

Downtown Greenway

Baton Rouge, Louisiana

Greening America's Capitals
Environmental Protection Agency

Spackman Mossop Michaels Tipton Associates

Greening America's Capitals

Greening America's Capitals is a U.S. Environmental Protection Agency (EPA) program to help state capitals develop an implementable vision of distinctive, environmentally friendly neighborhoods that incorporate innovative green infrastructure strategies. In collaboration with the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (DOT) through the Partnership for Sustainable Communities, EPA provides design assistance to help support sustainable communities that protect the environment, economy, and public health and to inspire state leaders to expand this work elsewhere. Greening America's Capitals will help communities consider ways to incorporate sustainable design strategies into their planning and development to create and enhance interesting, distinctive neighborhoods that have multiple social, economic, and environmental benefits.

Baton Rouge was chosen in 2012 as one of five state capital cities to receive this assistance, along with Des Moines, Iowa; Frankfort, Kentucky; Helena, Montana; and Indianapolis, Indiana.

More information is available at http://www.epa.gov/smartgrowth/greencapitals.htm.

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Executive Summary

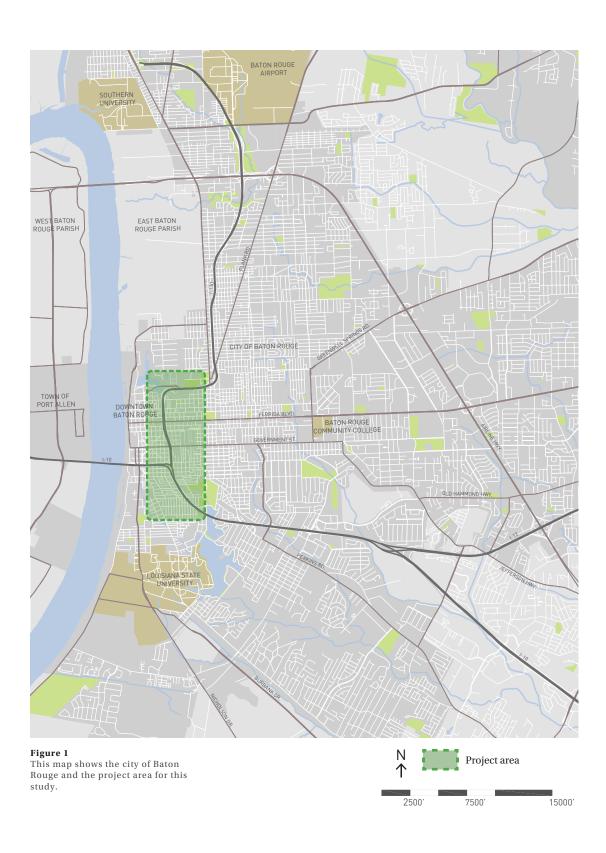
The city of Baton Rouge applied for and received assistance from the Environmental Protection Agency's Greening America's Capitals Program to help the city envision a new Downtown Greenway. The city had completed some initial planning on the general alignment of the greenway. The goal of the Greening America's Capitals project was to build off of the planning work already completed, and develop design options for five sites, selected by city staff, along the greenway's route through downtown. This project is part of the city's larger strategy for greening downtown Baton Rouge as described by the Plan Baton Rouge.

Although the city of Baton Rouge had already selected the general route of the greenway, it proposed changes to the route during the assessment phase, in addition to evaluating the conditions of the five selected sites. In March 2013, a three-day design workshop was held and attended by federal, state, and city staff; property owners; residents; elected officials; and neighborhood groups. During the workshop, the project team developed a set of design options for the five sites along the greenway that could help city staff fulfill residents' desires for a safe and attractive greenway.

The city would like the greenway to accommodate bicyclists in existing streets and open spaces, as well as to create attractive streets and public spaces that reflect Baton Rouge's sense of place. The design options for the five sites also provide strategies that can improve environmental performance by increasing tree canopy, capturing and holding stormwater, and improving natural habitat. More extensive tree canopy can shade and cool streets and adjacent properties, intercept rainfall and reduce stormwater runoff, and improve air quality. Planted swales and rain gardens can be designed to capture and hold stormwater runoff from streets, reducing its impact on the drainage system. Planting trees and shrubs can increase habitat for birds and insects in downtown areas.

The Downtown Greenway project is an important step forward in helping the city of Baton Rouge make decisions about the greenway's planning. It lays the foundation for the development of the greenway to move forward into design and implementation and demonstrates strategies for the city to encourage walking and biking.

For ongoing information about the Downtown Greenway visit: www.facebook.com/batonrougedowntowngreenway.



Introduction

The city of Baton Rouge commissioned a Feasibility and Cost Study for a Downtown Greenway, which was completed in March 2010. This study looked at a greenway extending from City Park in the south through the downtown and connecting to Memorial Park in the northeast. The Downtown Greenway was placed within a framework of existing and future greenway links that would connect all of downtown and the surrounding neighborhoods. As a result of this study, the city has been able to secure over \$3 million in federal and state funding for implementation. In 2012 Baton Rouge was selected by the EPA as one of five cities to receive technical assistance through the Greening America's Capital's program to support the development of the Downtown Greenway's planning.

Through this program, the greenway's planning has been developed by studying five sites along the proposed route. While the general route of the greenway was already established, the preliminary analysis phase evaluated some alternative routes for sections of the greenway and also explored design alternatives. The greenway will connect seven existing parks in the area and will serve a population of 40,000 people that live within a mile of the project. The greenway route was selected so that it runs along the public right of way in order to avoid the cost of acquiring land or negotiating easements.

The aim of the Downtown Greenway is to develop and support a new active transportation system for Baton Rouge that includes a green network for pedestrians and cyclists. This network would reconnect surrounding neighborhoods, connect neighborhoods to parks, encourage new investment and redevelopment, and promote healthier lifestyles. Another major element of the project is the incorporation of green infrastructure strategies. Green infrastructure refers to the creation of multifunctional networks that work with natural elements and processes to address environmental issues. The main components of this approach include stormwater management, climate adaptation, heat island mitigation, increased biodiversity, enhanced air quality, sustainable energy production, clean water and healthy soils, as well as the more anthropocentric functions of increased quality of life through recreation and added shade and shelter in and around towns and cities.

This report describes the process of community and stakeholder consultation, the process of developing specific design strategies for the project sites, and the concluding findings of these processes.

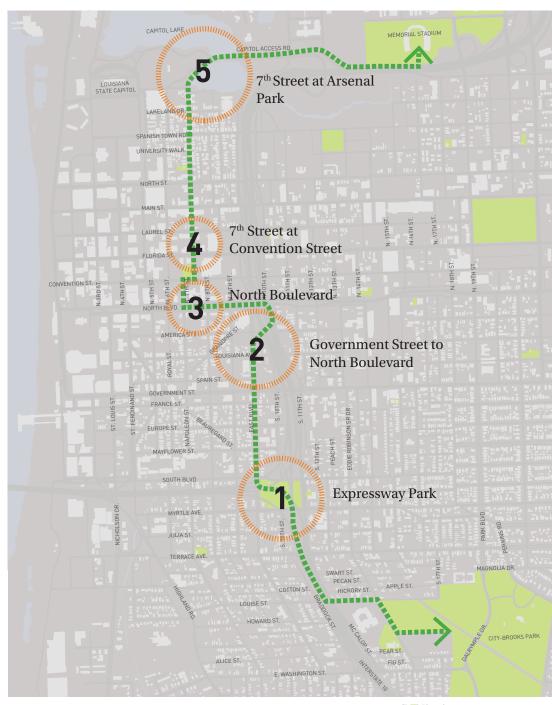


Figure 2
The proposed greenway and the five sites for which the project team created design options.



The Workshop



Figure 3Stakeholders work with project team members exploring design options for the sites.



Figure 4
The team presents the project at the Expressway
Park workshop to neighborhood residents and the
Recreation and Park Commission for the Parish of
East Baton Rouge (BREC) staff.

A three-day design workshop was conducted from March 5 to 7, 2013 in downtown Baton Rouge. The opening session of the workshop was a general introduction and overview of the project showing a range of alternative proposals. Two smaller, focused discussions were held; the first, bringing together bicycling, public transit, and green streets interests, evaluated alternative transportation options, and the second, involving city and state agency engineers and administrators, examined issues for implementation and management of the project.

The workshop participants expressed a strong desire to:

- Use the greenway as a catalyst to renew Expressway Park and other green spaces.
- Make the streets more attractive and safer for all pedestrians and cyclists.
- Develop a scheme that could be implemented in the short-term.
- Increase the tree canopy downtown.
- Preserve on-street parking where possible.
- Use green infrastructure strategies for stormwater management and energy conservation.
- Find ways to enliven space under and around the interstate.

Site Analysis

Downtown Baton Rouge has a diverse collection of historic residential neighborhoods with a variety of housing types and commercial districts. An interstate highway, mostly elevated, cuts through the historic network of surface streets. Along the western edge of downtown are the Mississippi River and the core business, entertainment, and retail areas near the river. North of the downtown area is the state capitol, with a series of connected parks surrounding a large lake. Louisiana State University and several residential neighborhoods are south of downtown.

The sites for this study fall along a route through the downtown, connecting the residential neighborhoods along the eastern edge of downtown to the greenway network. The greenway runs through an existing network of public and private transit. In the site analysis phase, opportunities to connect and strengthen these networks were explored as can be seen in Figure 6. Along the length of the greenway existing and proposed stops for city buses and shuttles are identified as well as locations for commuter parking and the creation of bicycle stations. These bicycle stations would include bike parking as well as bike repair and air facilities.

Site 1: Expressway Park

Expressway Park is a 40-acre park located underneath the exchange where I-10 and I-110 meet. The park is used for sporting events and has a playground and an indoor community center with sports programs and other activities. The challenges for this site are the multiple interstate access ramps and the narrow right of way along the interstate itself. Cars move fast as they approach the ramps, and traffic is heavy during peak hours.

Site 2: Government Street to North Boulevard

East Boulevard connects Government Street to North Boulevard through a mostly residential neighborhood that is home to churches and other institutions. East Boulevard's median is approximately 15' wide, and used to have a rail line running within it. The traffic along the street is light, and the topography is gently sloping. Crossings along the minor side streets do not cause any problems. In the north part of the site, East Boulevard ends at a church parking lot, and the traffic veers to the right past the Beauregard Community Garden and under the elevated interstate. Under the interstate are seldom used parking lots and two surface streets cut off by the interstate. The intersection at North Boulevard has two sets of traffic signals. There are opportunities for reconnecting the neighborhoods through the greenway project, as well as adding new uses underneath the interstate for better use as a park as well as a transit hub.

Site 3: North Boulevard

North Boulevard is one of the city's iconic boulevards, with a collection of majestic live oaks and a 70-foot-wide median. North Boulevard is the gateway to Town Square in downtown Baton Rouge. The trees along the boulevard provide a memorable image for the street as well as shade for walkers and cyclists. They are also a constraint, as the root zone must be protected during any construction.

Site 4: North 7th Street at Convention Street

Along this portion, North 7th Street is a two-way street with parking along one side. The buildings are built up to the right of way in some places, restricting the options to move the street curbs outward. Multiple driveways entering the street from surface parking lots is dangerous and uncomfortable for pedestrians and cyclists because cars are crossing the sidewalks at several points. The traffic along North 7th Street is light, and cars drive at slow to medium speeds.

Site 5: North 7th Street at Arsenal Park

North 7^{th} Street changes into a small, one-way street at North Street, often with no sidewalks on one side of the street. Cars often park partially in the street and partially along the curb, which slows traffic. Multiple driveways enter the street. The narrow street resembles a small lane with slow traffic. This portion of North 7^{th} Street mostly carries local traffic coming to and from the residences in the neighborhood.

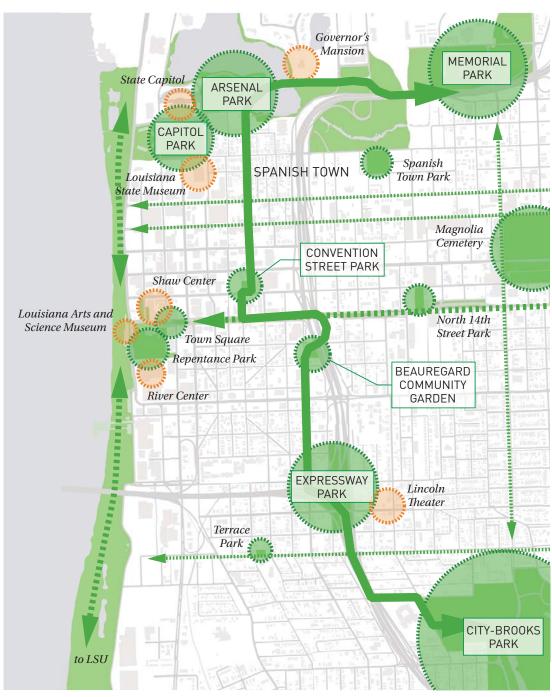
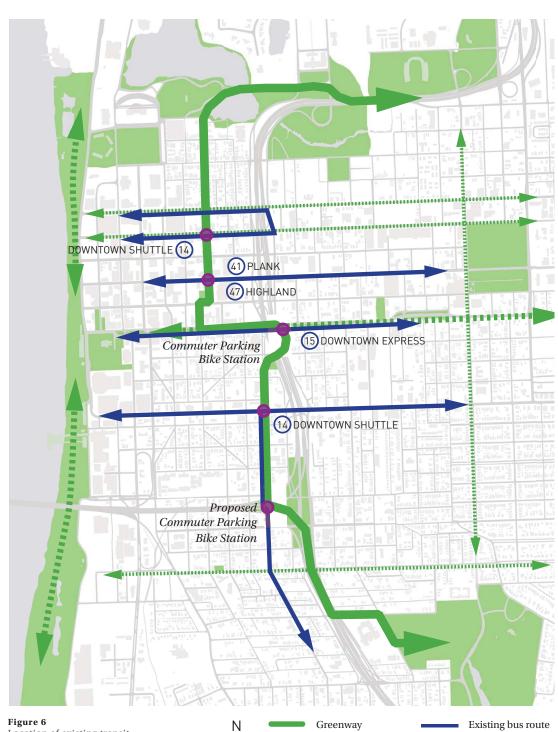


Figure 5
Location of main downtown institutions and attractions and how the greenway could connect them.





(x)

Existing bike lane

1

Bus route number Potential new bus

Site One: Expressway Park

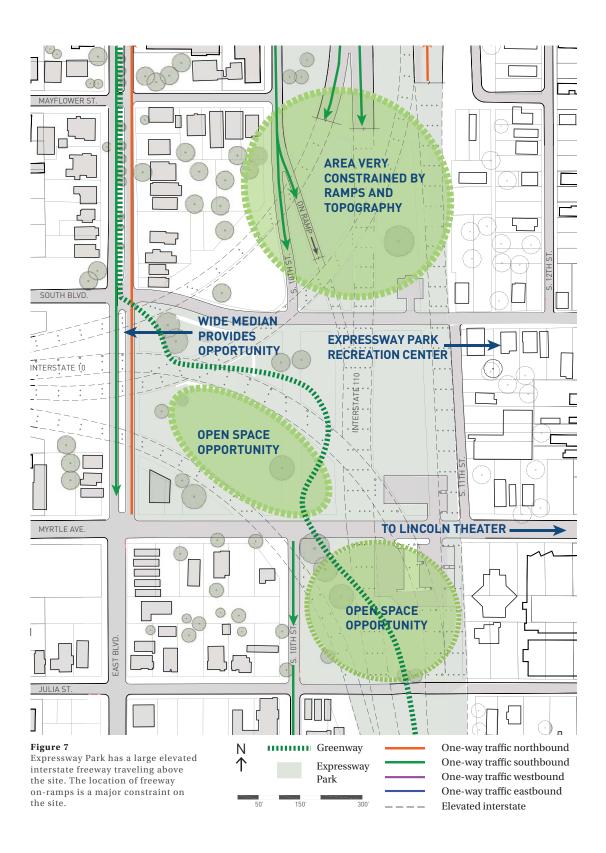




Figure 8
Interstate structures dominate most of the park, with some open space between the supports.

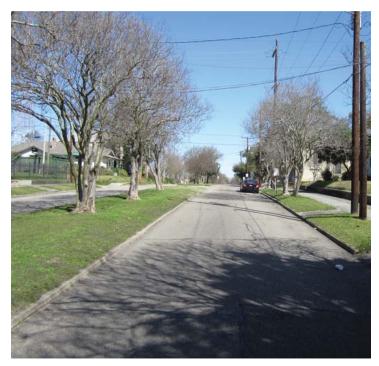


Figure 9
East Boulevard with its central median.

Opportunites and Constraints

As of March 2013, the Recreation and Park Commission for the Parish of East Baton Rouge (BREC) was in the process of redesigning Expressway Park. The park is currently mainly grass with a small playground. A BREC community center is on the east side of the park on South 11th Street. BREC staff and neighborhood residents who attended the workshop wanted more recreational opportunities in the park and better connections between the neighborhoods on either side of the freeway interchange. The site analysis identified how the greenway could connect through the park and help inform the redesign. The greenway alignment would stay in the southern portion of the park because there are too many freeway ramps and the topography is very hilly in the northern section. The southern portion of the park has more open spaces between the freeway structures that could be used for recreational activities and through which the greenway could weave. Outside of the park, East Boulevard has a central landscaped median, which could be used for the greenway route.

Site Two: Government Street to North Boulevard

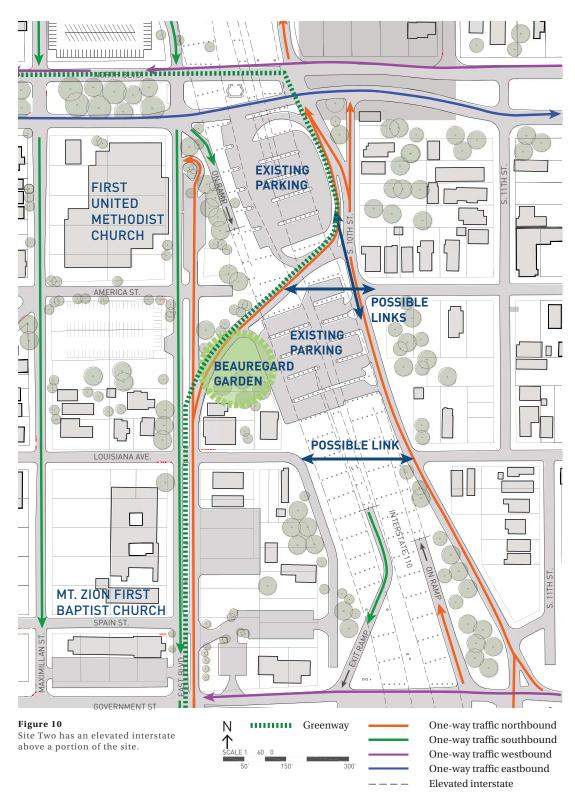




Figure 11
Looking north on East Boulevard, the old streetcar tracks are still evident. The trees planted in the median do not appear to be maturing, likely because the rail bed was not removed before the trees were planted.



Figure 12
From Louisiana Avenue looking east,
The greenway would continue under
the interstate.

Opportunities and Constraints

North of Government Street, the central median continues on East Boulevard. The existing trees appear stunted, perhaps because the old streetcar tracks and rail bed were not removed before the trees were planted. Redesigning the median to accommodate the greenway would be an opportunity to replant it with new trees. The junction of East Boulevard, North Boulevard and the interstate creates a complex site of interstate pylons, parking lots, and one-way streets. The area under the interstate is also dark and uncomfortable. The existing uses in the surrounding area (active churches, a community garden, and adjacent residential areas) offer possibilities for enlivening the space with new uses. There is an opportunity to link neighborhoods to the east and west under the interstate by improving lighting, and creating bicycle and pedestrian paths.

Site Three: North Boulevard

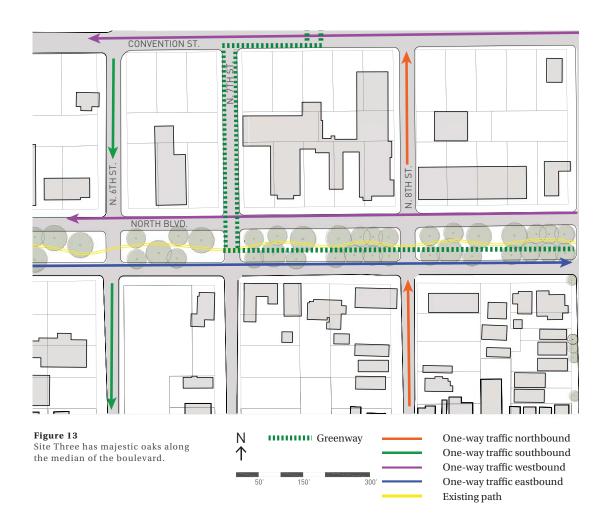




Figure 14
The median on North Boulevard has beautiful oaks and a brick pathway.



Figure 15
Town Square, which opened in 2012 at the downtown end of North Boulevard, is a major destination and gateway to other downtown attractions.

Opportunities and Constraints

North Boulevard includes a wide central median with beautiful mature oak trees and a brick pathway. The live oaks will be an asset to the greenway, but the city should take care to protect their root zones during construction. The greenway will provide an opportunity to build on the boulevard's existing character. While the median has lots of trees, the sidewalks along the outer edges of the boulevard could be planted with an outer row of trees that would shade the sidewalks. Due to the large median, the intersection between North Boulevard and North 7th Street should be designed in such a way that traffic crossing the wide median is aware of bicyclists and pedestrians travelling along the greenway.

Site Four: North 7th Street at Convention Street





Figure 17 This is the view of Convention Street Park from the intersection of Convention Street and North $7^{\rm th}$ Street.



Figure 18
This is the view of North 7th Street looking north from Laurel Street showing how close the buildings are to the sidewalk.

Opportunities and Constraints

BREC opened the Convention Street Park in December 2012. The park will provide new opportunities for recreation and a destination point along the Downtown Greenway. West of the park is a site that could be developed into a new residential development, which would increase the need for open space in the area. The vacant U. S. Postal Service site across North 7th Street also offers a potential future commercial development opportunity.

The street has one travel lane in each direction and on-street parking along the northbound lane. Many of the buildings along the street are built up to the edge of the street, restricting the ability to widen the street or sidewalk to accommodate the greenway.

Site Five: North 7th Street at Arsenal Park

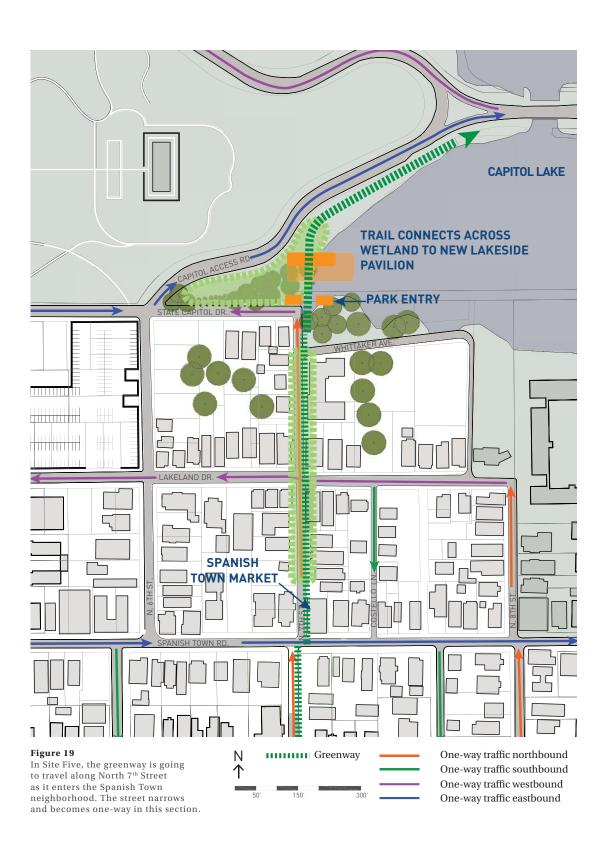




Figure 20
This is the view looking north of North 7th Street showing the residential character of the Spanish Town neighborhood.



Figure 21
This is the view of North 7th Street at its narrowest width. The Spanish Town Market is on the right.

Opportunities and Constraints

The northern end of North 7^{th} Street changes in character as the road becomes narrower and switches from two-way to one-way as it passes through the historic Spanish Town neighborhood. The neighborhood is primarily residential, but it has a small grocery store, the Spanish Town Market, at Spanish Town Road and North 7^{th} Street. The grocery store is already a neighborhood gathering place and could be a convenient stop along the greenway for cyclists and pedestrians. Where the greenway crosses into Arsenal Park at State Capitol Drive, there is currently no sense of an entry.

Design Options

The design team took into account the desire for parking and automobile access with the need to create a safe and legible greenway for users of all abilities and ages. There was a strong desire in the community for more vegetation and street trees, which often conflicted with the other needs such as parking. The design team worked with the community to integrate the community's preferences with the requirement to create a safe and environmentally responsible greenway system.

On the following pages design options are shown for each of the five sites. Based on the initial project brief and stakeholder discussions, a range of design alternatives were developed for each of the five sites. These included, for example, the possible options for the location of the greenway: in the driving or parking lanes of the street, in the median, or on the sidewalk. These alternatives were presented during community workshops and vigorously discussed. The team reviewed the workshop findings and, on the basis of clear community and stakeholder preference, selected the preferred options which are illustrated here.

Site One: Expressway Park





Figure 23: This image shows how the greenway might look as it passes through Expressway Park.



Figure 24: A view of Expressway Park's current condition.

Neighborhood residents wanted more recreational opportunities and better connections across the park. The layout developed by the design team is consistent with initial plans that the recreation department unveiled during the Greening America's Capitals workshop. The greenway's route through the park could serve as the "backbone" for the new park by connecting the various uses within the park, as well as connecting both sides of the park. This image shows the greenway path and trees defining a new open lawn area.

Site Two: Government Street to North Boulevard

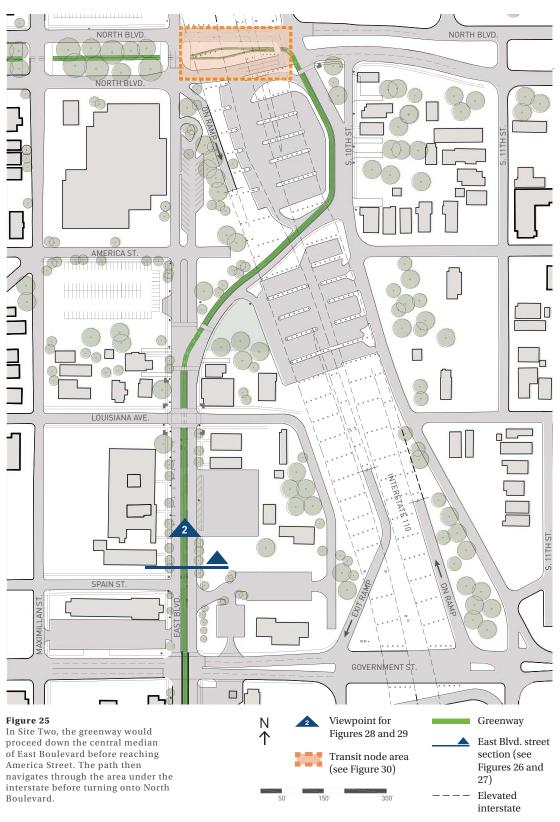




Figure 26: This image shows the design option for the street section through East Boulevard.



Figure 27: This image shows the existing street section through East Boulevard.

This design option maintains the location of the outside curb lane on East Boulevard, but would widen the central median to accommodate the greenway. Each roadway maintains one travel lane and one lane of on-street parking. The parking lane will be reduced in width by three feet in order to accomplish this. Curb bump-outs would be located at the street corners to allow more space for trees and to accommodate rain gardens that would use perennial plantings to filter, treat, and infiltrate stormwater runoff. The bump-outs also make the streets more pedestrian-friendly because they shorten the crossing distance.



Figure 28: This image shows what the greenway would look like going down the median of East Boulevard.



Figure 29: This image shows the current condition of East Boulevard.

This design option for the new East Boulevard creates a more attractive street. This option responds to community desires to preserve on-street parking as much as possible while also providing more trees and greenery. The stunted trees in the median would be removed and replaced with new trees planted to the sides of the greenway, which would allow the city to investigate further why trees have not done well in this location. More trees could be planted along the sides of the street as well, but the species selected would need to be short enough not to interfere with the overhead power lines.

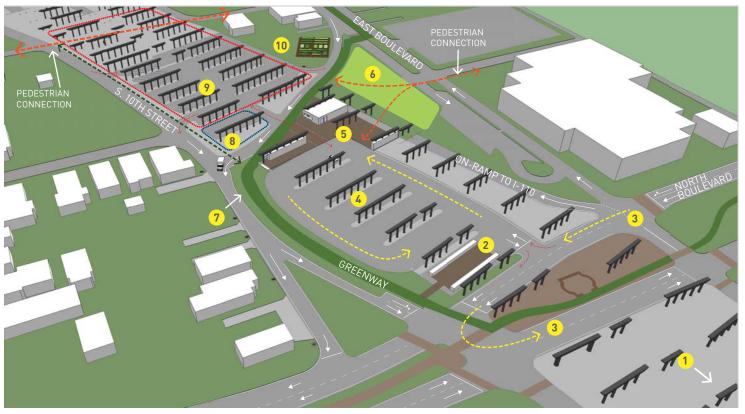
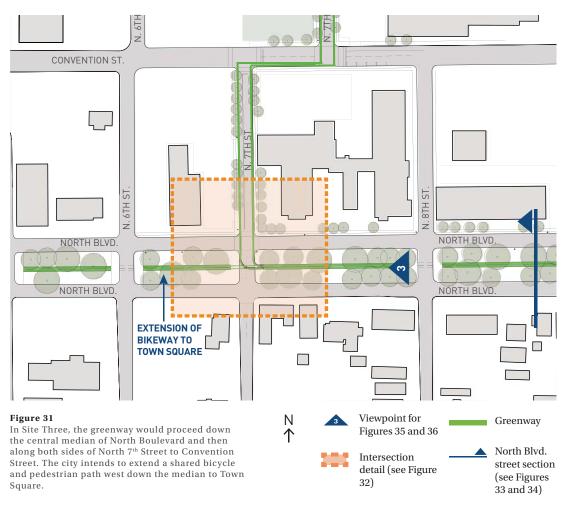


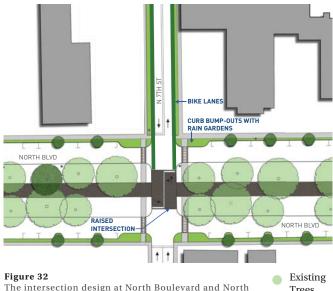
Figure 30: This design concept for a transit node under the interstate at North Boulevard would make it easier and more appealing to use a variety of transportation modes.

- Potential area for street/ BMX cyclist festival or skatepark
- 2 Bike stations and lockers
- 3 Shuttle bus to and from downtown
- 4 Commuter parking lot 1
- Bike cafe and market
- 6 Future open space for cafe or possible expansion of Beauregard Community Garden
- 7 New median replaces traffic lane to create greenway buffer
- B Dog park
- 9 Commuter parking lot 2
- 10 Beauregard Community Garden

Bringing the greenway under the freeway from East Boulevard to connect with North Boulevard creates the opportunity to link the neighborhoods on either side of the freeway and create a transportation node with additional uses. Existing commuter lots could be upgraded; bus and shuttle stops incorporated; and bike parking, lockers, and repair stations added. A small commercial space could be built for a cafe or market to serve commuters and neighborhood residents. Other potential uses on the site, such as a dog park, a skate park, or the expansion of the existing community garden, could bring people to the area.

Site Three: North Boulevard





Trees 7th Street uses traffic calming strategies. New

Figure 32 illustrates a detail of redesigned intersections along North Boulevard where the greenway crosses a north-south street. Raised intersections, where the street surface rises to the level of the curb, link the central median. These intersections slow traffic and make crossing the streets easier for pedestrians and bicyclists. Curb bump-outs with rain gardens are located at the street corners. The rain gardens use perennial plants to filter, treat, and infiltrate stormwater runoff from buildings and surrounding areas.



Figure 33: This image shows the design option for the street section through North Boulevard.



Figure 34: This image shows the existing street section through North Boulevard.

The existing boulevard has enough room to add a shared pedestrian and bikeway in the middle of the central median. The design maintains two travel lanes and a lane of on-street parking on each side of the road.



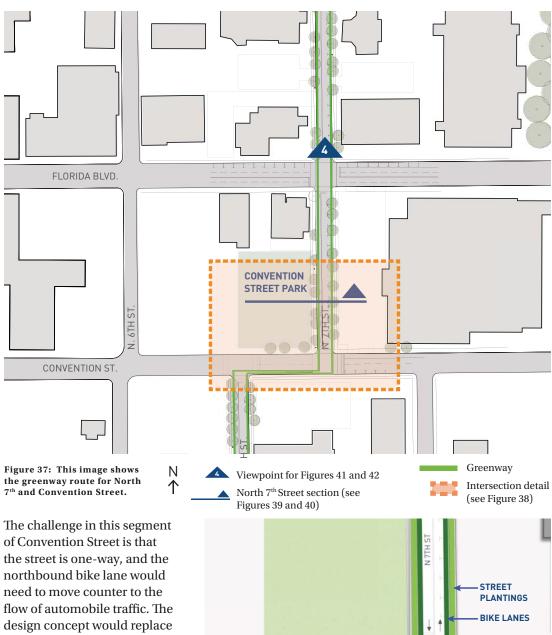
Figure 35: This image shows a wider, straight path going down the median of North Boulevard.



Figure 36: The existing condition of the path down the median of North Boulevard is narrow and meandering.

The design option along North Boulevard takes advantage of the magnificent oak avenue and brings more activity to the median. Workshop participants agreed that the oaks along North Boulevard are extremely important to the identity of downtown and should not be altered. The existing meandering brick path would be replaced with a more durable material such as permeable asphalt. The path would also be straightened, since many workshop participants and city staff preferred a more formal character to the greenway in the median.

Site Four: North 7th Street at Convention Street



CONVENTION ST

The challenge in this segment of Convention Street is that the street is one-way, and the northbound bike lane would need to move counter to the flow of automobile traffic. The design concept would replace the existing parking lane with a two-way bike lane. At the intersection of Convention Street and North 7th Street, an on-demand traffic signal would be installed to allow northbound cyclists to make a left turn. The intersection would also be raised to make it safer for pedestrians and cyclists.

Figure 38: The design concept for the intersection of North 7th Street and Convention Street shows how the bikeway would run on the south side of Convention Street where there is currently on-street parking.

RAISED INTERSECTION

NEW ON-DEMAND

SIGNALIZED



Figure 39: This image shows the design option for the street section through North $7^{\rm th}$ Street.



Figure 40: This image shows the existing street section through North $7^{\rm th}$ Street.

The design concept for North 7^{th} Street at Convention Street Park reconfigures the existing roadway to replace the parking lane on one side of the street with bike lanes on both sides. Traffic lanes are narrowed by a foot which is still a sufficient size for a city street. There is already an adequate supply of on- and off-street parking spaces in the immediate area that will minimize any loss of spaces on the street.



Figure 41: This image shows how the greenway might look on this part of North 7th Street.



Figure 42: This photo shows the existing condition on this portion of North $7^{\rm th}$ Street.

In addition to having one-way bike lanes on each side of North 7^{th} Street, the design option for this area includes rain gardens along the sides of the road to collect, filter, and infiltrate runoff. Street trees are also added to better shade the sidewalk and bike lanes and intercept rainfall.

Site Five: North 7th Street at Arsenal Park





Figure 44: Design concept street section through North 7^{th} Street in Spanish Town.



Figure 45: Existing street section through North 7th Street in Spanish Town.

The right of way on North $7^{\rm th}$ Street north of Spanish Town Road is very narrow, allowing the creation of a shared street where bicyclists and automobiles would share the road, and the speed limit would be low. The existing sidewalk would remain intact. On-street parking spaces would be delineated. The pink flamingos are a symbol of the Spanish Town neighborhood and could be painted on the street.



Figure 46: This image shows how the greenway could enter the park at the terminus of North $7^{\rm th}$ Street.



Figure 47: This photo shows the existing conditions where North $7^{\rm th}$ Street ends at Arsenal Park.

Where the greenway would cross into Arsenal Park from North 7^{th} Street, the design concept would emphasize the park entry. Wetland gardens, and the bikeway can redefine the lake's edge. Viewing platforms, and additional plantings could improve the look of the area and provide a pleasant respite for greenway users.

Ideas for Implementation

The city is exploring a range of ideas for how to implement this project, which will include funding from a number of sources. The city requested assistance from the EPA's Greening America's Capitals program to consolidate the planning process for the downtown greenway. Through the EPA-sponsored workshop, a consensus emerged for the proposed route for the greenway downtown and the best strategies for incorporating bike lanes and shared bike and pedestrian paths into existing streets and public spaces. The completion of a public input process through this EPA grant will allow the city to begin looking for funding to implement specific projects.

The city of Baton Rouge has already secured funds to implement an initial phase of the greenway project near Expressway Park from the Federal Highway Administration under the Transportation Enhancements Program and Recreational Trails Program and the Transportation, Community, and System Preservation Program.

The city could use this report to help determine priorities and focus areas for how the greenway is configured. While the project specifically addresses only five sites, it presents ideas that can be used for the section of the greenway route from City Park to Arsenal Park. At the workshop, city staff noted that they want to begin detailed design work for the initial phase of the greenway in late 2013.

The detailed design and documentation of this phase can also be used as the focus for a discussion and development of a standard set of design elements for green streets, including graphics for signage, materials, lighting, furniture, planting, and street profiles.

The strong partnership between the Downtown Development District and the Office of the Mayor-President and the city's Department of Public Works will continue to be crucial as the greenway project is implemented.

The Expressway Park section of the greenway runs through land under BREC management, a state agency funded by designated parish taxes and facilities income. BREC is currently exploring options to redevelop Expressway Park and it is anticipated that the development of the greenway through the park will be funded as a part of this process.

Potential Funding Sources

The city has strategic plans for the future expansion beyond the initial phase of the greenway and its connection to other bicycle and pedestrian links and other open spaces. This infrastructure is likely to be funded through federal programs under MAP-21, which restructured the Federal Highway Administration's core formula funding programs. One of the new formula programs, Transportation Alternatives, will encompass most activities formerly funded under the Transportation Enhancements; Recreational Trails; Transportation, Community and System Preservation; and Safe Routes to School programs, which funded the intial phase of the greenway.

Louisiana's Office of Community Development Community Development Block Grants could fund street and drainage improvements, and infrastructure improvements to particular businesses such as the possible concession under the interstate.

The Louisiana Urban Forestry Council's 'Building Green Cities' Program could provide funding for the tree-planting component of the greenway initiative, as could the local non-profit Baton Rouge Green, which is heavily involved in local tree-planting efforts.

The public art components of the greenway project could be funded through the National Endowment for the Arts' Grants for Arts Projects, which support projects that improve quality of life by fostering community interaction, involving community-based partnerships, helping underserved communities, and promoting economic and cultural vitality. The city can show that the Downtown Greenway could accomplish all of these goals. Public art projects could also be funded through the Louisiana Division of the Arts Decentralized Arts Funding Program.

The Blue Cross Blue Shield of Louisiana Foundation's Challenge Grants, which fund environmental change initiatives that support healthier communities and active living, might also be a funding source for the greenway project.

