike Share.
- ✓ Bike Share can be used as a mobility tool that has potential to increase connectivity to different parts of the city.
- ✓ The connection between the downtown area and LSU provides a key link between the major commercial center and a segment of the population that has historically been major users of bicycles. .
- ✓ The landscape of Baton Rouge is generally flat, the weather is warm most of the year, and the local environment thus presents opportunities to bike on a year- round basis.

After receiving the report, key stakeholder representatives identified cities with profiles similar to Baton Rouge and arranged a site visit to Birmingham, AL. Following that visit, the Baton Rouge Area Foundation hired a consultant to oversee implementation of a Bike Share system in the city. Funding has been secured and the implementation process is scheduled to begin in the spring of 2018.

Bicycle and Pedestrian Masterplans for Baker and Denham Springs

Cities of Baker and Denham Springs were devastated by flooding in August 2016. Baker is predominantly low-income, with roughly 25 percent of the population living below the poverty line. Residents thus fall into the category of being bicycle riders of necessity rather than choice. With many individuals living on very limited incomes, private citizens are considering different transportation options beyond the single occupancy vehicle.

In an environment where a significant number of people cannot afford an automobile, bicycle usage can be a viable transportation

CASE STUDY - NOLA

The City of New Orleans provides a nearby example of a confluence of post-disaster forces that spurred planning and development of transportation facilities for bicycle users. In 2004, as reported by the New Orleans Data Center, the city had only 10.7 miles of bike lanes and pathways. Since 2007, the city has used about \$100 million in federal recovery funds to asphalt 56 miles of 55 heavily used streets. The city also invested \$7 million in federal aid to turn a 3-mile stretch of abandoned railroad easement into a greenway that extends from the French Quarter to City Park. Physical development has resulted in an exponential increase in ridership. In 2010, New Orleans was ranked 12th in the number of bicycle commuters among American cities. **U.S. Census Bureau data show that this represents an 84% increase since 2005.**

option. With municipal resources limited, the city lacks the capacity to develop a transportation network that promotes healthy, active, and safe mobility. The city is currently engaged in a post-disaster long-term recovery planning process. This includes a strong community engagement effort, which has encouraged community residents and stakeholders to voice concerns. Demand for more bike-able, walkable, and pedestrian friendly community is one of the desires most frequently heard.

In response to public demand, the city has begun to coordinate with the Capital Region Planning Commission to secure funding to develop a comprehensive bicycle and pedestrian plan. The city has outlined a proposed scope of work:

- A preliminary cost estimate and identification of projects to improve access to public transit by bridging the gap between the first mile and last mile;
- Developing a project prioritization process that promotes bicycle and pedestrian usage;
- Serving as the basis for the City's commitment to creating a healthier, safer, and more resilient community.

The City of Denham Springs has also begun to explore the potential for developing a bicycle and pedestrian master plan. Facing similar issues, but with a slightly higher income population, Denham Springs has also begun the process of developing a Bicycle and Pedestrian Master Plan in coordination with the Capitol Region Planning Commission.

Prior to the flood, most regional interest in developing bicycle and pedestrian transportation facilities focused on the southern part of East Baton Rouge Parish. The Baker and Denham Springs projects highlight the need to develop a more active transportation network in rural and low-income areas. The intent, with this process, is that the region will develop a model that will be replicable throughout the MPO area and lead to increased development of more bicycle and pedestrian infrastructure region wide.

10.4 | Connectivity

Connectivity is defined as the extent to which components of a network are connected to one another and the ease and speed with which they can link with each other. With transportation systems and modes, the term applies to the level of ease of movement for users. Connectivity is a key factor in promoting active movement. Connected trail systems and greenways help increase the number of people using trails for transportation, commuting to work and recreation. Building out from specific locales like parks and trails allows for a more connected regional network. Best-practice models can improve access to trails, ensure their connectivity to job centers and neighborhoods, and offer trail-based programming at all age levels.

Enhanced connectivity for both motor vehicles and for pedestrians and bicycle riders are primary goals identified by residents and stakeholders who participated in public hearings and online surveys to contribute to developing this plan. Improving pedestrian and bicycle connections is challenging in areas already developed without such facilities. It is important that planning for new developments incorporates such facilities from the beginning.

According to available data, the bulk of connectivity between existing facilities lies inside the boundary of the MPO's urban core in East Baton Rouge Parish. However, within that area, there are still locations that currently lack bicycle and pedestrian facilities. These locations are mainly in the northern part of the parish. Current plans in East Baton Rouge Parish call for projects to integrate complete streets features when developing new projects. East Baton Rouge Parish is currently working with stakeholders at the state, city, and federal levels, as well as private citizens, to develop a Bicycle and Pedestrian Master Plan. CRPC staff will continue to work with state and local officials to ensure future projects include consideration for all users of all transportation modes.

The maps on the following pages show locations of existing sidewalks and bike paths in the region. This data provides the foundation for building a nonmotorized network. One options for prioritizing nonmotorized projects is to identify locations of network gaps.

10.5 | Public and Stakeholder Input

In the spring and fall of 2017, CRPC staff held meetings with both the general public and local stakeholders to gather input for the update to the CRPC-MPO's long-range transportation plan. The intent of these meetings was to inform both

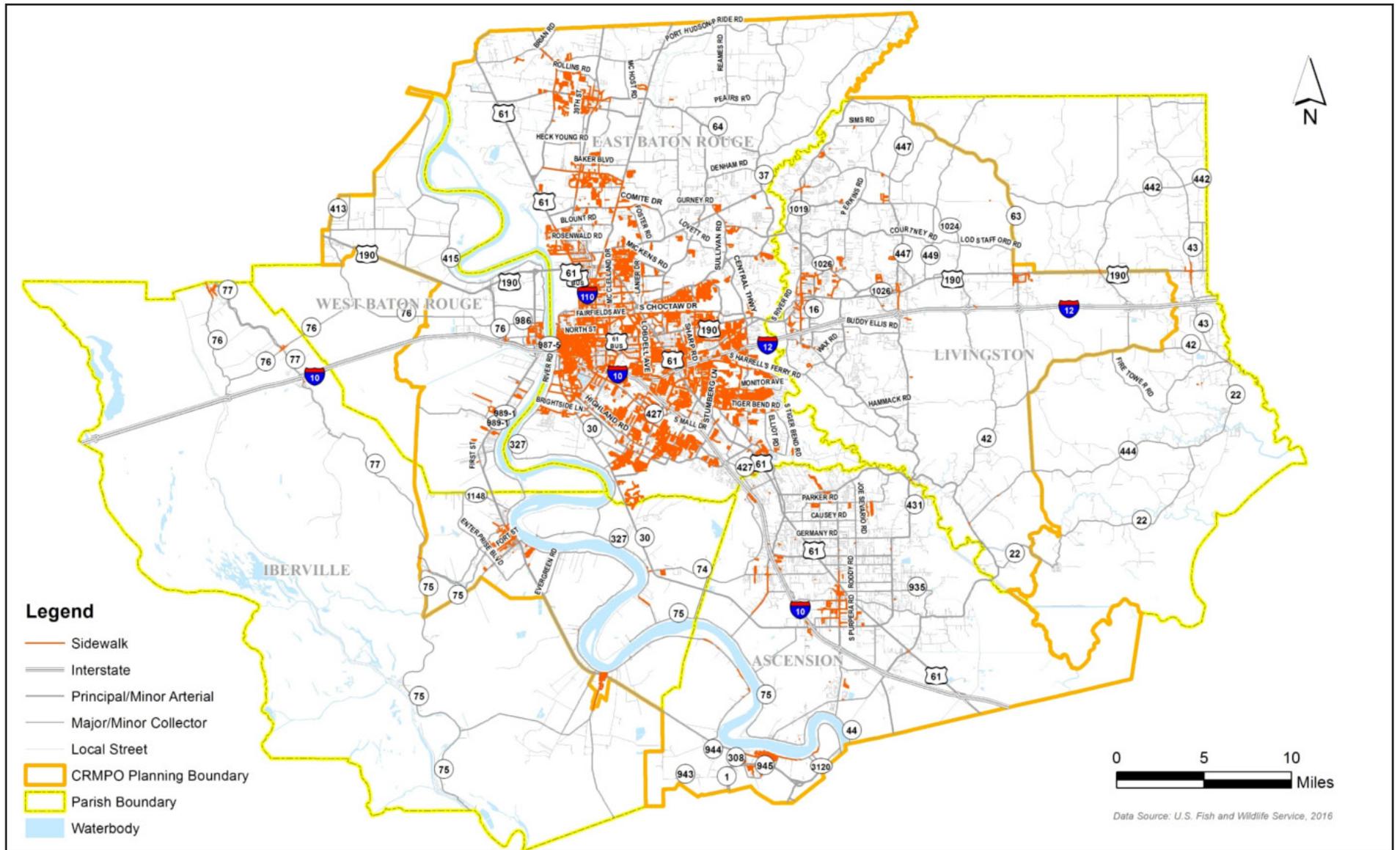


Figure 10-3: Regional Pedestrian Network

public officials and private citizens on the planning process and elicit input on how we can better plan for the future. The process was not limited to a single transportation mode or a single type of transportation system user. From a bicycle and pedestrian perspective, the general consensus, was that, although there is plenty of demand for bicycle and pedestrian facilities, the current transportation network lacks the infrastructure to match demand. Based upon the input received from individuals in both the public and private sectors, the following recommendations would create an environment more amenable to biking and walking in the MPO area:

- ✓ More sidewalks
- ✓ More dedicated bike lanes
- ✓ More connectivity between current infrastructure
- ✓ Repair current sidewalks
- ✓ Repair current bike paths
- ✓ Maintain existing facilities
- ✓ More Bike Paths
- ✓ More Multiuse paths
- ✓ More Bike Paths along Greenbelts, rail lines, and bodies of water
- ✓ Connect East Baton Rouge Parish to Ascension Parish
- ✓ More lighting on existing facilities
- ✓ Increase the number of Greenways
- ✓ Increased enforcement of rules of the road for both cyclists and motorists.

Broadly speaking, the public expressed a desire for construction of thoughtfully planned bicycle and pedestrian connections. At the regional level, there is a desire to find ways to connect communities and provide nonmotorized recreational opportunities.

10.6 | Demand for Nonmotorized Projects

Typical generators of bicycle and pedestrian traffic are the central business districts in the City of Baton Rouge and in smaller surrounding communities. The areas around LSU, local and private schools, public libraries and recreational parks are also key generators. Some nonmotorized facilities in those areas are shared by cyclists and pedestrians, while some are designed solely for pedestrians and others are provided just for bicycle use.

Non-Motorized transportation projects include a broad range of options. The following list was developed from pending and phased projects as well as input from the stakeholder and public meetings. According to input between stakeholders in both the public and private sector there is a great demand for sidewalks and multiuse path throughout the East Baton Rouge parish. Several of these projects are part of the Capital Areas Pathways Project (CAPP Trail), as well as the Baton Rouge medical loop. Some of these projects are scheduled to be implemented in various phases. In addition, the trail atop the Mississippi River levee is scheduled to be extended to the parish line. This will result in increased connectivity between East Baton Rouge and neighboring parishes within the MPA. Both the map and project lists show an increasing demand for more bicycle and pedestrian facilities in all of the MPO parishes.

10.7 | Options for Nonmotorized Project Prioritization

To develop bicycle and pedestrian projects that fit and align with their own transportation needs, local parish, jurisdiction, or municipality, typically develop criteria on project prioritization, development, and methodology. Location is another key factor and projects should be identified in areas where they will contribute to providing transportation equity, enhance benefits from mode shift, and in some cases both. Where future growth is anticipated, bicycle and pedestrian projects should be included and implemented along with roadway improvements. In addition to future growth patterns, projects should be identified based upon existing socioeconomic data. The MPO should work with stakeholders to conduct road safety assessments to appropriately analyze the conditions of the roadway in areas with high incidence of collisions with bicyclists and pedestrians. Thorough analysis of assessment results, will be key to identifying appropriate projects. Some other states have legal requirements that, in order for funding to be considered for any project, it must be included in an adopted bicycle and pedestrian plan.

Table 10-1: Requested Nonmotorized Transportation Projects

East Baton Rouge	
Windborne Ave to Brightside Lane via Foster Dr., College Ave, and Lee Dr.	Windborne Ave. to Highland Rd. via Acadian Thruway, and Stanford Ave.
Prescott and Airline to Joor Rd. in Baton Rouge	Brightside Lane to Jefferson Hwy via Lee Dr., College Dr. and Jefferson Hwy.
Gourier Ave to Nicholson Dr	Gourier Ave to Burbank Dr.
Government St to Goodwood Blvd. Via Lobdell Blvd	Government St. to Jefferson Hwy. via Lobdell Ave
Government St. to Essen via Jefferson Hwy.	Jefferson Hwy to Old Hammond Hwy.
Burbank to Siegen	Burbank to Perkins via Siegen
Perkins to Burbank; Perkins to Essen; Perkins to Siegen	Highland Rd. to Bluebonnet. Blvd.
Highland Rd. to Coursey Blvd. via Bluebonnet Blvd.	Siegen Lane to Greenwell Springs Rd. via Sherwood Forrest Blvd.
From Downtown to GSRI Ave via Nicholson Dr.	From Government St to Lee Dr. Via Dalrymple, East Lakeshore, Stanford Ave., and Hyancith
From Government St. to Highland and Perkins Rd.; From Government St. to Lee Dr. via Dalrymple to Perkins; From Government St. to Bluebonnet via Dalrymple and Perkins; From Government St. to Essen/ Starring Lane via Dalrymple and Perkins; From Government St. to Siegen Lane via Dalrymple and Perkins;	From River Rd. to Highland and Perkins via Jefferson Hwy.; From River Rd. to Old Hammond Hwy. via Government St. and Jefferson Hwy; From Government St. to Essen Lane via Jefferson Hwy.; From River Rd. to Bluebonnet via Government St. via Jefferson Hwy.; From River Rd. to Siegen Lane via Government St. to Jefferson Hwy;
From Downtown Baton Rouge to North Baton Rouge via River Rd. to North 3rd St., From River Rd. to Chippewa Ave. via North 3rd St. ; From Downtown BR. to Choctaw via River Rd. and North 3rd St.;	From Government St. to Greenwell Springs Rd. via Foster Dr.; From Government St. to Windborne Ave. via Foster Dr.; From Government St. to Glen Oaks Dr. via Foster Dr.
From Brightside Lane at LSU to the East Baton Rouge Livingston Parish line	From River Rd. to Highland and Perkins Rd. via Nicholson Dr. to Burbank Dr to Highland Rd.
From River Rd. to Goodwood via Government St;	Nicholson Dr. Extd/ LA 30 and Manchac Rd. to LA 3115
West Baton Rouge	
Choctaw Rd. to East St. Francis St	LA -1 Corridor from Beaulieu Lane in Port Allen to 1st St. in Addis, LA
River RD. Corridor in West Baton Rouge, LA	Levee top trail in West Baton Rouge to the Iberville Parish Line
Iberville Parish	
Belleview DR. Corridor to River Rd. at the Sunshine Ferry landing	River Rd from the Iberville Parish line to the Ascension Parish line
Ascension Parish	
From Burnside Ave and Airline Hwy. to River Rd. in Ascension Parish	From North Burnside Ave and East Riverview St . to Church-point Rd. to Stringer Bridge Rd
From I-10 exit at la 30 TO Brittany Tower Dr.	Extension of the Mississippi Levee Trail from the East Baton Rouge Parish Line through Ascension Parish
Livingston Parish	
Range Ave. at Cockerham Rd. to I-12	River Rd. at Range Ave. to Florida Blvd
Petes Hwy. at Hatchell Lane to Cokerham Rd.	Florida Blvd to Juban Rd.

Data related factors that should be considered in developing projects include Average Daily Traffic (ADT's), speed limits, population, employment, and crash data. Metrics include percentage of streets within two miles of schools that accommodate all users of all modes, changes in modal split, and the linear extent of interconnected pedestrian and bicycle facilities within the community.

Table 10-2: Nonmotorized Project Ranking Criteria

Criteria	Proposed Weight
Safety	15%
Cost	10%
Population	10%
ADT	5%
Current Facilities	10%

An example of prioritization criteria for nonmotorized facilities is listed below.

As more nonmotorized plans are developed in the region, the CRPC-MPO will advance the dialogue around setting project selection criteria for bicycle and pedestrian projects.

10.8 | Typical bicycle and pedestrian project types

Shared Lane Markings

Shared Lane Markings (sometimes known as “Sharrows”) are road markings used to indicate a shared lane environment for bicycles and automobiles. The markings encourage bicyclists to position themselves safely in lanes too narrow for a motor vehicle and a bicycle to travel side by side in a safe and secure manner.

Dedicated Bike Lanes

A portion of a roadway is designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Dedicated Bike lanes are implemented in areas with high demand for bicycle access and reasonable traffic volumes. Markings are used to notify both drivers and bicyclists that these lanes are for bicycle use only.

Sidewalks

Facilities which are adjacent to the roadway, or separated from the travel lane by green space, parking, or a utility and street furniture zone. Most sidewalks are included as part of the street right-of-way.

Multi-Use Paths

Shared use paths are facilities dedicated to both bicyclists and pedestrians. Such paths are located parallel to and separate from roadways. These paths can be used for commuting, if the path provides access to major commercial centers or residential areas, as well as for recreational and exercise purposes. . These facilities are often constructed as part of new developments, commercial centers, universities, and near bodies of water in rural areas.

10.9 | Project Cost Estimates

Bike and Pedestrian Cost by Improvements

Project costs for Bicycle and Pedestrian infrastructure improvements can vary. It is important to select the appropriate counter measure based upon the roadway context. The following information is designed to serve as a guidepost when selecting the most appropriate and cost-effective solution that will improve Bicycle and Pedestrian safety.

Bicycle Parking

The Capital Region Planning Commission has worked with officials in both state and local government, as well as local advocates, to improve Bicycle and Pedestrian parking in the MPO area. In East Baton Rouge Parish, CRPC has coordinated with the local Downtown Development District, as well as Universities, to add more Bicycle Parking in the downtown area

and at Southern University in northern Baton Rouge. The price for construction and installation can vary based upon the type of rack as well as the location.

The additional Bike Racks were paid for through a grant obtained through the Congestion Mitigation and Air Quality (CMAQ) Program.

Table 10-3: Bicycle Parking Typical Cost

Description	Qty.	Cost	Total
Stainless Steel-Ring Rack Core Drill Installation	71	\$300	\$21,300
Galvanized steel Ring Racks Bolt Down Installation	71	\$250	\$17,750
Cost for Bolt Down Installation		\$45	\$3,195

Bikeways

A bikeway contains, bicycle lanes, bike paths, and designated bicycle routes. These are separate facilities designed for bicycles, whereas bicycle lanes are designated travel lanes on the existing roadways. Separated bikeway projects can range anywhere between \$500,000 to \$4,000,000. Costs vary depending upon site conditions, path width, and materials used.

Table 10-4: Bikeway Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Bikeway	Bike Lane	\$89,470	\$133,170	\$5,360	\$536,680
Bikeway	Signed Bicycle Route	\$27,240	\$25,070	\$5,360	\$64,330
Bikeway	Signed Bike Routes With Improvements	\$241,230	\$239,440	\$5,360	\$536,070

Chicanes

Chicanes are concrete islands that offset traffic and create a horizontal diversion of traffic. They are used to reduce traffic speed. An added benefit of chicanes is increasing the amount of green landscaping on the street.

Table 10-5: Chicanes Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Chicanes	Chicane	\$8,050	\$9,960	\$2,140	\$25,730

Curb Extensions

An extension of the sidewalk or curb line out into the parking lane results in a reduction in overall street width by extending the curb out into the street. This can be done by overcompensating with an extension on one side or by extending both sides out into the center.

Table 10-6: Curb Extension Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Curb Extension	Curb Extension/ Choker/ Bulb-out	\$10,150	\$ 13,000	\$1,070	\$41,170

Diverter

A diverter is an island built at a residential street intersection that prevents direct access through the intersection. An additional effect of a diverter is limited turning movements. The four main types of diverters are: diagonal, star, forced turn, and truncated. A diagonal diverter breaks up cut through movements and forces right or left turns in certain directions. A star diverter consists of a star shaped island placed at the intersection, which allows right turns from each approach. A forced diverter is an island that forces drivers to turn in only one direction.

Table 10-7: Diverter Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Diverter	Diverter	\$22,790	\$26,040	\$10,000	\$51,460
Diverter	Diverter/ Partial or Semi	\$15,000	\$15,060	\$5,000	\$35,000

Islands

Crossing Islands also known as center islands, refuge islands, pedestrian islands, or medians are raised sections in the middle of the street to help protect pedestrians from motor vehicles. An added benefit of an island is allowing pedestrians to deal with only one section of traffic at a time, by giving people a safe destination halfway across the street. .

Table 10-8: Island Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Island	Median Island	\$10,460	\$13,520	\$2,140	\$ 41,170

Raised Crossings

A raised pedestrian crossing is similar to a raised intersection, with the difference that the crossing is the width of a sidewalk, between 10 feet to 15 feet. Raised intersections and crosswalks encourage motorists to yield to pedestrians, because the raised crosswalk increases pedestrian visibility and forces motorists to slow down before crossing the intersection. Costs will vary based upon the length or the width of the roadway.

Table 10-9: Raised Crossing Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Raised Crossing	Raised Crosswalk	\$7,110	\$8,170	\$1,290	\$30,880
Raised Crossing	Raised Intersection	\$59,160	\$50,540	\$12,500	\$114,150

Roundabouts/Traffic Circles

Roundabouts are circular intersections that can calm traffic by forcing motorists to turn right. Roundabouts reduce speed, improve safety at intersections by eliminating side crashes, and improve traffic flow. Variation in costs relate to the size of the roundabout, condition of the roadway, and whether right of way acquisition is needed.

Table 10-10: Roundabout/Traffic Circle Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Roundabout/ Traffic Circle	Roundabout/ Traffic Circle	\$ 27,190	\$85,370	\$5,000	\$523,080

Speed Reductions

Multiple countermeasures can be implemented to reduce speed on roadways. Speed humps are vertical traffic control measures that are 3 to 4 inches high at the center and span the whole width of the street. A speed table describes a flat-topped speed hump where a pedestrian crossing is provided in the flat portion of the speed table. Speed tables can be used in conjunction with curb extensions where parking exists.

Pedestrian accommodations are designed to enhance the pedestrian environment in a way that improves pedestrian safety, mobility, and access.

Table 10-11: Speed Bump, Hump or Table Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Speed bump/hump/ Table	Speed Hump	\$2,130	\$2,640	\$690	\$6,860
Speed bump/hump/ Table	Speed Bump	\$1,670	\$1,550	\$540	\$2,300
Speed bump/hump/ Table	Speed Table	\$2,090	\$2,400	\$2,000	\$4,180

Bollards

Traffic Bollards are posts embedded in the ground. Bollards are used to enhance pedestrian safety, by slowing vehicle speeds and separating pedestrians and motor vehicles either for a short period of time or on a permanent basis. Different types of bollards that are available for use include fixed, rising, security, removable, breakaway, and flexible.

Table 10-12: Bollard Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Bollard	Bollard	\$650	\$730	\$62	\$4,130

Curb Ramps

Curb ramps provide access between the sidewalk and road for people using wheelchairs, strollers, walkers, crutches, bicycles, or who have mobility impediments that make it problematic to utilize standard curbs. Downtown locations are generally given priority over other locations where traffic is less heavy. Other appropriate locations may include schools, parks, medical facilities, shopping malls, and residences where people use wheelchairs.

Table 10-13: Curb Ramp Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Curb Ramp	Truncated Dome/ Detectable Warning	\$37	\$ 42	\$6.18	\$260
Curb Ramp	Wheelchair Ramp	\$740	\$810	\$89	\$3,600
Curb Ramp	Wheelchair Ramp	\$12	\$12	\$3.37	\$76

Fences/Gates

Fencing or gating helps to separate pedestrians and cyclists from roadways, as well as railroad tracks. They can also be used in the construction of pedestrian and bicycle paths, bridges, and overpasses. The cost differentials reflect the varying location, type, design, material, and overall height.

Table 10-14: Fence/Gate Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Fence/Gate	Fence	\$120	\$130	\$17	\$370
Fence/Gate	Gate	\$510	\$910	\$330	\$1,710

Lighting

Lighting improves the safety of all roadway users. The costs can vary, depending on the type of fixture and service agreement with local utility. Additional costs may also be dependent upon whether or not other projects are implemented in conjunction with lighting installation on the roadway or multiuse path. The wide range of cost for in-pavement lighting is based upon a wide variety of factors that include, but are not limited to, differences between the

manufacturers, width of the roadway, and additional factors.

Table 10-15: Lighting Typical Cost

Infrastructure	Description	Median	Average	Minimum	Maximum
Lighting	In – Pavement Lighting	\$18,250	\$17,620	\$6,480	\$40,000
Lighting	Streetlight	\$3,600	\$4,880	\$310	\$13,900

Historical Revenues

Over the course of the last 15 years, the capital region has seen an increase in bicycle and pedestrian infrastructure. In total, there have been 55 projects that focused on improved bicycle and pedestrian safety, at a total cost of \$ 24, 951,948. Total projects and costs, from 1996 to 2015, are shown in Figure 10-6.

As can be seen, between 1996 and 2000 there was no investment in Bicycle and Pedestrian infrastructure. In 2015, activity peaked, with 7 projects, at a total cost of \$4,841,834. The bulk of projects over the 15 years were implemented in East Baton Rouge Parish (27), with 11 in Livingston, 7 in Ascension, and 4 in West Baton Rouge Parishes. This indicates increasing regional commitment to support for biking and walking.

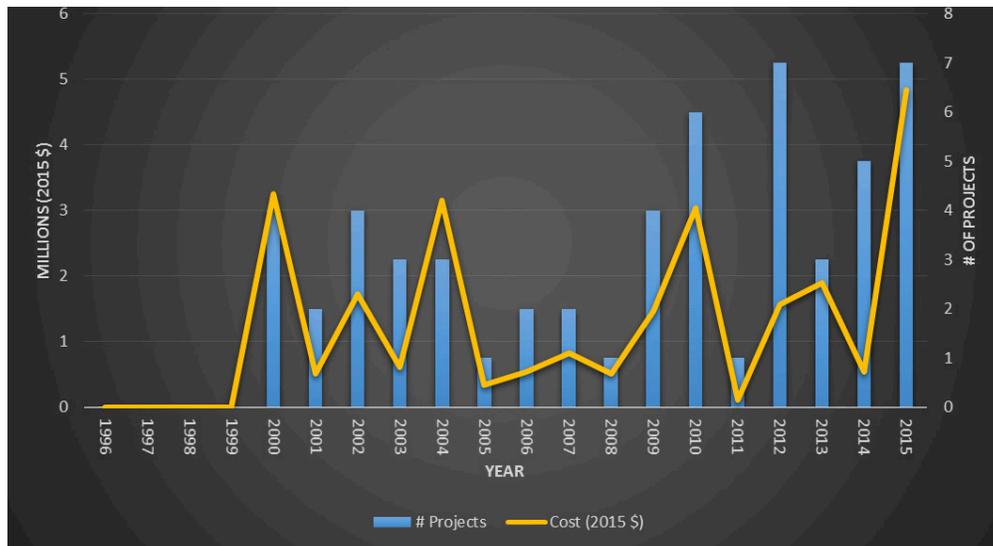


Figure 10-6: Historical Nonmotorized Project Funding

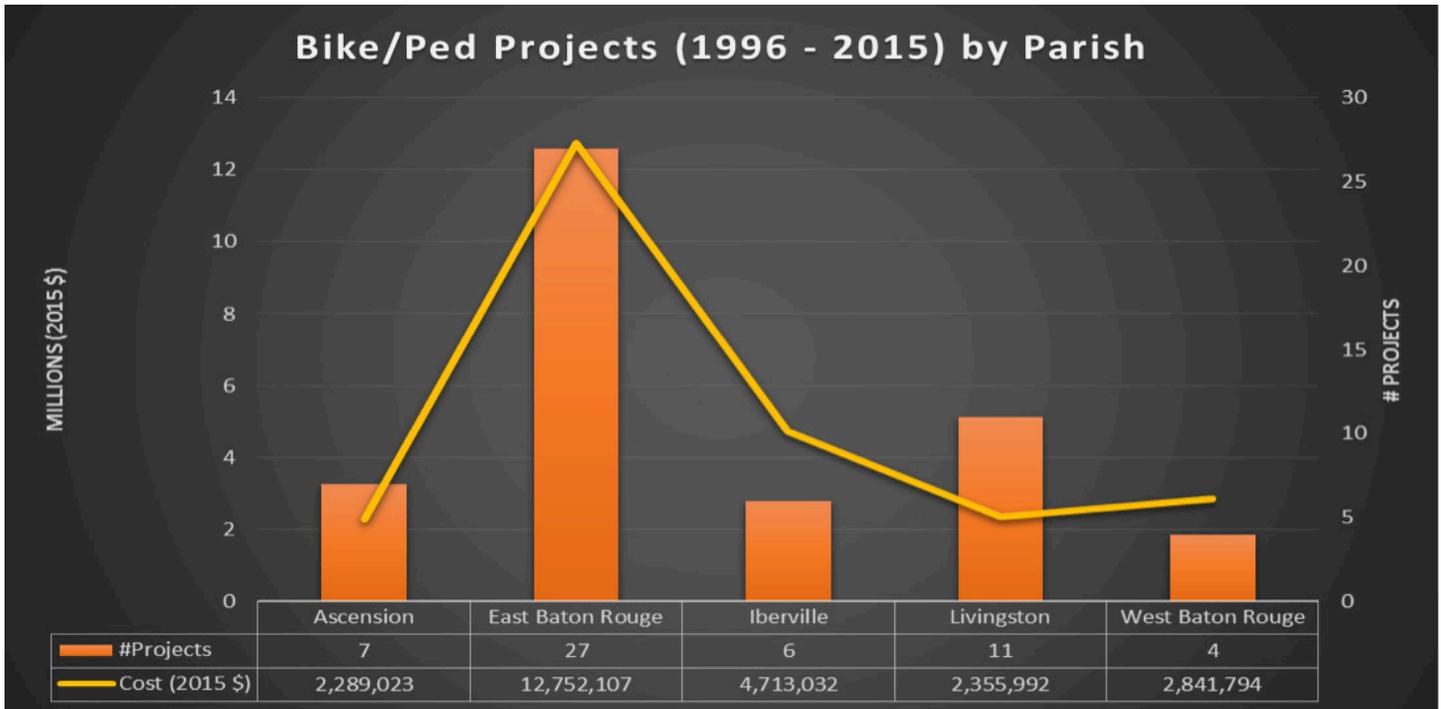


Figure 10-7: Historical Nonmotorized Project Funding by Parish

Across the region, funding for nonmotorized facilities began increasing since 2010 after the LA DOTD adopted their complete streets policy. Funding projections assume an upward trend for bicycle and pedestrian infrastructure. By 2042 the amount spent on nonmotorized facilities in the region is projected to be \$58,218,795.

Funding Sources for Nonmotorized Facilities

Safe Routes to Public Places Program (SRTPP)

The SRTPPP is part of the overall Highway Safety Improvement Program (HSIP) and falls under the purview of the Louisiana Strategic Highway Safety Plan (SHSP). The vision for the SHSP is to reduce the number of fatalities and collisions throughout the state. To this end, projects eligible for HSIP funds are designed to improve safety for pedestrians and bicyclists on all public roads, both state and local. Funds allocated under this program can cover 100% of project costs, with no local match. Any public agency is eligible to submit a project application. All applicants may apply to fund development and implementation of projects that facilitate safety improvements for pedestrians, bicyclists, and transit users of all ages and abilities. Eligible projects include improving access to schools, libraries, government buildings, transit facilities, public parks, and other public places.

Transportation Alternatives Program (TAP)

The Transportation Alternatives Program is a federal program that is administered through the LADOTD. The objective is to develop a more balanced transportation system, which takes account of the needs of pedestrians, bicyclists, and motorists. Eligible projects include bicycle and pedestrian facilities, safe routes for non-drivers, conversion of abandoned railway corridors to trails, scenic turnouts, overlooks and viewing areas, archaeological activities, storm water mitigation, wildlife management, and community relation activities. Examples of eligible projects include outdoor advertising management, historic preservation, rehabilitation of historic transportation facilities, and vegetation management. Funding requirements stipulate that the recipient will be responsible for securing a 20% cost share for the project.

Surface Transportation Block Grant (STBG)

Under the jurisdiction of The Fixing Americas Transportation Act (Fast) Act, the Surface Transportation Program has been rolled into the Surface Transportation Block Grant (STBG) Program. These funds are made available to each state as a portion of the STBG. Each state's STBG allocation is pre- calculated based upon a pre-determined percentage. As a sub- allocation of the STBG program, urbanized areas with populations that exceed 200, 000 receive a portion of this funding generally based on their population. Bicycle and pedestrian improvement projects are eligible under this funding program.

Congestion Mitigation and Air Quality Program (CMAQ)

The FAST Act continued the CMAQ program to provide funding sources to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. The objective with this program is to reduce traffic congestion and thus improve air quality in areas not in compliance with National Ambient Air Quality (NAAQ) standards or that are in maintenance status under the standards. Project applicants are required to secure 20% of the local funding to match an 80% federal share.