Stepping Into the Past: A Spatial and Temporal Analysis of Charleston’s Streetscape Through Imagery

Travis Galli
tgalli@g.clemson.edu

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STEPPING INTO THE PAST:
A SPATIAL AND TEMPORAL ANALYSIS OF CHARLESTON’S STREETSCAPE
THROUGH IMAGERY

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Historic Preservation

by
Travis Daniel Galli
May 2022

Accepted by:
Jon B. Marcoux, Committee Chair
Laurel Bartlett
Jim Ward
ABSTRACT

The tradition of preservation has long focused on the built environment of historic buildings, while ignoring the very environment they reside in, specifically streetscapes. This thesis seeks to identify the spatial and temporal changes in streetscapes occurring on King Street and Chalmers Street from 1700 until 1971 and provide guidelines for the preservation and restoration of streetscapes to their periods of historic significance between ca. 1750-1971. By collecting and analyzing images of the streetscape at different period in time, specific features and materials were identified. Imagery included historic photos, paintings, and sketches. Broken into specific periods, this study tracks changes over time that allows for specific periods of significance to be identified and replicated. Using Geographic Information System (GIS), and analytical statistical software (JMP), data was identified and analyzed for location, frequency, presence, and absence.

The guidelines provided allow for the design of historically sympathetic streetscapes that representative of accurate historic trend in material, while at the same time consider the needs of modern circulation and technological advancements.
ACKNOWLEDGMENTS

This thesis would not have been possible if not for the support of MSHP faculty, peers, family, and friends. I would like to thank my committee, Dr. Jon Marcoux, Laurel Bartlett, and Jim Ward for their guidance and patience throughout this process. I would like to thank all MSHP faculty for providing me with the necessary skills required to accomplish this undertaking.
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CHAPTER ONE
INTRODUCTION

Often referred to as a “living museum,” Charleston’s vibrant streets and historic architecture evoke images of the past in a way unique to the Holy City. ¹ There is a litany of organizations both public and private that have taken on roles of preservation within Charleston. These organizations, however, tend to focus on one aspect of the built environment, the historic building. Traditionally, preservation practices have been focused on preserving Charleston’s historic buildings, not the streetscape as a whole. The roadways, curbs, and sidewalks of Charleston are just as integral to the integrity of the city as the iconic Charleston single house and facades of the city. It is the goal of this thesis, by applying ideas currently reserved for what rises above the water table to the very streets these buildings reside, to identify historically sympathetic streetscapes from Charleston’s past. This thesis seeks to evaluate specifically King Street and Chalmers Street. This will be accomplished by examining imagery from different time periods. Images will include photographs, paintings, and illustrations.

This thesis focuses on the streetscape of King and Chalmers Streets from 1700 to 1971. King and Chalmers Streets were chosen as study areas because they offer a focused snapshot of the city’s evolution. A relatively small city by modern standards, the scope of Charleston is too large of a study area for this thesis. King Street and Chalmers Street

provide a manageable study area for this thesis to cover. It is assumed that, with few exceptions, these streets provide a comprehensive record of the changes to Charleston’s streetscapes, allowing study results to be comparable to the rest of the lower peninsula. Periods of significance will be determined by analyzing building construction date parcel data provided by the City of Charleston’s GIS Department. Imagery compiled and analyzed for this study highlights changes to the streetscape through time. Each image will be evaluated for visible features. These features will fall under two categories. Features that are either present or absent in an image, as well as features with multiple variables. These results will be compiled into an Excel spreadsheet. Data collected from these images will be compiled using Geospatial Information System (GIS) software and JMP Statistical Software. After analyzing compiled data from this study, recommendations for each period of significance will be provided that outline what features were present and when. This allows for future preservation and restoration work to be completed with the knowledge needed to provide a historically sympathetic streetscape.

This thesis aims to shine new light on an often overlooked, yet essential aspect of Charleston’s historic viewshed. Visitors and locals alike take to Charleston’s streets daily. The city is home to many house museums and historic locations, yet very little focus has been placed on what is beneath our feet. Cries from throughout the city signal alarms when a building or landmark is in jeopardy of demolition or change. The Board of Architectural Review dictates what changes visible from the public right of way can be
made to historic buildings in Charleston. Streetscapes evolve over time; however, a balance can be had between preservation and restoration efforts and progress. The same care and standards applied to buildings are not shared with the streets. It is the hope of this thesis that by better understanding the past, the future of our streetscapes can be better interpreted and managed. Features associated with buildings, signage and awnings, help further understand the overall viewshed and the communication between building and streetscape.

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2 Zoning Ordinance of Charleston, South Carolina. Sec. 54-240.-Board of Architectural Review; powers and duties.
CHAPTER TWO

REVIEW OF LITERATURE

Within historic preservation literature, streetscapes remain an often-overlooked component of the built environment. Historic preservation literature lacks the necessary attention to streetscapes given to the built environment. Main street programs are a relatively new tool employed to bring prosperity back old or neglected streetscapes. These programs focus on revitalizing historic main streets through economic expansion. The literature on cultural landscapes describes how landscapes are viewed and preserved. The streetscape is a specific cultural landscape element. The literature addressing streetscapes themselves focuses on the overarching subject rather than the individual elements associated with a street as a whole. Streetscapes represent multiple layers of our history, in contrast to the relatively limited snapshots a historic building can provide. This literature review is organized into four categories: historic preservation and its focus on buildings, cultural landscapes, the streetscape, and history of preservation in Charleston.

The roots of historic preservation trace back to the Mount Vernon Ladies Association in the 1850s and their fight to save the former estate of President George Washington. Charleston’s own preservation movement began with the Society for the Preservation of Old Dwellings spearheaded by Susan Pringle Frost and her mission to save the Joseph Manigault House in 1920. Charleston continued to look for ways to improve its preservation efforts, and in 1931, passed a historic zoning ordinance. This ordinance focused on approval or denial of changes to the exterior of historic structures, including additions, as well as controlling new development that would impact the
historic area.\textsuperscript{3} These early preservation efforts focused on architecture, rather than landscapes and in turn, streetscapes.

**All about the Buildings: Historic Preservation and the Main Street Approach**

Mainstreet programs, such as Mainstreet America, are successful programs that work to renew urban centers big and small. This is done, however, with a focus on economic incentives rather than preservation. Mainstreets were once the primary center of commerce in America. Economic expansion and the push away from city centers following World War II changed the role mainstreets played drastically. It was not until after World War II that mainstreets lost their main role in society. Economic changes, and the shift to the suburbs turned mainstreets into vacant skeletons of their former glory.\textsuperscript{4}

While preservation was by the late 1940s not a new concept, it focused primarily on singular properties. In the mid-1900s a number of failed urban renewal projects were supported by federal funding to try and breathe life back into mainstreets. These projects failed.\textsuperscript{5} In 1980, the National Trust for Historic Preservation established the National Main Street Center as a way to combat the issues faced by historic downtowns. In 2015, the program was rebranded Main Street America, continuing the same mission as before, with the intent to “reinvigorate our collective look, feel, and strategy.”\textsuperscript{6}

The Main Street American approach focuses on four main points, economic vitality, design, promotion, preservation, and community involvement. The success of these programs is often measured by the number of businesses that open, the increase in foot traffic, and the overall revitalization of the downtown area. These programs have been successful in many cities, bringing back life to areas that were once considered dead zones, and fostering a sense of community and pride among residents. However, it is important to note that these programs are not without their challenges, as they can also lead to displacement of long-time residents and businesses, and can exacerbate gentrification in some cases. Nonetheless, the success of Mainstreet programs demonstrates the potential for urban revitalization and the importance of preserving and promoting our historic buildings and streetscapes.

\textsuperscript{3} Asad Said, “Factors Contributing to the Success of Historic Preservation and Restoration in Four Historic American Cities” (dissertation, Texas A&M, 1987), 113.

\textsuperscript{4} Lisa Hechesky, “Return to Mainstreet: An Assessment of the Main Street Revitalization Program” (thesis, Marshall University, 2005) ii

\textsuperscript{5} Hechesky, pg ii

and organization. At the core of the program's approach to mainstreet revitalization is their focus on building design rather than streetscapes.

Main Street America’s holistic approach focuses on four points, economic vitality, design, promotion, and organization. The first step of the program focuses on garnering community support and establishing a committee to undertake the task. The committee is then tasked with filling the roles necessary to complete the project. The Main Street America program is centered around local efforts, providing the community with the necessary tools, training, and assistance to stand up their own mainstreet.7

In her thesis, “Return to Main Street: An Assessment of the Main Street Revitalization Program,” Lisa Hechesky reviews the causes that led to the downfall of mainstreets, and the approach and success of the National Main Street Program in revitalizing and preserving historic downtowns.8 Hechesky focuses on the mainstreet approach in West Virginia, and the efforts of St. Albans to utilize the program in their town. She argues that early attempts to turn the tide of mainstreets resulted in the misappropriation of ideas and efforts. A sizable portion of these efforts resulted in the destruction of historic buildings. Enter the National Trust for Historic Preservation. The National Trust began with a small pilot program in 1977 that proved successful.9 As part of their program, the National Trust focused on the preservation of historic buildings. The architecture of mainstreets can span many periods of significance, showcasing a building from the late 1800s standing triumphantly next to a storefront from 1930. Under the

7 Hechesky. 24
8 Hechesky. 5
9 Hechesky. 5
National Trusts program, these buildings were to be preserved, showcasing the history of a downtown. Ultimately however, historic preservation was and remains just one facet of the programs approach to mainstreet revitalization, with little attention given to streetscapes.

While all aspects of the program collectively address the economic issues of dilapidated mainstreets, the design aspect has the largest physical impact on the streetscape. Aside from the preservation efforts focused on the facades of historic buildings, the streets themselves are seen as a separate factor. Hechesky notes the design process looks at the streetscape as a whole. In doing so, however, the focus turns to improvements, not preservation. The projects focus on enhancing the streetscape, with the “overall role of Design is to make Main Street attractive to new businesses while keeping its historic context.”

This historic context extends only to the storefront, with design elements of the street focused on improvements to accessibility, greenery, walkability, lighting, parking, and traffic flow. Examples of this focus on “improvements” include Greenville, SC, which added new lighting and widened sidewalks. St. Albans design included the addition of benches and lights, improving sidewalks, and adding historical markers. These elements focus on design rather than historic accuracy.

Jennifer Gates in her thesis, *A Study of Main Street Communities*, argues as to the reason these programs fail. Gates points to a lack of continual funding as a primary factor
in mainstreet programs failing. Without a cash flow beyond the initial mainstreet grant, projects will stall and eventually fail.\textsuperscript{13} Additionally, the “four points approach” of the program leaves little room for individual communities to tailor the program for their specific need. A more individually customizable program rather than a cookie-cutter approach would allow for each mainstreet to focus funds and energy on what was needed the most. The mainstreet program relies on the involvement of the community. With a lack of willing participants to fill the required committees programs fail. Gates points out that Main Street America does not allow for the incorporation of separate organizations that could help alleviate staffing or funding issues.\textsuperscript{14} These partnerships could include local and state preservation offices, as well as incorporating preservation plans sympathetic to streetscapes.

Herb Stovel, in his article \textit{Scrape and Anti-Scrape: False Idols on Main Street}, discusses the issues and shortcomings of the Main Street approach. By evoking the thoughts of William Morris, and his staunch anti-scrape standpoint, Morris highlights the false positive outcome of mainstreet projects. Morris believed in the craftsmanship and materiality that comes with historic buildings. These tangible elements can be experienced and should be at the forefront of preservation. That is not the case, however, with Main Street programs focusing on the economic factors that drive rehabilitation. In 1985, the \textit{National Enquirer} published a short work from the viewpoint of a time traveling Morris visiting the American mainstreet. Time traveling Morris takes offense to

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\textsuperscript{14} Gates. 80
\end{flushright}
the four-point approach prescribed by Main Street programs. With its driving factors pursuing financial gain, mainstreets are turned into false histories, spearheaded by the “self-righteous zeal of those who know better.” Main Street programs blanket their projects, applying cookie cutter solutions that obscure the once vibrant and inclusive past.

Anti-scrape allows for all periods and elements to remain evident not only in a building, but in the streetscape as a whole. Wildly different architectural designs can sit next to one another in harmony on mainstreet. The craftsmanship is visible, it can be touched. Saw marks can be identified on wood, giving the viewer a visual guide to the hands of the craftsman that toiled to erect these buildings. Patina and weathering are incapable of being faked by modern hands. Layers are evident, like fingerprints of a building, showing the changing of styles and trends, even the use of the building.

Mainstreets naturally over time represent the community as a whole. Stovel attributes this through diversity, spontaneousness, confusion, and forward-looking to name a few. This results in a “laissez-faire” mainstreet. The design guidelines of Main Street programs on the other hand, promote backwards thinking, uniformity, and homogeneous appearance. These end with control that can be whittled down to nothing more than formulas. Stovel concludes that the idea of the Main Street program is flawed by their fundamental idea of working backwards with a predetermined goal already set in stone. The mainstreet approach to preservation and restoration is void of consideration given to the streetscape.

16 Stovel. 53
Einer Lillebye in his article *Architectural and Functional Relationships in Street Planning: An Historic View*, combines the ideas of urban planning throughout history with the ideas of the street as an architectural element in and of itself. The streetscape, just like the buildings and their facades, must follow function and design. Urban planning of streets throughout history has been spurred along by change and necessity. Technological advancements like the automobile turned streets from areas of social interaction and commerce into arteries to move people from point A to B. Public health has long been a major factor in streetscape improvement in an attempt to control sanitary issues including the spread of disease. The need to facilitate movement of military and police aided in the design of Paris’ streets in 1848.17

Lillebye acknowledges that the building represents “the symbol of true architectural form.”18 This is not without pause however, Lillebye notes this to be true due to the fact that the fundamental use of a building has changed little throughout history. The streetscape has seen its function change drastically over time, with the requirement to adapt to changes far beyond its intended use.19

Not all attempts at historic preservation end in success. Mark Brookstein highlights one such failure, the Maxwell Street Market Historic District. While the larger picture of the Maxwell Street Market Historic District failure is looked at by Brookstein under legal eyes, it is worth noting issues present when looking at a streetscape as a

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18 Lillebye. 91
19 Lillebye. 91
historic district. The trouble of the proposed historic district stems from the City of Chicago's decision to block the nomination. Brookstein argues the Chicago Landmark Division misinterpreted the NPS guidelines by incorrectly assuming “they were being asked to landmark an activity, not a place.” Concurrent flawed thinking detrimental to the preservation of Maxwell Street are found in Landmark division findings, stating “The National Register assists in the preservation of buildings, not such fluid activity as was the historical essence of Maxwell Street.” Maxwell Streets integrity lies in the streetscapes qualification under National Register Criterion A, based on historical pattern not events or even the buildings themselves. In ignoring the historic streetscape of Maxwell Street, the city was able to prioritize profit over preservation.

While the streetscape of Maxwell Street in the 1990’s was less than pretty, photos of the market dating from early 1900 to its closure show a vibrant, crowded, and yes, dirty street full of history. Vendors sold everything, from fish to watermelons, radios to pesticides. The history of Maxwell Street is reminiscent of many northern cities. European immigrants including Irish, German, Swedish, Dutch made the area their home in the late 1800’s. Jewish immigrants turned the street into an open-air market. The city council would officially recognize the area as Maxwell Street Market in 1912. In the 1920’s, with African Americans moving north settled in the area. After the conclusion of

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21 Brookstein. 1875
22 Brookstein. 1875-1876
23 Brookstein. 1848
WWII, music began to play a large role on Maxwell Street. “Chicago Blues" began to add its mark to the street, with record companies calling it home, including Chess Records.24 The Maxwell Street Market Historic District fit the bill for nomination to the National Register of Historic Places. Not only did the streetscape fit the bill, but it did so on multiple criteria. The city’s block of the nomination was based solely for political and economic reasons.25 Brookstein compares Maxwell Street as “analogous to a battlefield.”26 The streetscape represented people's attempt at the “American Dream” during every period of significance in the market's existence.27 Maxwell Street fell in line with the aesthetic aspect of historic preservation. The streetscape, to include the buildings and their facades, fall within the cultural and historic significance of the area. Maxwell Street represented the cultural identity of multiple ethnic groups from a multitude of generations. The state's historic preservation office, or SHPO, concluded through an extensive report that the Maxwell Street Market Historic District was eligible under multiple criteria for nomination. The city and University of Illinois appear to have already made up their minds. Where preservation has failed in the past, new considerations are being giving looking to the future.

Many cities have produced design guidelines that dictate what can and cannot be done within a streetscape. One such guideline is the Texas Historical Commission’s Streetscape Guidelines for Historic Commercial Districts. This guidelines, similar to

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24 Brookstein. 1849
25 Brookstein. 1857
26 Brookstein. 1858
27 Brookstein. 1858
guidelines covering the built environment and buildings, cover specific features of the streetscape. This includes trees, sidewalks extensions, lights, furniture, canopies, and awnings. Texas guidelines specifically mention the use of “old photographs” to ascertain the accurate documentation of historic fixtures.\textsuperscript{28} It is crucial in preparing and enforcing such guidelines that proper evidence, such as the replicable method of imagery analysis for determining features used in this thesis, be applied. Of particular importance to this thesis, is the section on sidewalks and streets. The largest section in the guideline, this section emphasizes the preservation of historic materials. “When these [historic] elements contribute to the distinctive character of your historic downtown, preserve them in place whenever possible.”\textsuperscript{29} If historic materials have been damaged and require replacing, it must be accomplished with like materials. An important distinction exists in the guidelines between historic material and replacement material; “If sidewalk replacement is necessary, the preferred option is to use either the same material as currently exists or a material used in the location historically, based on adequate documentation. Unless documentation shows historic brick sidewalks, accepted preservation practice discourages the introduction of brick or modern pavers to sidewalks as it can create a false sense of historical development of the community.”\textsuperscript{30} This is crucial to preventing a fabricated history as Hunt describes. In a move contradictory to what is seen on King Street in Charleston, the Texas Historical Commission says to avoid pavers or bricks with

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{28} “Historic Streetscape Design Principles,” (Winters and Company, 2021), 6.
\item \textsuperscript{29} “Streetscape Guidelines for Historic Commercial Districts,” Texas Historical Commission (2011): 2.
\item \textsuperscript{30} “Streetscape Guidelines for Historic Commercial Districts,” 2
\end{itemize}
\end{footnotesize}
donor’s names inscribed onto them, as it is a “distraction from the historic character.”

Finally, the guideline accounts for the many layers of history that a streetscape represents; “where a variety of historic materials contribute to the varied character of the historic streetscape, these materials should be preserved.” Kentucky Streetscape Design Guidelines for Historic Commercial Districts acknowledge the need to document historic paving materials. These materials should be used as a model for modern paving if they conform to modern standards and needs.

In early 2021, design principals for historic streetscapes were compiled by Winter & Company to better assess possible outcomes for the improvement of Deadwood, South Dakota. The document highlights guidelines from around the country. It is broken down into two sections, general themes and principles, and design guidelines for specific streetscape topics. Based on the guidelines from Texas, Oregon, and Kentucky, three concepts were established to help guide general principles of the project. They are, “(1) being authentic, of preserving historic features and (2) only using replicas when documentation is available, combined with (3) the concept of using compatible, but distinguishable new features are fundamental and are relevant to guidelines for Deadwood’s Main Street design.” These concepts allow for preservation to occur while not impeding progress. An example of feature-specific guidelines from Kentucky, specific to street lights states “if historic light fixtures specific to a downtown can be

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31 “Streetscape Guidelines for Historic Commercial Districts,” 2
32 “Streetscape Guidelines for Historic Commercial Districts,” 2
33 “Historic Streetscape Design Principles,” 4
34 “Historic Streetscape Design Principles,” 3
accurately documented and duplicated, the historic fixture should be used in a manner similar to its original purposes, locations, and quantities.”35 The goal of this guideline is to focus efforts whenever possible on duplicating fixtures to maintain streetscape continuity. These efforts set forth throughout the country aim to maintain the historic streetscape while still allowing for modern needs to be fulfilled. Guidelines far less specific in historic material include those set in Mount Pleasant, SC’s Old Village Historic District. The design of new driveways and walkways focuses on compatibility and harmony within the streetscape and built environment.36 Specific guidelines for historic districts allow for inclusion of appropriate features to be included in the streetscape. By examining and identifying appropriate features within specified time periods, a more holistic and inclusive streetscape can be achieved. Through image documentation and analysis, as acknowledged as necessary in previous state guidelines, a replicable method for determining historically sympathetic streetscapes is achieved. Alternative perspectives to preservation that do consider streetscapes in a more holistic approach include cultural landscapes.

**Cultural Landscapes**

The streetscape seen through the eyes of cultural landscapes provide for better inclusion and preservation of these resources. One issue, inherent not only to streetscapes but cultural landscapes as a whole, is the borrowed nature of its foundation. Arnold R. Alanen and Robert Z. Melnick speak to this in the introduction to *Preserving Cultural*  

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35 “Historic Streetscape Design Principles,” 5  
Landscapes in America, under the header Why Cultural Landscape Preservation? They note, “technical language used in landscape preservation...often poses problems, since many terms and definitions are borrowed directly from architectural preservation.”

Proponents of a broad definition include the townscapes and cityscapes of urban areas in cultural landscapes, this view should embrace streetscapes.

In his book, Historic Grounds: The Role of History in Contemporary Landscape Architecture, John Hunt highlights the role landscape architects traditionally have in reinventing a landscape. Many landscape architects look at projects as a blank canvas for them to leave their mark. Designers, or at least the good ones, take the time to study the landscape and its history in order to understand the area and its culture. Hunt notes these designers are not historians, and many do not seek council with professional historians. Instead, Hunt notes that many designers form a “fabricated history” through their work, based on the minimal knowledge of a site's history. This fabricated history is imposed on visitors' imagination, leading to a “sense of something plausibly historical.” Those most often dealing with streetscapes do not have the knowledge. The handling of historic streetscapes is relegated to urban planners or landscape architects, leaving preservationists out of the process to the detriment of streetscapes. This fabricated history is compounded by the clients’ desires. Often the client wants a modern design that is

38 Alanen. 3
40 Hunt. 3
more concerned with modern issues, answering the current needs of the client with little concern for the past.41

The National Parks Service defines cultural landscapes to include a number of different categories. A historic vernacular landscape is defined as the following: “a landscape whose use, construction, or physical layout reflects endemic traditions, customs, beliefs, or values; expresses cultural values, social behavior, and individual actions over time; is manifested in physical features and materials and their interrelationships, including patterns of spatial organization, land use, circulation, vegetation, structures, and objects. It is a landscape whose physical, biological, and cultural features reflect the customs and everyday lives of people.”42 King Street and Chalmers Street fall under this classification of streetscape as a historic vernacular landscape. Under NPS guidelines set forth in Preservation Brief 36: Protecting Cultural Resources, treatments for Charleston’s streetscapes should be Preservation if at all feasible, and Restoration when preservation is not an option. By considering streetscapes under NPS guidelines, established practices can be applied, “the overall historic preservation approach and treatment approach can ensure the proper retention, care, and repair of landscapes [streetscapes] and their inherent features.43

Victoria W. Partridge, in her work, Evaluating and Preserving the Intangible Value of Landscape: Exploring the Glastonbury Festival of Contemporary Performing  

41 Hunt. 2  
Arts, argues for the importance of associative value of a cultural landscape that does not fit into traditional ideas of cultural landscape. In this case Partridge is discussing specifically the Glastonbury Festival of Contemporary Performing Arts, which takes place in Somerset, England. This landscape is not defined by buildings or gardens, but rather the intangible value associated with a transient festival where a landscape value is drawn from the “human interaction in the landscape.”44 This idea is further supported by the United Nations Educational, Scientific and Cultural Organizations, or UNESCO, definition of a cultural landscape. They define a cultural landscape as “the combined works of nature and man,” which also illustrate “the evolution of human society and settlement over time…and of successive social, economic, and cultural forces, both external and internal.”45 Under UNESCO’s definition, Charleston’s streetscapes can again be considered as cultural landscapes.

By applying the established doctrine of qualification set forth by American and international standards, streetscapes fall into the category of cultural landscapes. Using this designation allows for longstanding preservation practice to be easily applied to Charleston’s streetscape. Cultural landscapes have many layers, never more profound than what is visible in the streetscape.

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45 Partridge. 31
The Streetscape

Robin B. Williams, Chair of the Architectural History Department at Savannah College of Art and Design, has taken a particular interest in the materiality of historic streetscapes. William’s insight into the history and materials of historic pavement sheds light on an otherwise overlooked area of study. In his article, “A Well-Paved City”: Variety, Locality, and Modernity in Paving Savannah’s Streets, Williams gives a brief history of the conditions that led to the streets of Savannah going from dirt cesspools to paved roads. This included making passable roads for pedestrians and bicyclists, as well as the concerns over malaria and yellow fever. Savannah would employ a number of different materials for their pavement. Sheet asphalt would become the standard road pavement material by the 1920’s in America. Roads would be made from dirt, macadam, cobblestone, wood, brick, and multiple types of stone. Even a cobblestone that began its life in 1798 China as a tombstone.

In a TEDx talk given in 2017, Williams addresses the lack of attention that streets receive. He admits his own predisposition to look up at the “beauty and significance of buildings” rather than the “remarkable heritage...beneath our feet.” Williams introduces the idea that pavement is “the most democratic form of built heritage,” given its location in the public realm and its presence in areas rich and poor. The conditions of roadways

47 Williams. 23
48 Williams. 28
had a unique impact in early America, fire was a massive problem in cities at the time, destroying many over the decades. The roadway was a crucial element of firefighting activity, allowing firefighters to reach a fire in a timely manner. There are a number of cities that have begun to return to historic paving. In Orlando Florida, asphalt has been removed uncovering the brick streets below. Wilmington North Carolina has a city historic preservation ordinance that protects the historic pavement.

**History of Streetscapes in Charleston Preservation**

Ratified October 13, 1931, Charleston’s zoning ordinance created a historic district to protect “historic places and areas of historic interest.” In the previous year, Morris Knowles Consulting Firm was hired to develop a comprehensive zoning ordinance and planning recommendations for the City of Charleston. Based on the recommendations from Morris Knowles, the city adopted certain zoning ordinances. Article X established the Old and Historic Charleston District, as well as the Board of Architectural Review, BAR. Thus began the effort to protect buildings from the ravages of time as well as the wrecking ball. The BAR gained authority over buildings in the Old and Historic District, however, their power was limited to enforcement of exterior building features seen from the public right of way, not matters pertaining to the streetscape. While this was a good start, it did not prevent the City of Charleston from

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52 Weyeneth. 16
53 Weyeneth. 18
demolishing a number of historically significant buildings outside of the historic district in 1939.\textsuperscript{54} This event would cement the idea of preservation as a necessary undertaking moving forward.

In 1944, the book, \textit{This is Charleston} was published. Funded by the Carnegie Corporation and Rockefeller Foundation, a survey of historic buildings was conducted. This resulted in the architectural documentation of 1,000 historic Charleston buildings, to include photo documentation.\textsuperscript{55} The Historic Charleston Foundation was founded in 1947 to continue the fight for historic preservation in the city. The HCF would adopt a revolving fund in 1958 that allowed for the purchase and preservation of buildings in the city. These buildings were then sold to private parties with preservation easements attached. Programs and preservation plans continued to improve in the years that followed. Charleston's Historic District would continue to expand as more and more people became conscious of the cause of preservation.

Asad Said, in his Dissertation, \textit{Factors Contributing to The Success Of Historic Preservation And Restoration In Four Historic American Cities}, takes the events that lead Charleston to become a hotbed of historic preservation, and applies nine contributing factors that allowed for the success of preservation in the city. The nine factors Said determines are required for preservation to be successful are; 1) economic viability of the City, 2) economic viability of the city's region, 3) Accessibility, 4) Local Citizen Commitment, 5) local government commitment, 6) state government commitment, 7)

\textsuperscript{55} Gates. 113
federal government commitment, 8) private sector funding and commitment, 9) location of historic district.\textsuperscript{56} These factors proposed by Said in 1987 share a striking resemblance to the process set forth by the National Trust for Historic Preservations. They are however, in stark contrast to the four-points approach set by Mainstreet America, which does not allow different organizations to work within their program.

Community concerns would be herd for decades before Charleston instituted its 1974 Historic Preservation Plan. While this document acted as an architectural design guideline, some note was taken to identify and discuss streetscape features, or “furniture” as it was referred to in the report.\textsuperscript{57} This rudimentary acknowledgment of the streetscape devoid of buildings begins to identify aesthetic issues found in the viewshed of the street. Signage was identified as an issue along King Street, specifically, “Advertising signs scream for attention in several commercial areas, particularly along North King Street, garish and oversized, these signs compete with each other to such an extent that their message is lost. The result is a chaotic jumble: an eyesore which serves little useful purpose.”\textsuperscript{58}

This set forth a baseline understanding that streets were not stagnant entities, and modern improvements were necessary. The plan highlighted the positive work accomplished along King Street in the previous years of removing overhead wires from

\begin{flushend}
\textsuperscript{58} Wright. 19
Lower King Street. It acknowledged the need to match the streetscape features to the primary focus of historic building facades. One recommendation proposed by the plan directly effecting the streetscape was an expanded role for the BAR, to include “…the authority to review and recommend modifications of all plans for streets, sidewalks, planting, lighting, signs and other street ‘furnishings’ as to their dimension, type, textures, colors, location and other physical features.” One point of contention identified in the plan were the aluminum poles used for street lights and traffic signals, in sharp juxtaposition to the “superb old commercial buildings, so recently restored.”

Spurred forward by the newly elected Mayor, Joseph P. Riley, who campaigned on commercial improvements to King Street, Charleston Place became the center of the preservation debate in the late 1970s. As with previous projects designed to increase economic development in a commercial area, the idea for a hotel, and convention center came from a downtown revitalization plan. This plan proposed building a hotel and convention center on the site of a former department store on King Street. Expanding far beyond the boundaries of the originally proposed site, Charleston Place would “encompass almost the entire block bounded by King, Market, Meeting, and Hasell Streets, and this expanded setting would necessitate the demolition of historic structures.” Opposition to the project focused on the scale of the project. The
demolition of historic buildings and the impact to the viewshed of downtown Charleston took center stage. Aside from the impact to building facades along King and Meeting Street, the streetscape was not central to the discussion, pro or con, of Charleston Place, rather it was the economic impact touted by its supporters that took precedence.65

In 1999, *The Charleston Downtown Plan* was adopted by the city. While a citywide plan rather than a preservation plan, the document still touched on the matter. However, when it came to streetscapes, little attention was given. The main focus of the aesthetics of Charleston focused on the built environment. The plan identified the “stock of sophisticated and urbane historic structures…that frame and define an intimate and inviting pedestrian environment.”66 While the focus remained on the built environment, streetscapes were recognized for their contribution to the “atmosphere” of downtown, by contributing “…landscaping, high-quality street furniture, lighting, underground wiring, [and] paving.67 Attention given to the streetscape according to the plan has the ability to “add texture…and give pedestrians an opportunity to touch, smell, and feel the environment.”68 Beyond these ancillary considerations, the 1999 *The Charleston Downtown Plan* does not give much time or effort to the streetscape. This plan, however, is not a preservation plan. It would take until 2007 before such a plan would be formulated.

65 Weyeneth. 95-102
66 1999 *The Charleston Downtown Plan*. P6
Published in 2008 by Page & Turnbull, research for the city preservation plan began in 2007. Titled Vision | Community | Heritage, this plan focused specifically on preservation within the city. This document shows changes in the idea and importance of the streetscape. In what constitutes the first comprehensive city plan to include streetscapes, the Vision | Community | Heritage highlights not only current streetscape materiality and composition, but historic materials as well. Recommendations outlined for the streetscape include “Historic streets should be properly maintained, and historic paving materials should be repaired and retained.”

While discussing infrastructure, the plan notes the possibility of removing asphalt roads where original material was paved over in order to return to that historic material. The plan attempts to address changes in technology and trends as well, identifying bicyclists and disabled pedestrians as potentially negatively impacted by the switch back to historic materials.

In an attempt to mesh the streetscape with the traditional built world of preservation, there is an understanding of the impact streetscaping has on the overall aesthetics of the city, acknowledging “historically appropriate… lampposts, street furniture, and street trees enhancing historic buildings and the feeling of an area.”

Along with identifying streetscape features, the plan highlights positive improvements made in previous years to King Street. These improvements model those needed throughout the city, including “burying utilities and installing new street pavement, curbs and sidewalks, tree wells and

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70 “Vision | Community | Heritage: A Preservation Plan for Charleston, South Carolina.” 89
71 “Vision | Community | Heritage: A Preservation Plan for Charleston, South Carolina.” 89
palmetto trees, and light poles.”\textsuperscript{72} The inclusion of these specific streetscape features, including the instillation of new bluestone slate sidewalks, show a small but significant shift towards the needed inclusion of streetscapes in a holistic approach to Charleston’s historically sympathetic streetscape.\textsuperscript{73}

The next iteration in city planning reverts back to a less inclusive idea of streetscapes. While it is not a preservation plan itself, the Century V city plan supports the ideas set forth in Vision | Community | Heritage. Century V reinforces the importance of preserving buildings, while not addressing the streetscape. Under the header “Beyond the Buildings,” cultural landscapes such as the many Lowcountry plantations, Angel Oak, and Marion Square are mentioned, with complete ignorance to the streetscape.\textsuperscript{74} A return to this traditional big picture design approach can be seen in the plan’s definition of “Commercial streets: A local urban roadway of low speed (25 mph or less) and capacity that serves a more mixed-use or commercial area, with extensive on-street parking. Buildings are typically located at the back of the sidewalk. Examples include King Street, Meeting Street, and Seven Farms Drive”\textsuperscript{75} Focus is shifted away from streetscape preservation and diverted back to urban planning. Street widths and bicycle lane inclusion, urban form and function, overshadow preservation or even streetscape needs.\textsuperscript{76}

Adopted October of 2021, the new Charleston City Plan addresses modern needs. While completed streetscape improvement projects are listed, streetscapes are not directly

\textsuperscript{72} “Vision | Community | Heritage: A Preservation Plan for Charleston, South Carolina.” 141
\textsuperscript{73} “Vision | Community | Heritage: A Preservation Plan for Charleston, South Carolina.” 149
\textsuperscript{74} “Century V City Plan,” (City of Charleston Department of Planning and Urban Development. 2000): 41
\textsuperscript{75} Century V City Plan.” 86
\textsuperscript{76} Century V City Plan.” 82
mentioned in the plan. The Main Street America program offers cities the ability to revitalize their downtowns. This prepackaged structured approach impowers communities through economic vitality, design, organization, and promotion. The rigidity of this structure, however, leaves little room for customization. Streetscapes in this approach are thus neglected for a simpler, overall design package. By incorporating streetscapes under the umbrella of cultural landscapes, established preservation efforts and doctrine can be applied. Thus, allowing for better handling of the features and element found in the streetscape. Another tool for handling streetscapes are design guidelines. Streetscape guidelines for historic districts offer simple to follow principals for the preservation, and restoration of streetscapes. A well-researched guideline, supported by historical evidence, provides the framework for modern settings to maintain the aesthetics and feel of past eras. Vague and non-specific guidelines on the other hand leave room for misinterpretation and overall poor results. By relegating Charleston’s streetscape to urban and city planners, effective and established measures have not been taken. The results of this thesis provide for historically sympathetic guidelines.
The purpose of this thesis is to identify the primary streetscape features of King Street and Chalmers Street during different periods of significance. King Street and Chalmers Street represent two iconic Charleston streetscapes. King Street is one of the oldest thoroughfares on the Charleston Peninsula. Initially the main route in and out of Charleston, King Street was originally called the high road or broad path. King Street has seen many iterations of occupancy and use, primarily as the commercial shopping center of the city, as well as residential south of Broad Street. Chalmers Street is located within the original walled city. Going by a number of different names until 1818, the street is home to the “Pink House” constructed in 1712. Chalmers Street was the result of the widening of alleys, Union Alley (later Chalmers Alley), and Beresford Alley. Chalmers Street ends just one block north of the City’s government center.

In order to identify the primary features that defined the King and Chalmers streetscapes during different periods of significance, images, to include photographs, paintings, and sketches, were collected. These images were used to document specific features. Using building construction date parcel data provided by the city of Charleston, periods of significance were identified. Collected data was analyzed using Esri’s ArcMap.

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GIS™ 10.8.1 and JMP Pro™ 16 statistical software. Using the data collected in this study, guidelines were created to help identify specific streetscape features representative of how Charleston’s streets appeared in the past. These guidelines were applied to the periods of significance previously identified. Thus, allowing for future restoration and preservation work to be conducted in a manner true to Charleston’s historic streetscapes.

**Study Sample and Periods of Significance**

King Street, running south into the city, follows the outskirts of the old walled city, terminating at Murray Boulevard and White Point Garden along the water’s edge. The overall length of King Street required multiple areas be established for this study. To do so, primary use, residential vs. commercial, as well as geographic features were identified. The resulting three study areas along King Street represent both primary use, as well as the expansion of the city north into the peninsula’s neck. Chalmers Street, running only two blocks in length, did not require multiple study areas.

Study Area 1 begins at the southernmost tip of King Street, from Murray Boulevard to Broad Street. This area represents the historically residential portion of King Street. Study Area 2 moves north from Broad Street to Calhoun Street. This is the historic commercial section of King Street. Study Area 3 begins at the intersection of Calhoun Street and ends at the Septima P. Clark Expressway. This section of Upper King Street, while still commercial in nature, is much newer than the rest of King Street, and has seen more recent development. Chalmers Street, residential in history and current use, was assigned Study Area 4. A fifth study area outside of the four main study areas
was established to account for a lack of imagery specific to King and Chalmers Streets in the earlier time periods of this study.

Geographical Information System, commonly known as GIS, was used to show a graphic representation of the different study areas. Streetscape data collected through image research was included as layers in GIS representing the material and presence of features in specific geographic locations.

Using construction dates parcel data for each building in the study area supplied by the City of Charleston GIS Division, the mean construction dates were established for each of the main four study areas. From this, periods of significance for each study area were established based on the frequency distribution of construction dates. The following six periods of significance were established: 1) 1700-1749, 2) 1750-1799, 3) 1800-1864, 4) 1865-1899, 5) 1900-1949, 6) 1950-1971. These periods were based on typical historical periods of 50 years, with the exception of the ante-post bellum periods. The final period of significance, Period 6, ends 50 years prior to the start of this study. This is in accordance with the standard set forth by the National Register of Historic Places, or NRHP, for a building’s eligibility on the register. The procedure for determining inclusion on the NRHP based on age of a structure is being applied in this study, to the streetscape.

Based on the date data provided by the City of Charleston GIS Division, construction dates of buildings within each of the main study areas were analyzed using histograms. Histograms show the counts of buildings through time. Multi-modal distribution of the construction date data for each area suggests no singular period of
significance for any of the study areas. Figure 3-1 shows an example of the resulting data provided by the City of Charleston GIS Department used to determine periods of significance for each study area. Assigning multiple periods of significance to each study area was necessary to prevent the exclusion of significant changes that took place throughout time. This may be attributed to a number of significant events that took place in Charleston, including those previously considered when creating the time periods, including economic rise and fall, natural disasters, as well as fire.

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Mean</th>
<th>Periods of Significance</th>
<th>Use Type</th>
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</thead>
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<tr>
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<td>2, 3, 5</td>
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</tr>
<tr>
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<td>1878</td>
<td>2, 4</td>
<td>Commercial</td>
</tr>
<tr>
<td>Study Area 3</td>
<td>1916</td>
<td>4, 5</td>
<td>Commercial</td>
</tr>
<tr>
<td>Study Area 4</td>
<td>1843</td>
<td>2, 3, 4</td>
<td>Residential</td>
</tr>
</tbody>
</table>

Table 3.1 Parcel data used to determine periods of significance.

**Data Collection Methods**

Data collection centered on examining historic photographs, paintings, and depictions of the streetscapes to document and analyze what features were present historically. Collection of the imagery was achieved through the use of a number of digital repositories. Online repositories used for this study include the Library of Congress, Historic Charleston Foundation, Lowcountry Digital Library, University of South Carolina Digital Collection, the Charleston Museum, Hathi Trust Digital Library, Open Parks Network, the Metropolitan Museum of Modern Art, South Carolina
Historical Society, and the Gibbs Museum. Non-digital imagery was collected from print sources. A total of 160 images were analyzed in this study.

For each photo, all data and information was recorded into an Excel™ spreadsheet. The photographs basic administrative information, file name, source, URL, identification number, and media type from its respective source was included in the spreadsheet. To document photos taken from digital sources, the original ID or tag number given by the repository was kept. General information was recorded, including the date the photo was taken, and the address of the image if available, and photograph orientation. If a decade was given for the date of an image, the first year of that decade was used as the image’s date. Doing so did not cause issues as only the end of Period 3 and the beginning of Period 4 fall within a single decade. This break was done intentionally to differentiate pre and postbellum Charleston. If the date given for a specific image was a time period spanning multiple decades, the median date was calculated and used as the date of that image.

Specific characteristics were identified through the initial examination of images. Basic features found along the streetscape of King and Chalmers Streets were added to columns of the Excel spreadsheet. As new identifiable features presented themselves, a new column was added, and previous images were reexamined for said feature. Two categories of features presented themselves. The first being features with multiple

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79 A number of hardcopy sources were utilized in this study. These include, Greetings From Charleston, Lost Charleston, and Charleston Come Hell or High Water. Numerous images found in other hardcopy sources are duplicated online. Digital images provided enhanced viewing, and the ability to magnify images to better identify streetscape features.
possible feature states, Table 3.2 (e.g., material type). Street pavement is among the features with feature states. Results in this category include dirt, cobblestone, brick, asphalt, and a combination of materials. The second category of features lacked significant variability and were recorded as either present or absent (Table 3.3). Examples of data collected based on presence or absence include street lights, trolley tracks, carriage steps, and storm drains. Infrastructure located below grade falls outside the scope of this study and was not examined. More in depth analysis of the photos was conducted to derive specific information regarding features and objects present. Categorical variables were analyzed and documented in the form of material type and presence. Presence and absence variables of streetscape features were annotated as present yes/no. Streetscape features that include multiple possibilities or variances were also documented. A street light presents an example of a streetscape feature with multiple variables, in this case, the street light presence, street light material, and street light fuel source were documented. In cases where the initial feature was not present, NA was recorded in the spreadsheet to denote not applicable. When the quality of an image did not allow for a positive identification of a feature or feature location, indistinguishable was recorded in the spreadsheet.

While each individual image location was documented using the address provided by the images source, in some instances this was either not available or too vague. When this occurred, building numbers found within the image were used. If building numbers were not available, other images or GoogleMaps™ Street View was used to identify buildings. In the case of panoramic images taken showing a large portion of a street scene
or an overhead view of Charleston, the location of the photograph or nearest relevant point was recorded as the address of the image. When a block of King Street was provided as the photograph’s location, the beginning address of that block was recorded. When a specific building was the subject of the photograph, that address was recorded. GoogleMaps™ Street View was used when no specific location was specified. Remaining historic buildings and intersecting roads were used as a cross-reference to identify the location of unspecified images.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Street Pavement</td>
<td>Asphalt</td>
</tr>
<tr>
<td>Sidewalk Material</td>
<td>Brick</td>
</tr>
<tr>
<td>Curb Material</td>
<td>Stone</td>
</tr>
<tr>
<td>Driveway</td>
<td>Brick</td>
</tr>
<tr>
<td>Street Light Material</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Street Light Fuel Source</td>
<td>Electric</td>
</tr>
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<td>Signage Type</td>
<td>Façade</td>
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<td>Signage Illumination</td>
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<td>Awning Type</td>
<td>Frame With Fabric</td>
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<td>Telephone Pole Location</td>
<td>Sidewalk</td>
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<td>Telephone Pole Material</td>
<td>Metal</td>
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<tr>
<td>Tree Location</td>
<td>Sidewalk</td>
</tr>
<tr>
<td>Planter Location</td>
<td>Sidewalk</td>
</tr>
</tbody>
</table>

Table 3.2 Multiple outcome data features and their responses.
Limitations to this study were identified during this phase of the process. After collection of data was completed, it became apparent that no data represented time period 1) 1700-1750. While Period 1 remains part of this study, there is no representative data from this time. Limited quantities of data were available Periods 2 and 3. To bolster the relatively sparse imagery available for Periods 2 and 3, a new study area, Study Area 5 was included. This encompasses the lower peninsula outside of the main study areas. Broad Street and East Bay Street provided the majority of tertiary data. This area includes a similar streetscape, including features, which are found on King Street during this time.
Data Analysis Methodology

Recorded data was transferred to a .CSV file to be imported into GIS. As a spatial analytical tool, GIS allowed for streetscape features to be analyzed by their location within the study areas. Using streetscape feature data, GIS overlays provided for spatial analysis of features distribution. Each map produced contains the study area polygons. For each feature set, maps were created for each time period. Multiple outcome data was color coded to distinguish the different materials, and location of materials present during each specific period to identify spatial patterning. For presence absence data, a singular color was used. For instances of presence absence features with limited data, a singular map showing all time periods was created, with each period receiving a different color. By producing feature maps of each time period, an overall sense of the various streetscape features in each time period were obtained. This allowed for period appropriate guidelines of representative streetscape features to be derived.

To analyze feature and material changes through time, the .CSV file was uploaded to JMP Statistical Software. Using the same criteria as the GIS maps, stacked bar charts were produced showing chronological changes in streetscape components and materials over time. Data was input into stacked bar graphs showing the distribution of materials and features over the course of this studies time periods. These charts are grouped by study area usage, commercial Study Areas 2 and 3, and residential Study Areas 1 and 4. The percentage of factor value is shown on each stacked bar graph to help further indicate changes through time. Each material was assigned a color that corresponds with the colors assigned in their respective GIS overlays. Temporal analysis of the data
provides trends in the introduction, use, and decline of specific features and materials in the study area.

Using spatial patterns through GIS, this study provided the ability to construct representative streetscapes for the periods of significance for each study area. The resulting data collected during the course of this thesis has provided the groundwork for creating recommendations for future projects. Analysis has provided recommendations that highlight a holistic approach to streetscape preservation moving forward. This will allow for a comprehensive plan with two distinct results. One, will provide a roadmap for any and all future improvements or renovations to King and Chalmers Streets that bring the streetscape in line with their periods of significance. Second, the recommendations provide the framework for future city projects to return the streets to their historic periods of significance in line with current efforts focused on the facades of historic buildings. These recommendations will bring future streetscape improvements in line with current efforts seen in preservation.
CHAPTER FOUR
DATA ANALYSIS

Data was collected on Charleston’s historic streetscape through the use of imagery, to include photos, and artistic renderings. Each image’s administrative data was recorded, along with specific streetscape features present in the photo or artistic rendering. The data collected on streetscape features will be analyzed to show what features were present at various times, and how the use of different materials evolved over time. Below, this chapter is divided into discussions for each streetscape feature. First, the spatial distribution of the features is discussed for each period, followed by a discussion of temporal patterns. The study is divided into commercial (Study Areas 2 & 3) and residential areas (Study Areas 1 & 4), as well as Study Area 5 where data is available. Figure 4.1 shows each study area. Data will be looked at for spatial orientation within the study area, as well temporal changes through time. Figure 4.2 shows each study area with corresponding data points. Period appropriate streetscape recommendations will be provided at the end of this chapter. Table 4.1 shows the distribution of the 160 images collected and analyzed for this study. From these images, 476 individual feature data points were identified. Appendix A provides frequency distribution of all feature depictions broken down by period, while appendix B by study area.
<table>
<thead>
<tr>
<th>Study Area</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>Period 5</th>
<th>Period 6</th>
<th>Total</th>
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<td>5</td>
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<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>11</td>
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<td>Total</td>
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<td>10</td>
<td>46</td>
<td>66</td>
<td>36</td>
<td>160</td>
</tr>
</tbody>
</table>

Table 4.1 Total images from study.

Figure 4.1 Study Areas 1, 2, 3, and 4 color coded.
To analyze collected data, features examined by their location in the study areas and during different time periods. This information was used to track streetscape changes and trends through the progression of time. The collected data spans from 1750-1971. The study area included King Street, and Chalmers Street. Images outside the main study area.

Figure 4.2 All study area with corresponding data points.
area were included to provide better context to the earlier periods of significance that lacked imagery. The time periods identified for this study include:

1) 1700-1749  
2) 1750-1799  
3) 1800-1864  
4) 1865-1899  
5) 1900-1949  
6) 1950-1971

1971 was chosen as the end date of the study because it is 50 years prior to the beginning of this study, in accordance with the guidelines set by the National Register of Historic Places.\textsuperscript{80} Table 4.2 shows periods of significance assigned to each study area.

This chapter is broken into two sections, spatial and temporal data analysis, and recommendations for period sympathetic streetscapes. For each feature, analysis is discussed as outside the main study area, commercial, and residential by period.

<table>
<thead>
<tr>
<th>Periods of Significance</th>
<th>Use Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Area 1</td>
<td>2, 3, 5</td>
</tr>
<tr>
<td>Study Area 2</td>
<td>2, 4</td>
</tr>
<tr>
<td>Study Area 3</td>
<td>4, 5</td>
</tr>
<tr>
<td>Study Area 4</td>
<td>2, 3, 4</td>
</tr>
</tbody>
</table>

Table 4.2 Periods of Significance for each study area.

**Analysis**

*Street Pavement*

Street pavement is the fundamental element of the streetscape. It is directly correlated to the technology and needs associated with each time period. Street pavement provides the foundation for which the street functions as a transportation artery. While

\textsuperscript{80} National Register Bulletin: How to Apply the National Register Criteria for Evaluation, pg. 2
dirt was present in the initial data for all three areas of King Street, it quickly dropped off in use. Accounts of Charleston’s streets in the 1780’s describe the roadways as “sand, mud, and shell-strewn.” Brick and cobblestone were used intermittently before the introduction of asphalt around the turn of the 20th Century.

**Outside Study Area (Denoted Study Area 5 in Figures)**

In Period 2, there is only one instance of identifiable street surface, dirt, falling outside of the main study area at the intersection of Meeting and Broad Streets. Similarly, Period 3 consists of results outside the main study area. These results include two instances of dirt on Broad Street and East Bay Street. Cobblestone is present on Meeting Street and East Bay Street.

**Commercial areas (Study Areas 2 & 3)**

There were no depictions of street pavement during Periods 2 and 3. As seen in Figure 4.3, Period 4 sees the introduction of new street pavement materials into Charleston's streetscape. Along with the dirt and cobblestone seen in the previous study periods, asphalt and brick begin to emerge as popular pavement choices.

During Period 4, the overwhelming majority of street pavement in Study Area 2 is brick. Dirt is still visible between Hassell and Wentworth Streets. An English visitor to Charleston in this time described the streets as “a vast bath of mud,” pointing to areas still yet to receive a proper pavement. In Study Area 3, all but one instance of street pavements is brick. Progressing into period five, brick still dominates the roadbed with

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81 Walter J. Fraser, Jr. *Charleston! Charleston!* (Columbia, South Carolina: University of South Carolina Press, 1989), 175.
82 Fraser. 290
56% identified. By period Six, paving material has shifted completely to asphalt. Study area three still contains remnants of dirt roadways, with 25% of the data, another 25% of images show a mix of brick and cobblestone. The remaining 50% of data indicates brick as being the main road pavement material during this time along Study Area 3.

During Period 5, Study Area 2 retains the brick pavement seen in the previous time period, however, as seen in Figure 4.4, 56% of the 34 images collected in this section show streets paved in asphalt. Study Area 3 maintains a low number of results as in the previous period, with one instance of brick and two instances of asphalt. Brick has dropped to 33% of the street pavements identified.

Residential areas (Study Areas 1 & 4)

Figure 4.3 shows in the residential portion of the study, Study Area 1 sees the largest dispersion of pavement type in Period 4. During this time, all pavement types can be found in the residential section of King Street. Figure 4.4 shows the temporal breakdown of materials by period of significance. No street pavement information was available for Periods 1, 2, or 3 in Study Area one. Brick is used to cover the roadway in three images in the time period. Cobblestone makes up the largest percentage of pavement material, seen in this area in four images. Asphalt is the least common form of street pavement, with only one instance in Period 4.

Study Area 4, while primarily cobblestone, sees brick at its intersection with Meeting Street. Transitioning into the Period 5, Charleston experiences a massive shift in street pavement materials. In Study Area 1, asphalt becomes the primary pavement choice. Along Chalmers Street in Study Area 4, all street surfaces are paved in
cobblestone. Study Area 4 has no data during Periods 2 and 3. In Period 4, 20% of data indicates brick pavement material, with the remaining 80% being cobblestone (Figure 4.4). This is the only period during this study in which any material besides cobblestone was found on Chalmers Street. Chalmers Street is the outlier, with cobblestone being present throughout the entire study.

Chalmers Street retains its cobblestone as the only pavement material present from Period 4 to Period 5. Time period 5 introduces a complete shift to asphalt. There are four instances of asphalt during this time. Asphalt is the only material used in Period 6, appearing in seven images.
Figure 4.3 Street pavement by time period.
Figure 4.4 Street pavements through time
Sidewalk Material

Sidewalk material, as with street pavement, form the foundation for circulation within a streetscape. Sidewalk material provides a distinct area delineated from the roadway for use by pedestrians. Charleston began paving its sidewalks in 1764.  

Outside Study Area (Denoted Study Area 5 in Figures)

Figure 4.5 shows data collected in Period 3 falls outside the main study area, with all occurrences being paving stone.

Commercial areas (Study Areas 2 & 3)

In all data collected in the commercial section of this study (Figure 4.5) in Periods 4 and 5, paving stone is used. Period 6 introduces a new material, ornamental stone to the King Street streetscape. This material is only found in front of the Riviera Theater at 227 King Street (Study Area 2). Paving stone is representative of all data from Study Area 2 throughout all time periods. The only instance of ornamental stone, in front of the Riviera Theater, is not representative of the streetscape. This singular data point does not reflect a change in sidewalk material, rather an inconsequential outlier found after 1949. As with the central portions of King Street, Study Area 3 has always had paving stone sidewalks.

Residential areas (Study Areas 1 & 4)

Initial data shows sidewalks made of dirt in Study Area 1 during Period 2. There is a lapse in data during Period 3. Study Area 4 is mixed with paving stone, dirt, and brick sidewalks during Period 4. Study Area 4 shifts from multiple sidewalk materials to

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predominantly paving stone, with one instance of brick, and one of concrete. One instance of concrete is found on a southern portion of Chalmers Street, with paving stone running adjacent along the northern section of the sidewalk. In Period 4, 22% of the data shows brick being used on sidewalks (Figure 4.6). The remaining 78% of sidewalk material is paving stone. Period 4 is the last time any material other than paving stone was used in Study Area 1. By Period 5, 83% of all sidewalks identified are made of paving stone. By period six, that figure jumps to 89% of all sidewalks laid in paving stone. The singular instance of concrete during this time shows both concrete and paving stone sidewalks. Study Area 5 continues the trend of paving stone sidewalks as it too does not contain any other data.
Figure 4.5 Sidewalk material by period.
Figure 4.6 Sidewalk material over time.
**Curb Material**

Curbs provide the basis for which the roadway and sidewalk are divided. Curbs are the physical barrier between the pedestrians right of way and the transportation used in each period. Charleston’s curb material includes bluestone, granite, brick, and concrete. Specific curb materials could not be identified in historic images due to the similarities on composition. No data on curb material was available for Time Periods 1 and 2.

**Outside Study Area (Denoted Study Area 5 in Figures)**

In Period 3, three data points are distributed outside of the main study area, representing stone curbs. 17% of the data collected from Study Area 5 during Period 3 identified brick as the curb material (Figure 4.8).

**Commercial areas (Study Areas 2 & 3)**

One data point was observed during Period 3 in Study Area 2. This study found only stone curbs in the commercial sections of King Street. Along Study Areas 2 and 3, all data from Period 4 indicate stone curbs. As in Period 4, all curbs are made of stone in the commercial section during Period 5. The trend continues into Period 6, of only stone curbs in Study Areas 2 and 3.

**Residential areas (Study Areas 1 & 4)**

The only curb material observed in the residential portion of this study during Period 3 is brick, located in Study Area 4. Entering Period 4, there is one data point indicating brick curb material in Study Area 4. As seen in Figure 4.7, all other curbs are made of stone in Study Area 1. Period 5 mimics Period 4 in the dispersion of brick curb...
material limited to one instance of brick in Study Area 4, while Study Area 1 remains all stone. All images of brick curb in Study Area 4 depict the area around 36-38 Chalmers Street. There is no change from Period 5 to Period 6 in the location or type of curb material found in this study. Stone is the main curb material used within the areas studied in this thesis. Only five of the 28 images indicating curb material along Chalmers Street are brick, all others are stone. There is a consistent trend in Study Area 4 of brick curb being present in all time periods where data was collected along this stretch of roadway. In no other instances did this study find any material other than stone used as a curb material within the study area.
Figure 4.7 Curb material by period.
Figure 4.8 Curb material over time.
**Driveway Transects**

Driveways allow for the movement of vehicles through the pedestrian portion of the streetscape. Clearly delineated driveways allow for the visual identification of vehicle transects from the roadway through the sidewalk. Driveways do not appear until Period 4 and are largely concentrated in the residential areas.

**Outside Study Area (Denoted Study Area 5 in Figures)**

No data on driveways fall outside the main study area.

**Commercial areas (Study Areas 2 & 3)**

During Period 5, brick and concrete driveways are found in the commercial portion of this study. The commercial portion of Study Area 2 is split between brick and concrete driveways. These two data points, however, are the only two instances of driveways being identified in imagery from the commercial area during the time frame of this study (Figure 4.9).

**Residential areas (Study Areas 1 & 4)**

During Period 5 in Study Area 1, as seen in Figure 4.9, imagery shows two instances of driveways made of paving stone transecting the sidewalk. A third instance was identified as a brick driveway. A brick driveway was identified in imagery from Study Area 4. Period 5 contains brick, concrete, and paving stone driveway transects in Study Areas 1 and 4. Paving stone and brick are found in Study Area 1. Driveway transects in Study Area 4 consist entirely of brick. In Study area 1, brick, concrete, and paving stone driveways are present in Period 6. Chalmers Street is split between paving stone and brick. The residential section of King Street remains split between brick and
paving stone driveways until Period 6, with the introduction of concrete. Paving stones do not appear in any depictions of Study Area 4.
Figure 4.9 Driveway location and material by period.
Figure 4.10 Driveway presence over time.
Street Lights Material

Street lights bring illumination to the streetscape, not only providing light during the night but helping to deter crime. Illuminated streets provide a safer and more usable streetscape. For the purpose of this study, metal is used to describe a street light where the specific metal could not be identified. After 1910, cast iron street lights dominated King Street. Cast iron poles supported five electrified lamps.\textsuperscript{84} Current iterations of Street lights on King Street are modeled after those from the 1880’s.\textsuperscript{85} Street light data begins in Period 3.

Outside Study Area (Denoted Study Area 5 in Figures)

Five images of street lights were found outside the main study area, of these two could be identified as cast iron, while the remainder were identified as metal.

Commercial Areas (Study Areas 2 & 3)

A singular data point identified during Period 3, found in the heart of Study Area 2, was identified as metal (Figure 4.11). No data was found for Study Area 3 during this time. In Period 4, all street lights, made of metal, were identified in Study Area 2. Two data points were observed in Study Area 3, all of metal light poles. Study Area 2 no longer consists entirely of metal street lights by Period 5.

A concrete light pole was identified in the heart of the commercial district during Period 5. Street lights become less prevalent in Period 6. Data was only available for

\textsuperscript{85} Stoll. 15
study areas 2 and 4. 67% of the street lights identified in Study Area 2 were concrete, while the remaining 33% were metal (Figure 4.12). Study Area 2 shows a consistent trend, albeit a shrinking trend in the use of metal light poles. Concrete, introduced in period five, overtakes metal as the primary material used by 1950, with 67% of all light poles identified as concrete. In study areas 3, metal and or cast iron are historically accurate materials for light poles in these areas, however, the lack of data in Period 5 suggests light poles were not prevalent in these areas.

**Residential areas (Study Areas 1 & 4)**

No data was collected on Study Area 4 during Period 3. Street lights were observed during Period 3 in the lower portion of Study Area 1, as well as adjacent to Broad Street. Data from study area 4 contained 50% results for metal, and 50% identifiable as cast iron during Period 4. During Period 5, new materials are introduced to the illuminated streetscape. Along Lower King Street, during Period 5 street lights were observed affixed to wooden telephone poles running south from the area of Broad Street. Street lights near the intersection of South Battery Street were identified as metal. Only metal light poles were observed during Period 6 in Study Area 4 (Figure 4.11).

Study Area 1 predominantly contains metal light poles, however, the addition of telephone poles in Period 5 introduces the repurposing of streetscape elements for multiple uses. Study Area 1, the residential portion of King Street is significantly narrower than north of Broad Street. This may explain the need to use streetscape features for multiple purposes. No data was found at present for Study Area 4 during Period 5.
Figure 4.11 Street light material by period.
Figure 4.12 Street light material over time.
Street Light Fuel Source

Street lights were illuminated based on the available technology of the time period. Gas street lights provided early illumination to the street, while the fuel source shifted to electrical with the advancement of technology. Along with the location and material of street lights, street light fuel sources were also recorded for this study.

Outside Study Area (Denoted Study Area 5 in Figures)

Period 3 data consists wholly of gas street lights outside the main study areas.

Commercial areas (Study Areas 2 & 3)

In Period 3, only one data point was recorded for Study Area 2. This instance of street light fuel was gas. Gas street lights constitute all lights during Period 4 in Study Area 3. 88% of all lights found in Study Area 2 are gas during this time as seen in Figure 4.14. Electricity is introduced during this time with one image identified as containing an electric street light. Charleston lagged behind the rest of the country, not fully embrace electricity until after the turn of the 20th century.86 Study Area 2 goes from only one instance of electricity in the previous time period to only one instance of gas in Period 5. No data was available for Study Area 3 during this time. In Period 6, all street lights are electric in Study Area 2.

Residential areas (Study Areas 1 & 4)

In Period 4, there is a substantial shift in the number of street lights recorded. In Study Area 1, only gas lamps were observed, as seen in Figure 4.13. Similarly, all street

lights in Study Area 4 run on gas. The change from Period 4 to time Period 5 sees a
transformation in street light fuel sources. Study Area 1 is now completely electrified.
There is no data from Study Area 4 during this time. Data collected from Study Area 4
during Period 6 shows a complete shift from gas to electricity has been completed within
the study area.

There is a clear transition from gas street lights to electric street lights during the
transition from Period 4 to Period 5. There is no distinction between the use and
transition from gas to electric based on commercial or residential sections of the study.
100% of all data from period three indicates gas as the only fuel source. 99% of all data
confirms this to continue to be true in Period 4 (Figure 4.14). In Period 5, 99% of all data
confirms the switch to electricity during the turn of the century. By Period 6, not a single
instance of gas street lights was observed.
Figure 4.13 Street light fuel source by period.
Figure 4.14 Street light fuel source over time.
Trolley Tracks

With the advent of horse drawn carriages, and the advancement to electrically powered trolley cars, the tracks in the roadbed allowed the cars to navigate the streets on pre-determined paths. Trolley tracks data begins in Period 4. Originally used by horse drawn street cars, then electric trolley cars, metal tracks in Charleston roadways for transportation did not take hold until after the Civil War.87

Outside Study Area (Denoted Study Area 5 in Figures)

No data available for trolley tracks outside the main study area.

Commercial areas (Study Areas 2 & 3)

During Period 4, trolley tracks are present along the commercial portion of King Street from Market Street running north. There is only one instance of imagery with trolley tracks in Upper King Street, Study Area 3. Trolley tracks remain visible in Period 5 images. A shift in presence can be seen along King Street in Study Area 2, as tracks can be seen south of Market Street (Figure 4.15). By Period 6, trolley tracks have all but disappeared along King Street, only present in a singular image in the commercial corridor, with the street having been paved in asphalt around the brick inlaid tracks. Trolley tracks left in the roadway continue to be seen until 1949, after which only one example exists in the commercial area of King Street.

Residential areas (Study Areas 1 & 4)

Trolley Tracks are less prevalent in the residential portions of this study. Two images contain trolley tracks within Study Area 1 during Period 4, in front of the Miles Brewton House, and just south of Broad Street at 96 King Street. This is the only period tracks are seen in Study Area 4. Trolley tracks do not appear in imagery of Study Area 1 during Period 5. Time Period 5 begins to indicate shifts in the prevalence of trolleys being used along King Street. Figure 4.16 data shows after the turn of the century, as street pavement materials changed, trolley tracks began to be removed from the roadbed.
Figure 4.15 Trolley track location by period.
Figure 4.16 Trolley tracks over time.
Trolley Track Power Poles

With the electrification of Charleston’s street cars, the infrastructure required to power said cars was installed in the form of trolley power poles and the overhead lines that brought electricity directly to the car. As with the presence of trolley tracks, the power poles used to electrify the cars begin to appear in Period 4. Figure 4.15 shows most data points are centralized in the commercial area of the study. The temporal shift of trolley track power poles coincides with the introduction and decline of the technology in Charleston.88 Introduced in the late 1890s, electric trolley cars required overhead electrical lines for power, thus trolley power poles were installed on Charleston’s Streets.89

Outside Study Area (Denoted Study Area 5 in Figures)

No data for trolley track power poles outside the main study area.

Commercial areas (Study Areas 2 & 3)

Six instances of trolley power poles are present in Study Area 2 during Period 4 (Figure 4.15). There is a significant increase in depictions of trolley power poles moving into period five, present in 27 images of Study Area 2. No imagery contained depictions of power poles in Study Area 3. Trolley power poles are found in two images from Study Area 2 during Period 6.

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89 Butler. *The Rise of Streetcars and Trolleys in Charleston*
Residential areas (Study Areas 1 & 4)

One data point, taken from an image of the Miles Brewton House at 27 King Street, shows an electric trolley power pole in front of the house during Period 4. No further images of study area 1 contain trolley power poles. Study Area 4 contains no instances of trolley power poles in any time period. Trolley power poles were not found in any depictions of Study Area 4.

Bollard

Bollards serve to provide physical and visual barrier between the sidewalk and the roadway. Bollards can be made of metal or stone.

Outside Study Area (Denoted Study Area 5 in Figures)

Bollards appear in five images all outside the main study area in Period 3. Bollards found in Study Area 5 are situated in high traffic areas used as meeting places for commerce, government, or pleasure.

Commercial areas (Study Areas 2 & 3)

In Study Areas 2 and 3, the commercial areas of this study, no bollards were observed regardless of time period.

Residential areas (Study Areas 1 & 4)

In Period 4, bollards are exclusively present in the residential sections of this study. By Period 5, only two instances of bollards appear in collected images, both on the

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90 Butler. *Street Trees in Early Charleston: Fountains of Air and Shade*
same block of King Street to include the Miles Brewton House in Study Areas 1. Only the bollards at the Miles Brewton House remain in Period 6, as well as the addition of bollards recorded at the Old Slave Mart, 6 Chalmers Street in Study Area 4 (Figure 4.17). The highest frequency of bollards appear in Study Area 1.
Figure 4.17 Bollard locations by period.
**Signage Type**

Signs provide advertisement for storefronts along streets. These unique visual features allow for the identification of goods and services provided and attract patrons to the businesses. Signage type was defined according to the International Sign Association’s *Identification of Sign Types.*

**Outside Study Area (Denoted Study Area 5 in Figures)**

Projecting signage was located in Study Area 5 only during Period 3.

**Commercial areas (Study Areas 2 & 3)**

Distribution of signage discovered in this study is focused primarily in the commercial portion’s areas of King Street. Storefront signage only appears in one data point in Period 3. This image contains both projecting signage as well as pole mounted signage, located in the heart of commercial Study Area 2. While there is limited data from Period 3, it falls in line with the data from the remainder of the study that suggests projecting signs as appropriate for all periods of significance in Study Area 2 (Figure 4.18). Results from Period 4 remain centered in the commercial section of King Street. 12 of the 14 images of signage during this time are projecting signs. There is one instance of a facade sign and one instance of both projecting and pole mounted signs.

Instances of signage have increased in the center of study area 2, with projecting signs dominating the streetscape. Study Area 3 only increased by one data point. Period 6

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91 Sign definitions fall in line with those provided by the ISA; https://www.signs.org/signs-101/identification-of-sign-types. A “projecting sign is mounted on a building but extends at a perpendicular angle.” While façade signs fall under “wall or fascia…exterior wall or fascia of the building.” “Pole signs are freestanding with a visible support structure.”
experienced a drastic shift away from the use of storefront signage Study Area 2 maintains the majority of signage in Period 6. Instances of signage in Study Area 3 decrease in frequency. Only one data point from Period 4, a projecting sign, is present in Study Area 3. All data collected from Study Area 3 indicates projecting signs as the only accurate signage for this area.

Residential areas (Study Areas 1 & 4)

The residential section of King Street, Study Area 1, is void of any signage. Chalmers Street, while primarily residential, is identified as having one projecting sign during this time. Period 5 again shows no signage present in Study Area 1, as is the case in Study Area 4. As seen in Figure 4.18, no signs are present in Study Area 1 during Period 6.

No signs were identified in imagery from Study Area 1 during any time period. Chalmers Street, while primarily a residential street, does contain data indicating commercial ventures during Periods 4 and 6. Projecting signs accurately represent this area during those times (Figure 4.19).
Figure 4.18 Storefront signage by period.
Figure 4.19 Storefront signage over time.
Signage Illumination

With the adoption of electricity in Charleston, commercial businesses took advantage of the technology to enhance the visibility and attractiveness of storefront signs to draw the attention of consumers. Early storefront signage consisted of simple wooden signs; these signs were non-illuminated. Charleston’s lackadaisical adoption of electricity account for the lack of illuminated signage pre-1900.92

Outside Study Area (Denoted Study Area 5 in Figures)

Period 3 contains one instance of a non-illuminated sign outside the main study areas.

Commercial areas (Study Areas 2 & 3)

Data from Period 4 indicates all signage in this time to be non-illuminated, with the majority of data points in Study Area 2 along the commercial section of King Street. There is one data point in Study Areas 3 indicating the presence of non-illuminated signage. Period 5 introduces the shift from non-illuminated to illuminated signage as the technology gains use. Entering Period 6, storefront signage drastically drops in use. All signage that remains is illuminated by this time in the commercial portion of King Street. Of the study areas that contain signage, only in Period 5, Study Area 2 are illuminated and non-illuminated signs present together (Figure 4.21).

Signage illumination shows a drastic change from non-illuminated signs to illuminated. All signs in Periods 3 and 4 are non-illuminated. In this time, 89% of observed Study Area 2 signs were illuminated. Study Area 3 signs have completely

92 Stoll. 65
transitioned too electric. Even though there is a drastic decline in the presence of observed storefront signage, what remains in period six are all illuminated.

Residential areas (Study Areas 1 & 4)

One non-illuminated sign is present in Study Area 4 during Period 4. Period 5 follows the same distribution of signage, with no signs in Study Area 1 (Figure 4.20). The distribution of signage shows no instances in Study Area 1 over the course of this study.
Figure 4.20 Signage illumination by period.
Figure 4.21 Signage illumination over time.
Awnings

Awnings provide both a visual advertisement for businesses as well as offer shade to the storefronts. Along with the signs, storefronts often utilized awnings to attract business and shade their facade.

Outside Study Area (Denoted Study Area 5 in Figures)

Data observed from Period 3 shows no instances of awnings within the main study area, with two data points in Study Area 5. These awnings are fabric over metal frame.

Commercial areas (Study Areas 2 & 3)

As previously seen in the dispersion of signage within the study area, awnings are centralized in the commercial area of Study Area 2 between Market Street and Liberty Street during Period 4 (Figure 4.22). Only one awning was found during Period 4 in Study Area 3. Beginning in 1900, the largest variety of awning types were observed. Figure 0-21 shows the dispersion of awning types in Period 5. By this time, only the commercial areas contain awnings of any type. Instances of awnings decline in Period 6, with fewer awnings observed during this time. Those that do appear continue along the same commercial district of Study Area 2.

Changes observed in the data show trends in awning type. Framed awnings, with fabric are seen in the earliest data throughout all areas. In Study Area 2, which contains the most instances of awnings present in the entire study area, all awnings are frames with or without fabric. This begins to change as with the introduction of all metal awnings, and a limited number of all wood awnings. Metal awnings begin to rise in use
withing time Period 5 along Upper King Street. By the end of this study, 40% of awnings along the commercial corridor of King Street were all metal (Figure 4.23). 60% remain frames with or without fabric. Study Area 2 is the only portion of King Street where awnings are found during the last years of this study.

Residential areas (Study Areas 1 & 4)

Two awnings are present in Study Area 1 during Period 4, while another is present in Study Area 4. The awnings in study area 1 are fabric over metal frame, and frame without fabric in Study Area 4. In Periods 5 and 6, the residential areas of this study are void of awnings.
Figure 4.22 Awning type by period.
Figure 4.23 Awning type over time.
Telephone Pole Material

Telephone poles identified earlier in this study were also recorded for their material composition. In some instances, material could not be identified through imagery. This resulted in fewer data points for material compared to the results found in the presence and absence of telephone poles.

Outside Study Area (Denoted Study Area 5 in Figures)

No data present for telephone pole material outside of the main study area.

Commercial areas (Study Areas 2 & 3)

Telephone poles identified in this study consist entirely of wood during Period 4. All instances of telephone poles in the commercial area during Period 5 resulted in wood. One of the four data points in Study Area 2 is metal, while the remainder are wood during Period 6.

Residential areas (Study Areas 1 & 4)

Of the 42 data points collected on telephone pole material, only two were of metal (Figure 4.24). All other instances were of wood telephone poles. In Period 5, only one data point in Study Area 4 was identified as metal. In Period 6, no metal telephone poles were observed in Study Area 4, Telephone poles in Study Area 1 during this time are all wood. There were no trends in distribution of material that pointed to a drastic difference between commercial and residential telephone pole material.
Telephone Pole Location

With the advent of telephone communications, the telephone pole became a staple of streetscapes. While placed either in the street or on the sidewalk, these poles provided necessary lines of communication. Time Period 4 sees the introduction of telephone poles across all study areas. Telephone poles can be found evenly distributed in all four main study areas.

Outside Study Area (Denoted Study Area 5 in Figures)

No data for telephone pole location collected outside of the main study area.

Commercial areas (Study Areas 2 & 3)

Period 4 data from Study Area 2 show telephone poles located on sidewalks as well as in the street along the commercial corridor of King Street. Moving into Upper King Street, all telephone poles present in this time frame are located in the street. All telephone poles in Study Area 2 are located on the sidewalk during Period 5. The single instance in Study Area 3, similarly to the previous time period, is in the street. Telephone poles are located on the sidewalks of Study Area 2 in Period 6.

Residential areas (Study Areas 1 & 4)

In the lower portion of Study Area 1, in the last two blocks of King Street, all Period 4 telephone poles are located in the street. Farther north in Study Area 1, the telephone poles move to the sidewalk. Study Area 4 observed a mix of both street and sidewalk located telephone poles, with one instance of both locations in one image. During Period 5, the presence of telephone poles shifted away from Study Area 1. While there are fewer data points during this time period, only one is located in Study Area 1, in
an image located at 105 King Street, just south of the study areas border. Study Area 4 sees poles located in the street on the eastern end of Chalmers, while the western section of the road has all poles located on the sidewalk. All telephone poles identified in Period 6 are located on the sidewalk. Figure 4.24 shows the location, street or sidewalk, of all telephone poles.

In study areas 1 and 2, there is a clear trend starting in Period 4, and moving into Periods 5 and 6. In these study areas, telephone poles are found to be present both on the sidewalk and in the street. After the end of period 4, all telephone poles have moved onto the sidewalk. Data observed on Chalmers Street is roughly evenly split between street and sidewalk during time Periods 4 and 5. Location of telephone poles does not see a major trend based on area usage, either commercial or residential, but rather a temporal change with time (Figure 4.25). Study Area 3, Upper King Street, is the outlier, with all telephone poles located in the roadway in Periods 4 and 5, and no data from Period 6.
Figure 4.24 Telephone pole locations by period.
Figure 4.25 Telephone pole locations over time.
Carriage Step

An advent of the days when horse drawn carriages ruled the streets of Charleston, carriage steps provided a means of getting in and out of the carriage. In modern times, carriage steps are a decorative relic of the past. Data collected showed seven instances of carriage steps in the 271-year span of this study. Research conducted by Craig Garrison in 2013 found only four instances of carriage steps still present on King Street. All of these were in Study Area 1.93

Outside Study Area (Denoted Study Area 5 in Figures)

One carriage step was observed in an image in Period 3, outside of the main study area.

Commercial areas (Study Areas 2 & 3)

With few instances of carriage steps found during this study as well as in Garrisons study, it is no surprise that only one carriage step was found in the commercial portion of this study. In Period 4, there is one carriage step found in Study Area 2.

Residential areas (Study Areas 1 & 4)

Two carriage steps represent Study Area 1 in time Period 4. All remaining data points on carriage steps occur within Study Area 4. Two carriage steps were observed in Period 5, with an additional step observed in Period 6.

Traffic Signs and Signals

With the advent of modern transportation and the need to control traffic, signals and signs became a streetscape staple. They provide for a safer and more controlled environment for the circulation of vehicles and pedestrians. Just as the horse drawn streetcar gave way to the electric trolley, automobiles would overtake all as the primary form of transportation.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected for traffic signs and signals outside the main study area.

Commercial areas (Study Areas 2 & 3)

It is not until the turn of the 20th Century in Time Period 5 are there any identifiable instances of traffic signs and signals present in the study area. Data from this period presents itself only in the commercial portion of this study. A spike in traffic signs and signals is observable in Period 6. Figure 4.26 shows the distribution of these signs and signals. Study Area 2 experiences an increased presence of signs and signals during this time.

Residential areas (Study Areas 1 & 4)

Chalmers Street has four observable data points present during Period 6

Mail Collection Drop Box

Mail collection drop boxes allow for the collection of mail by the postal carrier. Only one drop box was observed throughout the entirety of this study.
Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on mail collection drop boxes outside the main study area.

Commercial areas (Study Areas 2 & 3)

The only mail collection drop box found in this study was observed in Study Area 2, in a photo from 1970.

Residential areas (Study Areas 1 & 4)

No data found for mail collection drop boxes in the residential areas of this study.

Garbage Can

City provided garbage cans along the pedestrian areas of streets combat rampant litter and refuse within the streetscape.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on garbage cans outside the main study area.

Commercial areas (Study Areas 2 & 3)

Two instances of garbage cans were observed in the data collected for this thesis. Both data points are located in the commercial section between the cross streets of Wentworth and Beaufain in Study Area 2. One garbage can is present in Period 5, and the other during Period 6.

Residential areas (Study Areas 1 & 4)

No data collected on garbage cans in the residential portion of this study.
Figure 4.26 Carriage step, traffic signs and signals, mailboxes, and garbage cans by period.
Overhead Utility Lines (No Pole Present)

For the purpose of this study, images containing unknown overhead utility lines without a pole or connection point were recorded on a presence absence basis. Distribution of this feature does not represent a distinguishable difference between commercial or residential areas. Overhead utility lines were included in this study to add context to the overall condition of the streetscape in a given time period. This data does not distinguish the type of utility line present in an image, whether it be a trolley power line, telephone line, etc... Nor does it indicate a lack of telephone poles or trolley power poles, but rather the orientation and distance from the images intended subject.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on overhead utility lines outside of main study area.

Commercial areas (Study Areas 2 & 3)

In Period 4, Figure 4.27 shows one instance of overhead lines was observed in Study Area 3. No overhead lines were found during this time in Study Area 2. Two images contained overhead lines in the commercial areas during Period 5, one in Study Area 2, and one in Study Area 3.

Residential areas (Study Areas 1 & 4)

Two instances of overhead lines were observed during Period 4 in Study Area 1. Study Area 4 showed no evidence of overhead lines during this time. One image contained overhead lines in Study Area 1 during Period 5, while Study Area 4 contained nine images with unidentifiable utility lines void of a pole or connection. Study area 4
continued to produce the majority of data points in time period six, with 50 percent of all instances of overhead utility lines.
Figure 4.27 Overhead utility lines by period.
**Manhole Covers**

Manhole covers provide access to underground water and sewage systems. For this thesis, the presence and absence of manhole covers were recorded.

**Outside Study Area (Denoted Study Area 5 in Figures)**

No data collected on manhole covers outside of the main study area.

**Commercial areas (Study Areas 2 & 3)**

Manhole covers do not appear in the streetscape until Period 5. The majority of manhole covers present were in Study Area 2. Of the 36 images collected in Period 6, only 1 instance of a manhole cover along King Street was found, along the upper portion of Study Area 2 (Figure 4.28).

**Residential areas (Study Areas 1 & 4)**

One manhole cover was observed in Study Area 1 during Period 5.

**Utility Cover**

For the purpose of this study, utility covers are utility access covers located in the sidewalk. They allow access to underground utilities for maintenance purposes.

**Outside Study Area (Denoted Study Area 5 in Figures)**

No data collected on utility covers outside main study area.

**Commercial areas (Study Areas 2 & 3)**

Utility covers do not make an appearance until Period 5. During Period 5, one utility cover was observed in Study Area 2. In Period 6, one utility cover was identified in Study Area 3.
Residential areas (Study Areas 1 & 4)

During Period 5, one utility cover is located near the intersection of Broad Street in Study Area 1. Three utility covers are observed in Study Area 4. In Period 6, Study Area 1 had five instances of images with utility covers, Chalmers Street has three images depicting utility covers (Figure 4.28). A spike is observed in Study Area 1, with five images of utility covers observed in Period 6 compared to just one in the previous time frame.
Figure 4.28 Manhole and utility covers by period.
**Storm Drains**

Storm drains are openings in the curb of a street that allow for the flow of water runoff to be collected and diverted away from the road surface.

**Outside Study Area (Denoted Study Area 5 in Figures)**

No data was collected on storm drains outside the main study area.

**Commercial areas (Study Areas 2 & 3)**

Like manhole and utility covers, storm drains were not observed in imagery until Period 5. Two data points were observed in Study Area 2 during this time.

**Residential areas (Study Areas 1 & 4)**

Two data points were collected in Study Area 1 in Period 5, as seen in Figure 4.29. In Period 6, even fewer imagery captures storm drains along King Street. Images from the later portion of the 20th Century only contained two instances of storm drains, both in Study Area 1.

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**Parking Meters**

Parking meters allow vehicle owners the ability to park for a specified amount of time on a city street.

**Outside Study Area (Denoted Study Area 5 in Figures)**

No data collected on parking meters outside the main study area.

**Commercial areas (Study Areas 2 & 3)**
Parking meters are not introduced into the study area until Period 6. There are only three instances of parking meters present in the streetscape. Two are found in the center of Study Area 2.

Residential areas (Study Areas 1 & 4)

One parking meter was present on the western end of Study Area 4 during Period 6.

Fire Hydrants

Fire hydrants allow for the delivery of pressurized water throughout a city for use by firefighters to combat localized fires. These features are a modern requirement in the streetscape.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on fire hydrants outside the main study area.

Commercial areas (Study Areas 2 & 3)

In Period 4, there are three images with identifiable fire hydrants. Study Area 2 contains two images and Study Area 3 has one. Five fire hydrants running the length of Study Area 2 were observed in Period 5. By Period 6, the number of observed fire hydrants in Study Area 2 drops to only two. In no other areas were fire hydrants observed during Period 6.

Residential areas (Study Areas 1 & 4)

In Period 5, only one fire hydrant was identified in Study Area 1.
Figure 4.29 Storm drain, parking meter, and fire hydrant locations by period.
Landscape: Trees

Trees have provided many uses in Charleston’s past. From delineating pedestrian and carriage right of ways, to the medicinal benefits lauded during the late 1700’s. Street trees have seen a number of campaigns of planting and destruction in Charleston.\(^94\) In the early 1800’s a hurricane brought disease to the city, among its response was the allocation of funds to plant street trees “for ‘pure and vital air.””\(^95\) An inventory of street trees was conducted in 1909 by the Charleston Museum, outlining what species were present during that time.\(^96\)

Outside Study Area (Denoted Study Area 5 in Figures)

One tree was located outside the main study area along Broad Street, its location either on the sidewalk or street could not be determined. During Period 3, six trees were identified in images outside of the main study area. Five of the six trees were located in the street, while the latter was indistinguishable. A final tree outside the main study area along Broad Street, planted in the street, was observed during Period 4.

Commercial areas (Study Areas 2 & 3)

No imagery containing trees were present in Study Areas 2 or 3 during Period 5. In study area 2, one tree was planted in the street, while the other tree’s location was indistinguishable. Along Upper King Street, two trees were identified in the vicinity of Marion Square. One was located in the street, while the other was indistinguishable. A third tree in the vicinity of Cannon Street was observed on the sidewalk.

\(^94\) Butler. “Street Trees in Early Charleston: Fountains of Air and Shade”
\(^95\) Fraser. 189
Commercial areas, as seen in Figure 4.30, are almost entirely void of trees, and do not represent historically sympathetic streetscapes. Data collected from time Periods 2 and 3 all indicate trees either planted in the street, or their location was not able to be distinguished. By Period 4, trees planted in the street and on the sidewalk were located in every study area, though in relatively few numbers.

Residential areas (Study Areas 1 & 4)

In Period 2, one depiction of a tree was observed in Study Area 1. This tree was located in the street. From imagery taken in Period 4, seven instances of trees were recorded in Study Area 1. All trees in this area from the intersection of Lamboll Street south were located in the street. Trees found north of this intersection were planted on the sidewalk. Study Area 4 contains both trees planted on the sidewalk and the street. The tree identified east of Church Street was located in the street. One tree west of Church Street was located on the sidewalk, while the third tree's location was indistinguishable.

In imagery from Period 5, two instances of trees were identified in Study Area 1. The first, located at 1 King Street in front of the Fort Sumter Hotel, were planted on the sidewalk. In the second instance, the tree's location just south of Broad Street could not be identified. Three images containing trees planted on the street exist during Period 5 for Study Area 4. A fourth image from this area is indistinguishable. By Period 6, only Study Area 4 contained imagery depicting trees. In all three instances, the trees were located on the sidewalk.

Trees found both in the street and on the sidewalk are representative of the residential areas of this study (Figure 4.31). In Study Area 1, 71% of trees were planted
in the street. By Period 5, 50% of the trees in Study Area 1 were located on the sidewalk. This is in contrast to Study Area 4, where all identifiable locations were still in the street. All data from 1950 to 1971 comes from Study Area 4. At this time, trees were only located on the sidewalk.
Figure 4.30 Tree locations by period.
Figure 4.31 Tree location over time.
Landscape: Planter

Planters along the street allow for the beautification of the streetscape. Through the entirety of this study, only two images contained any vegetation located within the streetscape.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on planters outside the main study area.

Commercial areas (Study Areas 2 & 3)

No data was available for planters in the commercial portion of this study.

Residential areas (Study Areas 1 & 4)

A planter was observed outside the Fort Sumter Hotel in Period 5, Study Area 1, consists of grass along the sidewalk of King Street. The second image with vegetation, from Period 6, Study Area 4, was taken in front of the Pink House at 17 Chalmers Street. In this image, vegetation can be seen planted alongside a tree in the sidewalk. A lack of data indicates that vegetation, beyond trees, were not a component of historic streetscapes along King and Chalmers Streets.
String Lights

For this study, string lights are considered a series of lights run along a string or cable, spanning a roadway.

Outside Study Area (Denoted Study Area 5 in Figures)

No data collected on string lights outside the main study area.

Commercial areas (Study Areas 2 & 3)

String lights first appear in imagery during Period 4. All instances of string lights are found between Queen Street and Society Street in the commercial portion of this study. In Period 5, there are six instances of string lights present in imagery collected. In all cases, the string lights are hung between Beaufain Street and Calhoun Street (Figure 4.32). There is one probable sighting of string lights within this same area.

Residential areas (Study Areas 1 & 4)

No data collected on string lights in the residential portion of this study.
Figure 4.32 Planter location and string light locations by period.
Recommendations

The study areas have shown consistent patterns unique to the commercial (Study Areas 2 & 3) and residential (Study Areas 1 & 4) areas analyzed in this thesis. Derived from the construction date data provided by the City of Charleston’s GIS Division, the periods of significance can be used to build a feature set representative of that period’s streetscape. As efforts have been made to model Charleston’s Historic storefronts and facades to period appropriate aesthetics, so too should this be done to her streetscape. A holistic approach to achieving this goal cannot be complete without the same focus given to buildings being applied to the streetscape. The recommendations included below are meant to complement existing guidelines set forth for buildings. The following recommendations are modeled after main street guidelines. Historically accurate aesthetics are the overall goal of modern preservation and revitalization efforts in historic districts. This model must then coincide with the attention given to the streetscape. The recommendations provided acknowledge features, such as fire hydrants and utilities necessary in a modern streetscape setting. Recommendations are presented by area use type, commercial and residential. Street cross sections are provided for each individual study areas identified period of significance.

97 City of Charleston Board of Architectural Review guidelines and zoning ordinances can be found at https://www.charleston-sc.gov/293/Board-of-Architectural-Review-BAR-L-BAR-
Commercial

The streetscape of Study Areas 2 and 3 are defined by characteristics of an active and vibrant commercial district. This includes features associated with advertisement such as storefront signage and awnings. Study Area 2 has functioned as the heart of Charleston’s commercial operations throughout time. Study Area 2 runs along King Street from Broad Street to Calhoun Street. Study Area 3 spans King Street from Calhoun Street north to the Septima P. Clark Expressway. This portion of King Street has seen the most modern changes.

Commercial Period 3:

Street pavement: cobblestone could be used as an appropriate material representing this period, dirt, while present is not a viable street paving material.

Street lights: modern metal street lights made to resemble the gas lights present historically would maintain the look and feel of this area while using modern electricity.

Signage: should include projecting signs mounted on the façade of the building. These signs should be non-illuminated.

Landscape features: trees and planters do not represent the historic commercial streetscape. Considerations such shade and water run off must be taken into account if historically inappropriate landscape features are to be installed. If landscape features are to be installed in the streetscape, they should be placed in the sidewalk to accommodate modern circulation. Trees historically planted on Charleston’s streets should be

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considered, with review by qualified professionals to determine what species are best for the climate and their location in the streetscape.

**Modern requirements:** features associated with sewage and drainage from the street, as well as electrical utilities, manhole covers, utility covers, storm drains, and fire hydrants should be discreetly incorporated into the streetscape. If possible, they should be made to mimic period-appropriate features in construction, material, and color. Parking meters were not observed in this area. A centralized metering system like what is present in Savannah, GA would reduce viewshed clutter. The Americans with Disabilities, ADA act requires sidewalks and curbs comply with regulations.

**Commercial Period 4:**

**Street pavement:** brick or asphalt should be used for street pavement. If asphalt is the primary material, consider installing brick crosswalks to retain some of the historic aesthetic of the area.

**Driveways:** brick or paving stone provide historically accurate and driveways in materials available today.

**Sidewalks:** paving stone, currently used, should remain the only sidewalk material in commercial areas.

**Curbs:** stone offers historically accurate and readily available curb material.

**Carriage steps:** historically present in small numbers, these features represent the aesthetics of residential, not commercial areas.
Street lights: modern metal street lights made to resemble the gas lights present historically would maintain the look and feel of this area while using modern electricity.

Signage: projecting signs dominated the viewshed during Period 4. Signs should be non-illuminated. The current city ordinance restricting sign dimensions should be reevaluated to return King Street to its historically documented aesthetics.

Awnings: should be made of framed fabric and provide the main source of shade along the sidewalk and in front of businesses for pedestrians.

Trolley power poles: no longer serve their original purpose. If alternative functions for these poles can be found, such as traffic signs or lighting, they should be included in the streetscape.

Telephone poles: do not represent a period appropriate feature. Modernization of the streetscape should include buried utilities, if not already completed.

Landscape features: trees and planters do not represent the historic commercial streetscape. Considerations such shade and water run off must be taken into account if historically inappropriate landscape features are to be installed. If landscape features are to be installed in the streetscape, they should be placed in the sidewalk to accommodate modern circulation. Trees historically planted on Charleston’s streets should be considered, with review by qualified professionals to determine what species are best for the climate and their location in the streetscape.

Modern requirements: features associated with sewage and drainage from the street, as well as electrical utilities, manhole covers, utility covers, storm drains, and fire hydrants should be discreetly incorporated into the streetscape. If possible, they should be made to
mimic period-appropriate features in construction, material, and color. Parking meters were not observed in this area. A centralized metering system like what is present in Savannah, GA would reduce viewshed clutter. The ADA act requires sidewalks and curbs comply with regulations.

Commercial Period 5 & 6:

**Street pavement:** brick or asphalt should be used for street pavement. If asphalt is the primary material, consider installing brick crosswalks to retain some of the historic aesthetic of the area.

**Sidewalk material:** paving stone should be the only material used for sidewalk construction in the commercial areas.

**Curb material:** stone curbs are representative of modern elements found historically in the commercial areas.

**Bollards:** while one bollard was documented in the commercial area, this feature does not represent the commercial areas. If necessary, bollards used to protect pedestrians, property, or utilities should mimic those found in the residential areas of this study. Metal and stone should be the only bollard material allowed.

**Street lights:** modern metal street lights made to resemble the gas lights present historically would maintain the look and feel of this area while using modern electricity.

**Signage:** projecting signs on buildings facades return the historic aesthetics of King Street. Signs should be illuminated.
Awnings: should be framed with fabric covering. Awnings provide the primary shade for pedestrians and storefronts.

Landscape features: trees and planters do not represent the historic commercial streetscape. Considerations such shade and water run off must be taken into account if historically inappropriate landscape features are to be installed. If landscape features are to be installed in the streetscape, they should be placed in the sidewalk to accommodate modern circulation. Trees historically planted on Charleston’s streets should be considered, with review by qualified professionals to determine what species are best for the climate and their location in the streetscape.

Modern requirements: features associated with sewage and drainage from the street, as well as electrical utilities, manhole covers, utility covers, storm drains, and fire hydrants should be discreetly incorporated into the streetscape. If possible, they should be made to mimic period-appropriate features in construction, material, and color. Parking meters were not observed in this area. A centralized metering system like what is present in Savannah, GA would reduce viewshed clutter. The ADA act requires sidewalks and curbs comply with regulations.

Projecting signs should not be restricted to a specific square footage. Projecting signs should not be restricted from being illuminated. Current regulations are in stark contrast to the historic fabric of King Street.98 Elements such as landscape features were not as prevalent as in the residential areas. The main element of the viewshed in these

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98 Under current Charleston City ordinance, Article 4, Sec. 54-413., projecting or “right angle” signs are; “f. Right Angle Signs: One right angle sign shall be permitted per business unit as follows: 1. Right angle signs shall not exceed nine (9) square feet per face. 2. Right angle signs are not to be illuminated.”
commercial sections came from the storefront signs and awnings. King Street currently has replaced the unique character these elements provided with a cluttered field of view of Palmetto trees. Qualified individuals should be consulted to establish the best tree to replace the current Palmetto trees found in the commercial areas of this study.

Currently, street lights installed in the commercial areas of King Street succeed in mimicking historic gas lamps. Paving stone sidewalks, stone curbs, and brick driveways all retain the historic character of this area. Current brick crosswalk inlays and the portion of King Street near Charleston Place offer excellent examples of brick incorporated into an asphalt roadway. Traffic signs and signals are fashioned to mimic historic street lamps, blending into the viewshed of the street as discreetly as possible.
Figure 4.33 Streetscape section for Study Area 2, Period 3.

Study Area 2
Time Period 3

Utilities were not present during this period. Required modern utilities should be minimized as much as possible.

Stone is used for curb materials in this period.

No data was available for the period.

Modern materials should be used to replicate gas street lights.

Projector and case mounted sign reflect this time period.
Figure 4.34 Streetscape section for Study Area 2, Period 4.
Figure 4.3.5 Streetscape section for Study Area 3, Period 4.

Study Area 3
Time Period 4

- Paving stones are period-appropriate sidewalk material.
- Sidewalks are present during this time.
- Stone is used for curbing in this period.
- Trees and telephone poles were located in the street during this time, they should be placed on the sidewalk.
- Brick is the primary street pavement of the period, cobblestone and cobbles were also present.
- Modern materials should be used to replicate gas street lights.
- Utilities were not present during this period, inferred modern utilities should be as discrete as possible.
Figure 4.36 Streetscape section for Study Area 3, Period 5

Study Area 3
Time Period 5

Parking stones are not appropriate sidewalk material.
Landscape features are not representative material of this time period.
Telephone poles were located in the street during this time; they should be placed on the sidewalk.
Asphalt is the primary street pavement of this period, brick is seen in less substantial numbers.
Modern materials should not be used to replicate gas street lights.
Small utilities including, but not limited to, those not observed in this period, are required by modern needs and should be discrete.
Residential

Study Area 1, King Street from Murray Boulevard to Broad Street, and Study Area 4, Chalmers Street remained residential areas throughout all periods set forth in this study. Chalmers Street is bounded to the east by Meeting Street, and to the west by State Street. Based on the analyzed data from this area during the multiple periods of significance, a representative feature set has been compiled.

Period 3 lacks sufficient data to provide a holistic recommendation. The data collected from this time does however represent streetscape elements no longer viable. Dirt, the street pavement observed during this time, has no potential to be used in recreating a historic streetscape in the 21st century. Trees were identified as being planted in the street, again, not a viable location in a historically representative streetscape.

Residential Period 4:

Street pavement: streets paved with brick and/or cobblestone. Study Area 1 contained both materials, while Study Area 4 is just cobblestone. If historically accurate pavement material cannot be used, consider incorporating brick and cobblestone into crosswalks or other roadway features.

Sidewalk material: Paving stone is the primary sidewalk material for residential areas. Study Area 4 contain brick sidewalks

Curb material: stone curbs are a historically accurate feature and are already extensively used. Brick curbs are unique to Study Area 4.

Bollards: represent appropriate streetscape features in residential areas.
Carriage steps: acceptable street features in a residential area. These should be made of stone and resemble current examples.

Street Lights: modern metal street lights made to resemble the gas lights present historically would maintain the look and feel of this area while using modern electricity.

Awning: this feature is not representative of a residential streetscape.

Trolley power poles: while present in this period, no longer serve their intended purpose. Trolley power poles may be included if repurposed in function, possibly to mask modern streetscape requirements such as traffic signs.

Telephone pole: originally located in the street, modern needs require wooden telephone poles to be placed on the sidewalk.

Trees: historically placed in the street, modern needs require trees to be plated on the sidewalk to accommodate circulation needs. Trees historically planted on Charleston’s streets should be considered, with review by qualified professionals to determine what species are best suited for the climate and their location within the streetscape.

Residential Periods 5 & 6:

Street pavement: Brick and asphalt are appropriate options. Cobblestone is unique to Study Area 4 roadways.

Sidewalk material: paving stone is the predominant sidewalk material, with the option to use brick in Study Area 4.

Curb material: stone is the predominant curb material, with the option to include brick curbs in Study Area 4.
Driveway material: brick or paving stone should be used in driveways.

Carriage steps: while only found in Study Area 4, this feature should not be removed if found in the residential area of this study.

Street lights: modern metal street lights made to resemble the gas lights present historically would maintain the look and feel of this area while using modern electricity.

Awnings: not appropriate for residential areas.

Modern requirements: features associated with sewage and drainage from the street, as well as electrical utilities, manhole covers, utility covers, storm drains, and fire hydrants should be discreetly incorporated into the streetscape. If possible, they should be made to mimic period-appropriate features in construction, material, and color. Parking meters were not observed in this area. A centralized metering system like what is present in Savannah, GA would reduce viewshed clutter. The ADA act requires sidewalks and curbs comply with regulations.

The residential areas of this study retain many elements from their periods of significance. Street trees are comprised of multiple species along Lower King and Chalmers Street. Bollards and carriage steps blend seamlessly into the streetscape. Telephone poles and overhead utilities are not present in these residential areas. Little detracts from the viewshed of these streetscapes. In Study Area 1, sidewalks are piecemealed together, with cracked concrete and historic paving stone butting up against one another. Repair campaigns are blatantly visible along the sidewalk. Sidewalks opposite one another in Study Area 4 see concrete on one side and paving stone on the other.
Figure 4.37 Streetscape section for Study Area 1, Period 5.

Study Area 1
Time Period 5

- Parking zones
- Sidewalks and stone curbs
- Light and utility poles
- Replanted native materials
- Streets paved asphalt
- Trees and telephone poles
- Merved to sidewalk
- Modern electrical, sewage, drainage, and fire hydrants present
Figure 4.38 Streetscape section for Study Area 4, Period 4.
Figure 4.39 Streetscape section for Study Area 4, Period 5.

Study Area 4
Time Period 5

- Paving stone or brick sidewalks
- Stone curbs
- Light and utility poles on appropriate sidewalks
- Street signs in cobblestone
- Carriage steps are period appropriate features
- Trees and telephone poles moved to sidewalk
- Required modern features should be non-prominent and discrete
CHAPTER FIVE
CONCLUSION

The purpose of this thesis was to define a historically sympathetic streetscape in a representative section of Charleston by first applying standards used to evaluate historic properties, and second by analyzing the spatial and temporal changes that occurred from 1700 to 1971. As one of the few great historic cities in the United States, Charleston’s numerous historic homes and buildings have been scrutinized, poked, and prodded in the name of historic integrity. This thesis aimed to apply a similar focus on the built environment of the streetscape to identify, through imagery, a representative cross section of what, and in what times, illustrates Charleston’s past.

The review of literature provided an understanding at how streetscapes are viewed in preservation, and the larger world of historic buildings and properties. A general lack of literature about streetscapes in this manner demonstrates a void in the professional community. When viewed in conjunction with culture landscapes, a better understanding of how to classify and deal with streetscapes emerges. A relatively recent push for mainstreet revitalization programs shows a willingness and desire to improve historic streetscapes. These programs, however, do not focus on historically sympathetic streetscape. By determining appropriate streetscape features based on historic context, the guidelines created in this thesis bridge the gap between what is presumed to have been there, and what was there. It is the hope that this thesis will help start the conversation of
preserving and managing streetscapes with the same attention and detail given to the facades on its flanks.

Taking a stroll up King Street from White Point Garden offers the pedestrian a unique opportunity to take in all of the street’s vibrant history. On a closer inspection, one might begin to see streetscape features that, while under a cursory observation may look historic, are in fact nothing of the sort.

The data collected and analyzed over the course of this study resulted in recommendations for future revitalization and preservation of Charleston's historic streetscapes. It should be affirmed that many elements of King Street already reflect recommendations drawn from this study. The use of light, traffic, and utility poles fashioned to reflect designs of the past are exactly in line with what is necessary for a holistic modern streetscape. This is in contrast to uniform signage requirements imposed by city ordinance. Or the use of historically inaccurate Palmetto trees throughout the study areas today. Materials such as sidewalk pavement have been installed piecemeal, with concrete and paving stone laid together.

Through observation of imagery, specific streetscape features were able to be identified and documented. Limitations of this method include the lack of imagery from periods one and two. Specific variation, such as wrought iron versus cast iron, in most cases could not be identified. Features were recorded as indistinguishable if the specific location or material could not be ascertained. Even with such limitations, the analysis and documentation of features through this method yielded exceptional results. Trends shown
through the use of GIS and analytical software paint a picture of what a representative streetscape from the different time periods should look like based on the evidence of what was there.

This study focused not on what a perceived vision of Charleston’s streetscape might look like, but rather, finding what a historically sympathetic streetscape should look like. Modern streetscape needs, and indeed future streetscape, shift focus from purely historic materials to those that match historic aesthetics and modern requirements. All streetscape features analyzed in this study are to be considered historic based on the 50-year requirement set by the NRHP. Based on this, and the ever-evolving nature of public rights of way, features from different periods can and must coexist. Through the use of historic imagery, features can be tracked and attributed to specific periods of significance. This allowed for recommendations that were based on representative data, which accounted for what was and was not feasible to include in a modern streetscape, without compromising the historic look and accuracy of King Street and Chalmers Street. The recommendations reflect the needs of a modern streetscape and the changes that necessitate progress. While it is clear King Street has, in its past, been paved with both dirt and cobblestone, it is not the intention of this study to suggest such rudimentary paving materials be re-introduced to the streetscape. It is the intention of this thesis to offer the reader the groundwork necessary to promote a visually accurate, and when possible, materially accurate blueprint for returning King and Chalmers Streets to a historically sympathetic representation of their past. This has been done for decades to
the buildings that flank these venerable streets and must now be applied to the streets themselves.

Further research into the topic of streetscapes should be undertaken to expand upon this thesis. The study areas that were chosen are representative of Charleston’s oldest streets. This does not, however, mean that all facets of past streetscapes were covered. Meeting Street and East Bay Street were lively and active areas during the same periods and King Street. Meeting Street has historically been the center for social and professional interaction. East Bay Street was the focus of much attention during Charleston's early years due to its importance in trade and commerce focused on Charleston’s wharfs. In the records of Charleston’s Commissioners of Streets and Lamps, East Bay Street constantly required the city's attention. The infrastructure located below grade in Charleston’s streetscape is an area of research that needs extensive investigation. While outside the scope of this study, further research into this infrastructure would not only compliment this study but provide valuable information on the evolution of Charleston’s streets.
Appendix A

Frequency Distribution of Data by Study Area
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REFERENCES

Image sources


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294-304 King Street, ca. 1940, photograph, Historic Charleston Foundation,
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