

*City of Charleston*

DESIGN DIVISION

# REPORT 06

THE LOW BATTERY



SUMMER 2017

# THE LOW BATTERY

Summer 2017

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## WELCOME

This report provides general ideas and design concepts for the Low Battery, one of Charleston's favorite public spaces. The project sees the planned repair and raising of the seawall as a unique opportunity to provide a better waterfront public space.

## CITY OF CHARLESTON

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## EXECUTIVE SUMMARY

### Reclaiming the Waterfront

The Battery is considered by most Charlestonians to be the city's most iconic historic feature (it was voted best public space by Charleston City Paper readers in 2016 and 2017). The portion of the Battery along Murray Boulevard from White Point Garden to the US Coast Guard Station is called the "Low Battery," because it is literally lower in elevation than its East Bay Street counterpart. Aging infrastructure and parked automobiles are both highly visible along the Low Battery; the streetscape is outdated and uncomfortable.

Flooding generated by storms and King Tides have caused significant damage to private and public property in this area. To deal with the problem, the City of Charleston will undertake an extensive reconstruction project to replace and raise the seawall by 2.5 feet. The new seawall will be engineered and built to last another century. In other words, the seawall needs to be rebuilt under any design scenario.

This presents a once-in-a-lifetime opportunity to create a signature public space worthy of Charleston's character and history while also strengthening the city against regular flooding and imminent sea level rise. This site has the potential to become a linear park where residents and visitors can better experience the water's edge.

The Design Division proposes to rethink the design of the overall public space. In doing so we've used stakeholder input and technical data to suggest design alternatives for the Low Battery and Murray Boulevard as a complete site. This report provides site observations, examples of urban waterfronts in other cities, an explanation of the seawall design problem, and four possible solutions. The preferred design alternatives are to raise the waterfront walkway to be like the High Battery and to close Murray Boulevard along White Point Garden to automobile travel, making the entire area a true waterfront park as it was originally designed.

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# SITE CONTEXT & OBSERVATIONS

## A Series of Important Edges

The southern waterfront where the Low Battery is located is considered as part of a larger system, one composed of a connected pathway and various edge conditions. The Battery can be thought of as having three segments as described below.



### SEGMENT A

#### Residential Edge

This area extends from Tradd Street to King Street. It is approximately 3/4 of a mile and composed of large, beautiful homes facing the waterfront.

### SEGMENT B

#### Garden Edge

The area along Low Battery that borders White Point Garden to the south. This area of Low Battery should look and feel like an extension of the park to the water.

#### High Battery

Located closer to a commercial area, this is the busiest portion of the Battery overall. It is raised above the roadway and has views of Fort Sumter.



Flooding often occurs during storms, causing damage to public and private property.

## Needs Improvement

Site photographs of existing conditions show an urban waterfront in need of repair and improvement. Though people love and use the Low Battery, it is not sufficiently designed to accommodate human needs and lacks basic features for pedestrian comfort and safety.



Marker showing planned wall at shoulder height on average person. (Not family or wheelchair friendly.)



The water is visible through the wall. The other side is dominated by parking. There is no seating.



This bar shows the view to be obstructed by flood protection measures.



Streetscape along Murray Boulevard has incomplete, unattractive crosswalks and other elements.



Free parking visually dominates the waterfront. Full before 7am and used by commuters over visitors.



Regulated parking (2-hour, except residents) along the residential edge is wide open.

# HISTORY

## From Public Space to Parking Lot

Early photographs on postcards show two starkly different urban places. White Point Gardens was historically surrounded by a wide pedestrian promenade, with seating added to look out onto the water. A “Palmetto Avenue” was created along the waterfront in 1926. The original scheme had no parking because it would be “too ugly.”

### HISTORIC PUBLIC SPACE



### AUTOMOBILE BOULEVARD



## PROJECT GOALS

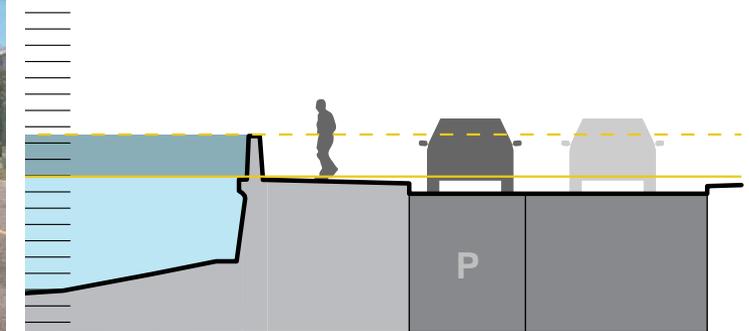
- Reduce frequency of tidal flooding.
- Balance parking needs.
- Create a great public space.

# THE DESIGN PROBLEM

## What type of seawall do we want?

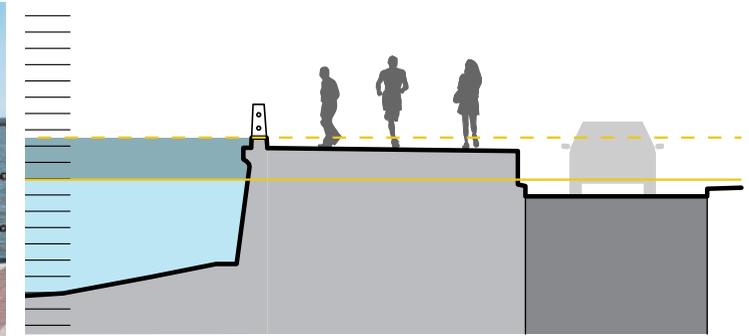
The driving force behind this project, the reason we are using design, is to define and create a desirable waterfront edge. The most straightforward scenario is to simply fill the seawall, but if the walkway is raised we can use columns and railings, which will allow people to enjoy a better view of the water.

### OPTION 1: FILL THE SEAWALL



This approach replaces the existing seawall with one composed of materials that cannot be seen through. This creates a less desirable user experience and prevents children and those in wheelchairs from seeing the water.

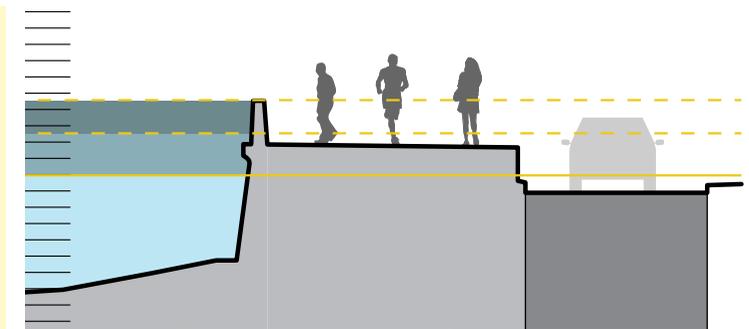
### OPTION 2: RAISE THE WALKWAY



A better approach would be to raise the walkway, so all users can see, experience and engage with the water through columns and railings, not a filled wall. This is done at the Waterfront Park in Beaufort, SC, shown here.

### OPTION 2 BONUS: FUTURE FILL

If the walkway is raised now, it would be possible to raise the seawall even further in the future (by filling in the railings). This would provide more flood protection.



Option 1 rendering above provided by JMT and Liollio.

# EXAMPLES

## Simple “Do’s and Don’ts” from Other Places

Urban waterfronts are being reclaimed and redesigned in numerous cities worldwide. A few examples of waterfront walkways can inform the redesign of Low Battery, resulting in a more successful public space.

### WATERFRONT PARK, BEAUFORT, SC



### ROOSEVELT ISLAND, NEW YORK, NY



**All examples of successful urban waterfront walkways have several things in common:**

- 1 Railings that can be seen through.
- 2 Rows of seating facing the water.
- 3 Park space separating walkway from the street.
- 4 Trees for shade.
- 5 Pavers or other textured surface.

### WATERFRONT PARK, CHARLESTON, SC



### BATTERY PARK, NEW YORK, NY



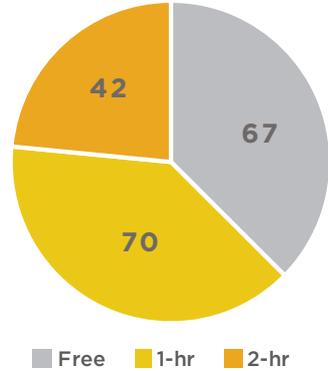
# PARKING STRATEGY

Parking is of critical importance to this site; however, it is not being handled in the best way. The two project areas have different parking needs.

## White Point Garden Area

The area around White Point Garden has a mix of 1- and 2-hour parking spaces with parking meters. There is also some unregulated free parking on South Battery and King Street. Parking is generally full all day and evening, with appropriate rates of turn over.

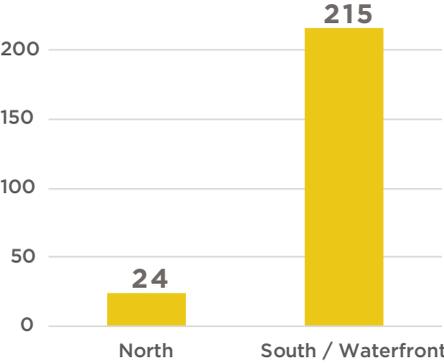
### PARKING AROUND WHITE POINT GARDEN



## Residential Edge

On the Residential Edge, local commuters use the waterfront side (south) to park all day (in some cases even longer) in order to go to work and school. Many use bicycles, skateboards and scooters to travel from Low Battery up the peninsula to their destinations. Most people agree that parking is not the best use of the waterfront. Meanwhile, the north edge is limited to 2-hour parking with the exception of residents with permits. This edge is underused, with large portions of city streets remaining vacant during the day and night. (See photos on Page 05.)

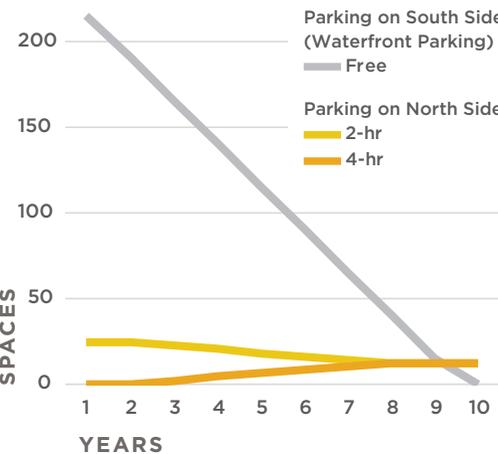
### PARKING SPACES ALONG RESIDENTIAL EDGE



## Parking Strategy

- 1 Add a time limit to parking along the waterfront edge.
- 2 Begin reconstruction of Low Battery wall in a phased approach, replacing the waterfront parking with an expanded walkway.
- 3 Maintain parking time limit along north side of Murray Boulevard in a majority of places. Enhance enforcement if needed.

### RESIDENTIAL EDGE PHASING STRATEGY



OVERVIEW OF DESIGN SOLUTIONS



Strategies	Edges		Strategy Details
	A Residential	B Garden	Results <span style="color: orange;">Positive</span> <span style="color: red;">Negative</span>
	<del>A</del>	<del>B</del>	Do nothing. <span style="color: red;">Not acceptable.</span>
	<del>A</del>	<del>B</del>	Only fill the wall. <span style="color: red;">The public space must be improved along with the wall.</span>
1	<del>A</del>	B	Wall fill. Basic public space improvements. <span style="color: orange;">OK for garden edge. Wall too high along residential edge.</span>
2	A	B	Raise walkway. Remove waterfront parking. <span style="color: orange;">Solution works for entire Low Battery.</span>
	<del>A</del>	<del>B</del>	Raise walkway. Cantilever over water to expand walkway. <span style="color: red;">Very expensive. Need to work with existing right-of-way.</span>
	<del>A</del>	<del>B</del>	Raise walkway. Park in median. <span style="color: red;">Difficult to use and unattractive.</span>
	<del>A</del>	<del>B</del>	Raise walkway. Keep parking. Landscape door zone. <span style="color: red;">Vertical transition too great, results in pathway too small.</span>
	<del>A</del>	<del>B</del>	Raise walkway. Switch waterfront parking and travel lanes. <span style="color: red;">Potentially dangerous between cars and walkway.</span>
3	<del>A</del>	B	Raise walkway. Convert 2 waterfront lanes to park. <span style="color: orange;">Good for garden edge. Not feasible on residential edge.</span>
4	<del>A</del>	B	Raise walkway. Convert entire roadway to park. <span style="color: orange;">Great for garden edge. Not feasible on residential edge.</span>

Primary Strategy  
Raise Walkway & Remove Waterfront Parking

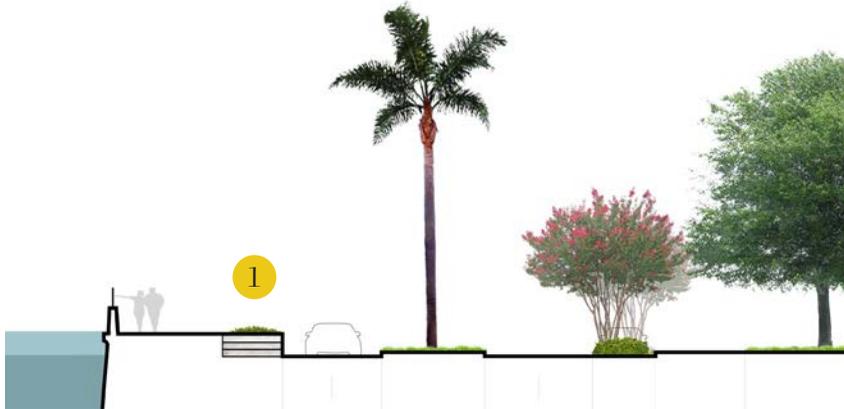
The residential edge is the largest portion of the Low Battery. As shown in the site observation photos, it is now used as a linear parking lot, obstructing waterfront views and sense of place.

The recommendation is to remove the on-street parking along the waterfront, then expand and raise the waterfront walkway. This will be phased over time and accompanied by a larger parking strategy for the area, one that allows for visitor activity and works for the residents of the Charlestowne neighborhood.

- 1 Remove parking to create a wide waterfront walkway.
- 2 Improve crosswalks and other streetscape at major street crossings.
- 3 Add only a few parking spaces per block to the north side to accommodate visitors, perhaps allowing for 4-hour parking.

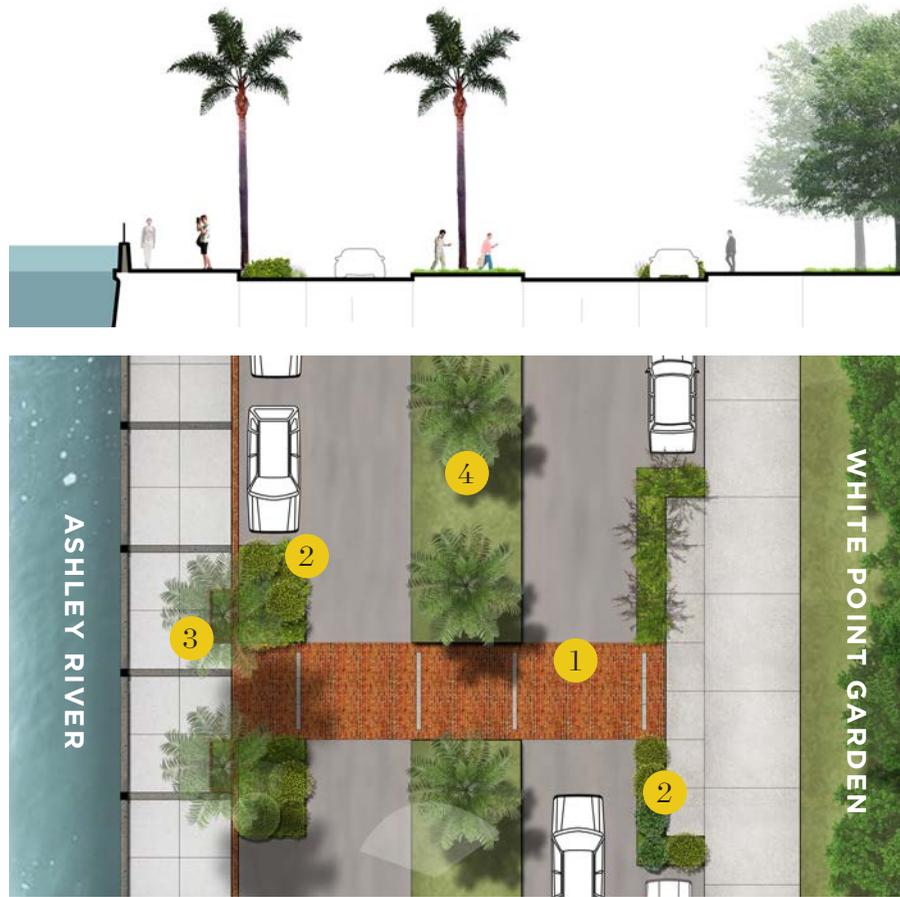


This is the best strategy for the Residential Edge. It would remove parking along the waterfront in phases to create a raised and expanded public space.



## Strategy 1 Minimal Improvements

This is the baseline, or minimum level of improvements needed for a complete street. Textured crosswalks, mid-block crossings, landscaped curb extensions and small park-like seating areas make this streetscape comfortable for pedestrians. It brings White Point Garden and the water's edge closer together, especially by allowing people to cross Murray Boulevard safely and also by slightly reducing the visual and functional dominance of parked cars.



## Strategy 1 Minimal Improvements

### Previous Page

- 1 Textured crosswalk with a pedestrian refuge island in the median.
- 2 Landscaped curb extensions (also called “bulb-outs”) at crossing areas decrease the pedestrian crossing distance and provide small park-like seating areas.
- 3 Enhancements to the walkway itself are recommended, which may include regular bands of pavers and palmetto trees.
- 4 Remove or reduce overgrown oleander bushes.
- 5 Shared lane arrows and signage for safe bicycling.

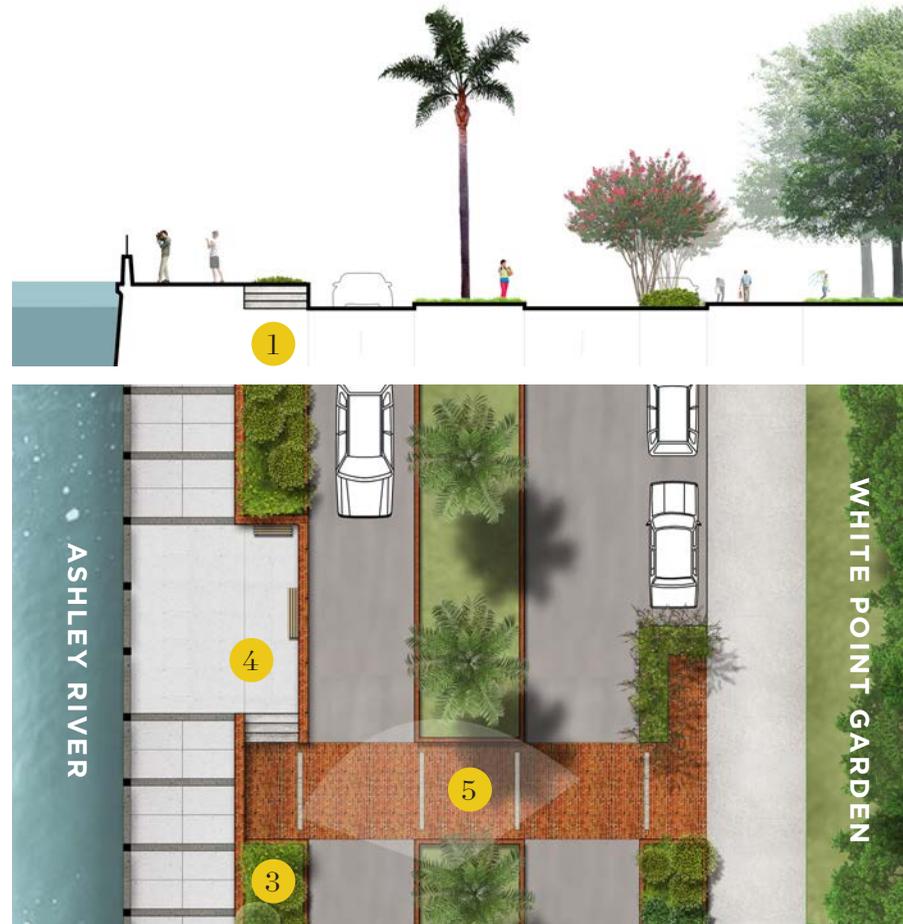
### This Page

- 6 Mid-block crossings align with White Point Garden pathways and urban street grid.
- 7 The Turn should be transformed into a plaza-like environment, with a textured, raised intersection and extreme traffic calming features. Pedestrian crossing should be accommodated.
- 8 Complete intersections with all crossings and enhanced streetscape.



## Strategy 2 Raise Walkway & Remove Waterfront Parking

This strategy involves the removal of parking to accommodate a widened and raised waterfront walkway. Raising the walkway will allow for railings and columns which can be seen through, instead of a solid, opaque material. This way, everyone can see and experience the water from the walkway, including children and people in wheelchairs. Raising the wall requires removal of parking because the wall would prevent doors from opening.



## Strategy 2 Raise Walkway & Remove Waterfront Parking

### Previous Page

- 1** Replace on-street parking with a raised and expanded waterfront walkway.
- 2** Railings to allow visibility and experience of the water from the walkway (also reflects historic condition).
- 3** Landscaped areas to separate the walkway from the roadway. Space available for trees.
- 4** Stairs and ramps at crosswalks.
- 5** Pedestrian refuge in central median.

### This Page

- In addition to key elements of Option 1, such as a plaza at the Turn (previous page).
- 6** Remove parking to create a wide waterfront walkway.
  - 7** Improve crosswalks and other streetscape at major street crossings.
  - 8** Maintain parking along White Point Garden to accommodate visitors.

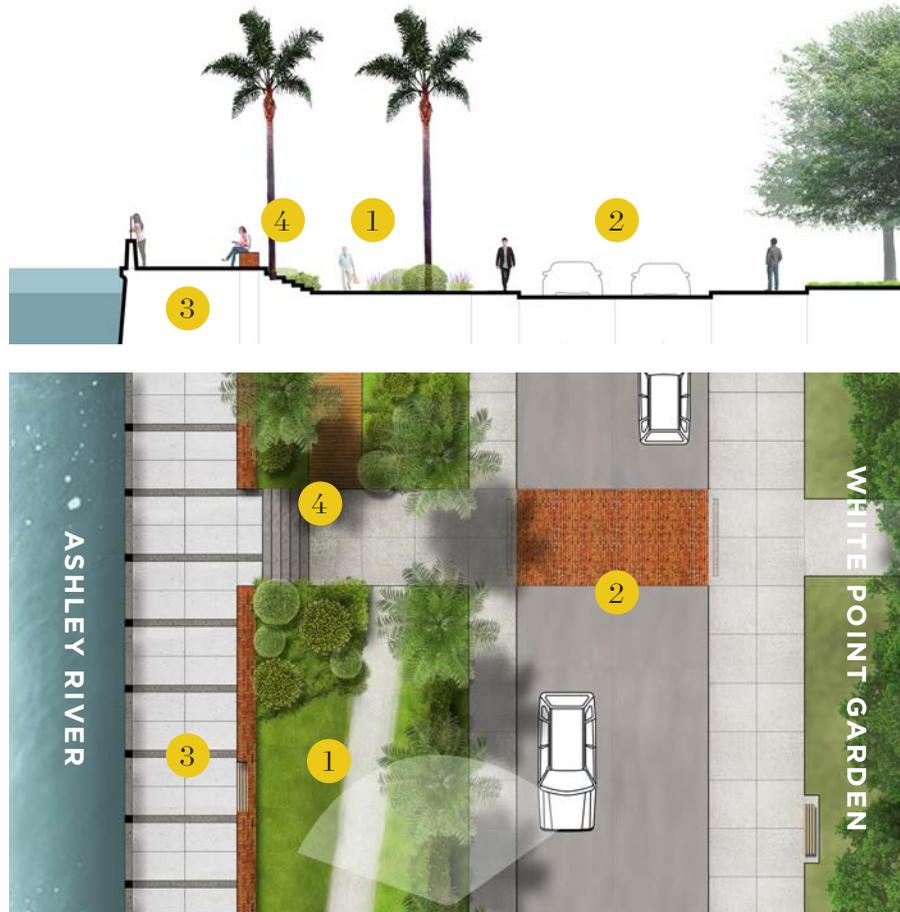


# GARDEN EDGE

— SEGMENT B

## Strategy 3 Half Park / Half Roadway

This strategy greatly expands the waterfront walkway as a linear park between King Street and East Battery. It takes over the space currently occupied by on-street parking, an automobile travel lane, and the central median. This effectively creates a small street running through a park, which could be one-way travel with parking or two-way travel. This scheme allows for a very wide waterfront walkway, green spaces with small paths along the water, planting areas, and safer pedestrian crossing on Murray Boulevard.



## Strategy 3 Half Park / Half Roadway

### Previous Page

- 1** Linear system of waterfront green spaces with lawns, plazas, plants and amenities.
- 2** Small street for slow traffic with sidewalks on each side. This could be one-way travel with parking or two-way travel.
- 3** Greatly expanded waterfront walkway.
- 4** Stairs, paths, switchbacks, and gentle slopes for a smooth change in elevation.

### This Page

- 5** Streets transition from having two travel lanes to the surrounding context.
- 6** The Turn could become a signature public space, perhaps with a water feature or other iconic civic element.



# GARDEN EDGE

— SEGMENT B

## Strategy 4 Full Park

This strategy closes Murray Boulevard between King Street and East Battery to return White Point Garden to its original, historic condition.

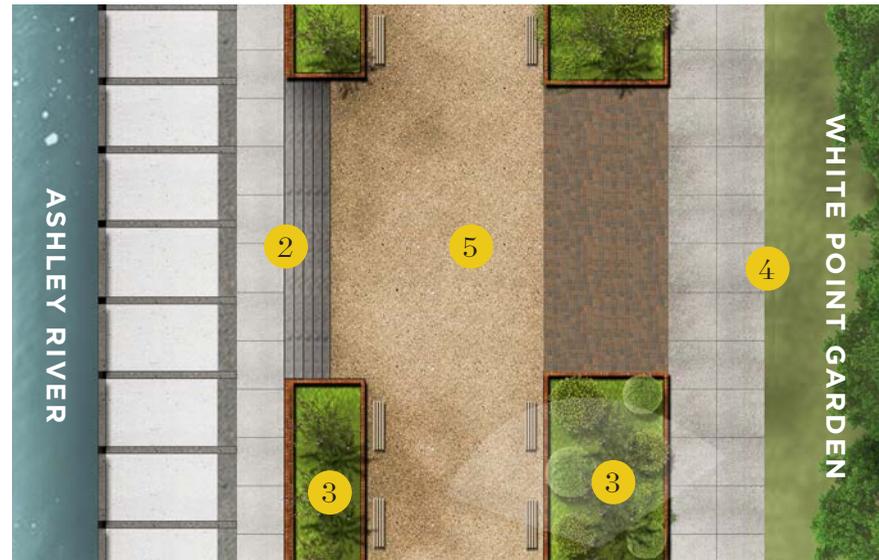


Image above courtesy of Charleston County Library.



## Strategy 4 Full Park

### Previous Page and This Page

**1** The full park is closed to automobiles at these intersections.

**2** Grand stairs and ramps for getting up to the very wide walkway from the park.

**3** Formalized planting beds with native plants.

**4** White Point Garden is once again unified with the waterfront edge, creating a large public space without automobiles.

**5** Wide open plaza areas for a variety of civic activities.

### This Page

**6** Traffic would be routed along King Street and South Battery, which would require street improvements.

**7** The Turn could become a signature public space, perhaps with a water feature or other iconic civic element.





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