

# CITY – SCALED DIGITAL DOCUMENTATION

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*A Comparative Analysis of Digital Documentation  
Technologies for Recording Architectural Heritage*

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# The Big Picture.

How can a detailed understanding of the major types of digital documentation and a parallel comparison of their efficacy inform the selection of a specific method when a city, such as Charleston, embarks on a digital heritage documentation campaign?

- Literature does not provide a parallel comparison.
- ...make it possible for cities to understand the most applicable technique for their preservation objectives.
  
- Case Studies
- **Trials:** laser scanning, photogrammetry, multimedia GIS, 3D-modeling.
  - 10 hours each.
- **Analysis of the Trials:** understanding capacities & limitations.
  - Series of 9 parameters + subcategories.
- **Matrices:** quantify the capability of each technology.
  - Establish a visual comparison.

# LASER SCANNING.



# PHOTOGRAMMETRY.



# MULTIMEDIA GIS.

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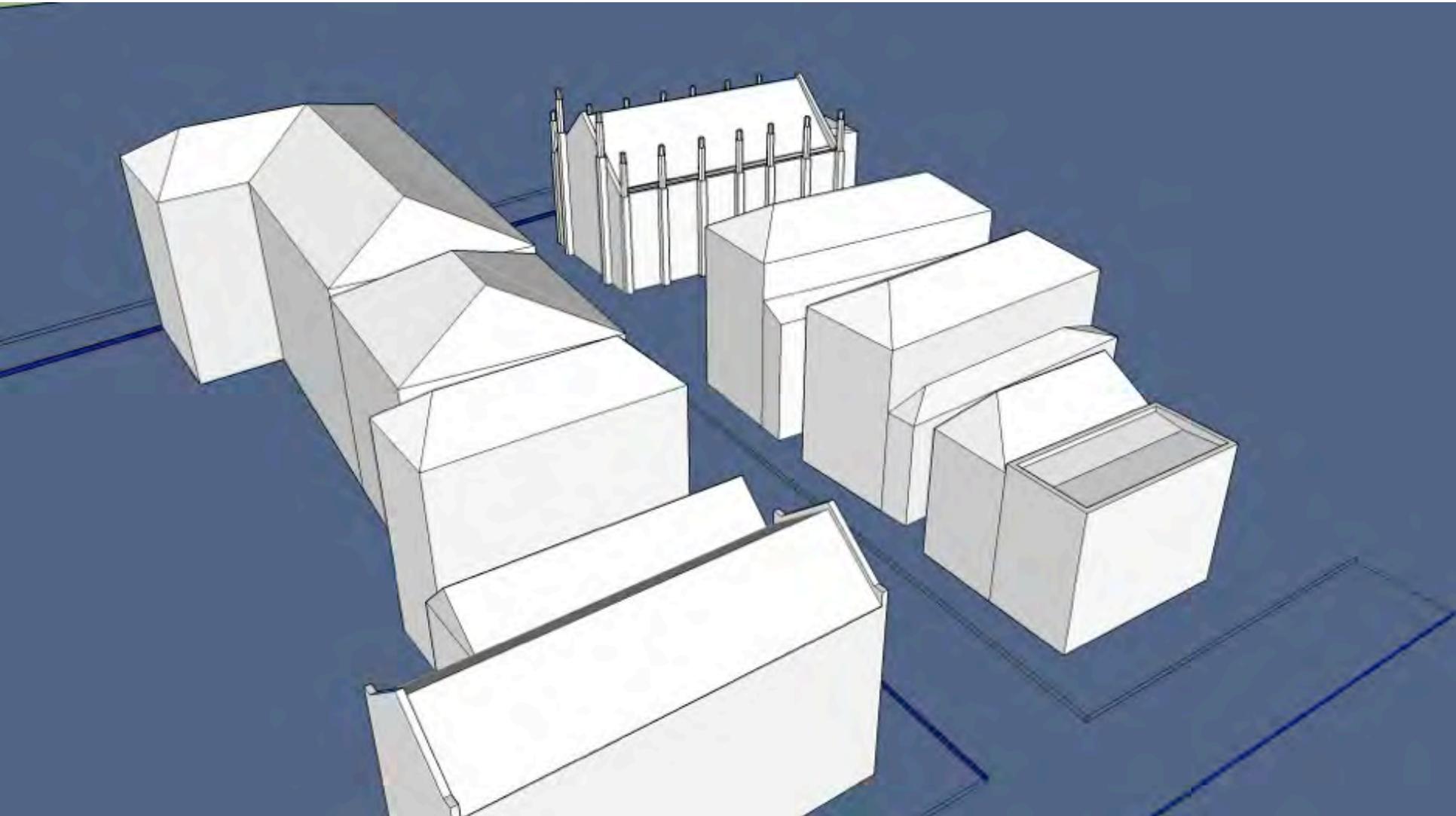
## The 130th-block of Charleston's Church Street

The 130<sup>th</sup>-block of Church Street located in Charleston, South Carolina was listed on the National Register in 1973 as part of the French Quarter District. The French Quarter District, also known as Lodge Alley is located within the old walled city of Charleston where the French Huguenots once constructed warehouses and dwellings. As part of the old walled city of Charleston, the French Quarter District is in an area that reflects three centuries of South Carolina history. Many of the structures present on the 130<sup>th</sup>-block of Church Street date to the early history of this area of the city.



Esri, HERE, DeLorme, INCREMENT P, Intermap, USGS, EPA, USDA

# 3D-MODELING.



# The Analysis.

- Matrices:

- Illustrate each parameter & its subdivisions.
- Comprehensive understanding of the technologies, the findings and correlated parameters.

1. Target Audience
2. Application
3. Ability to Record
4. Degree of Refinement
5. Technical Expertise
6. Manageability
7. Labor Intensity
8. Institutional Capacity
9. Potential for Obstacles

	LASER	PHOTO	GIS	MODELING
SOLID VS. VOID	Black	Medium Grey	Light Grey	Black
HEIGHT, SCALE, MASS	Medium Grey	Medium Grey	Medium Grey	Black
ROOF FORM	Light Grey	Light Grey	Black	Black
FENESTRATIONS	Black	Black	Black	Light Grey
SURFACE TEXTURE	Black	Medium Grey	Medium Grey	Light Grey

Black = Preferable  
 Medium Grey = Adequate  
 Light Grey = Lacking



# The Findings.

- Economics versus Detail.
  - Correlated parameters.
- Generally...
  - Inefficient in terms of economics & expertise → highly successful in regards to accuracy & refinement. Less expertise & investment → lower refinement.
  - Interactive/educational & govt. applications → less detail, lower accuracy.
- Photogrammetry.
  - Most consistent results. Demonstrates a technology with a flexible capacity.
- 3D-modeling & GIS have specific applications.
  - Less flexibility and variability.
- Laser scanning is not as attractive for a city as imagined...

A photograph of a street lined with trees and buildings. In the background, a tall, ornate church spire is visible against a clear sky. The street is paved and has a few cars parked or driving in the distance. The overall scene is bright and clear.

THANK YOU.

# FROM PARLOR TO LABORATORY:

## A STUDY OF THE METHODOLOGY OF ARCHITECTURAL PAINT ANALYSIS

By Amanda Jane Ashburn

A Thesis Presented For the Partial Fulfillment of the Requirements for the Degree  
of Master of Science in Historic Preservation

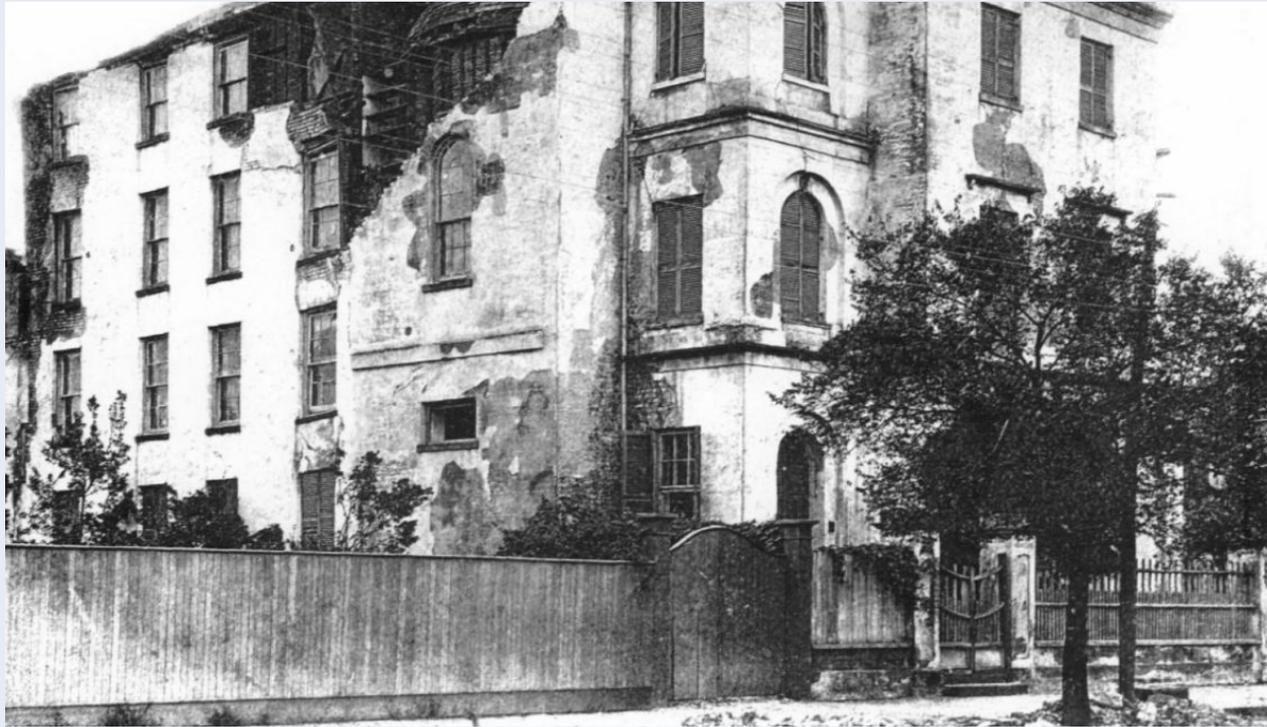
Does the accepted form of architectural finish analysis sample preparation affect sample data interpretation?

*Which methodologies/technologies already have APR data?*

*Which of these are a viable option for this study?*

*Of the viable options, which are quantifiable?*

# Data Scope



# Methodology

Employing both traditional optical microscopy and SEM-EDS for examining the strengths and weaknesses of resin cube and raw sample preparation

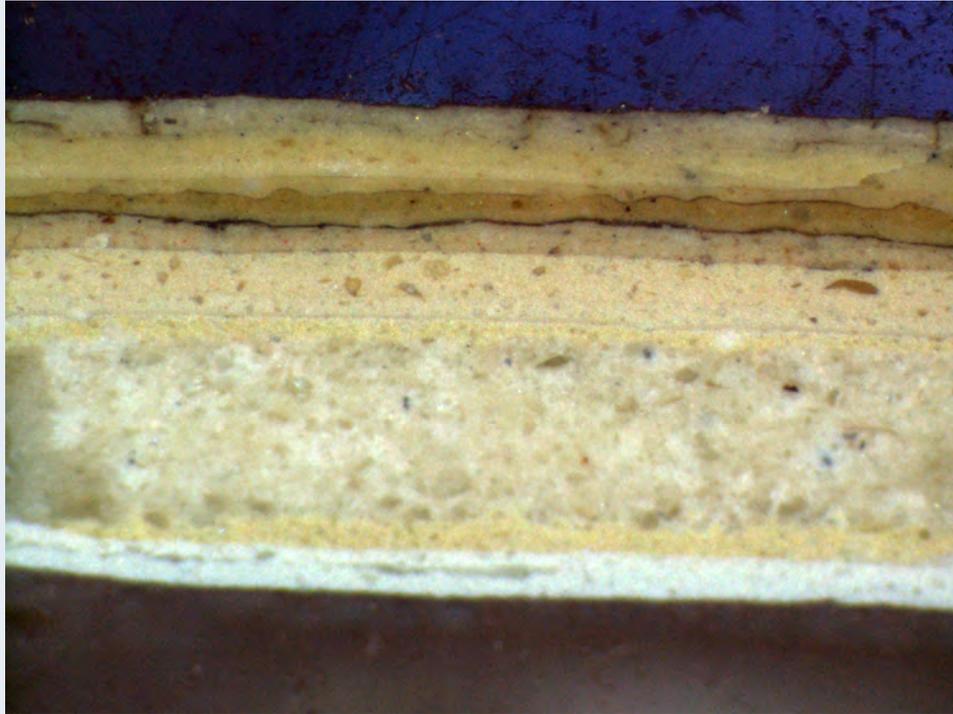
# Optical Microscopy

- Typical methodology
- Accessible equipment
- Faster interpretation
- Color Imagery

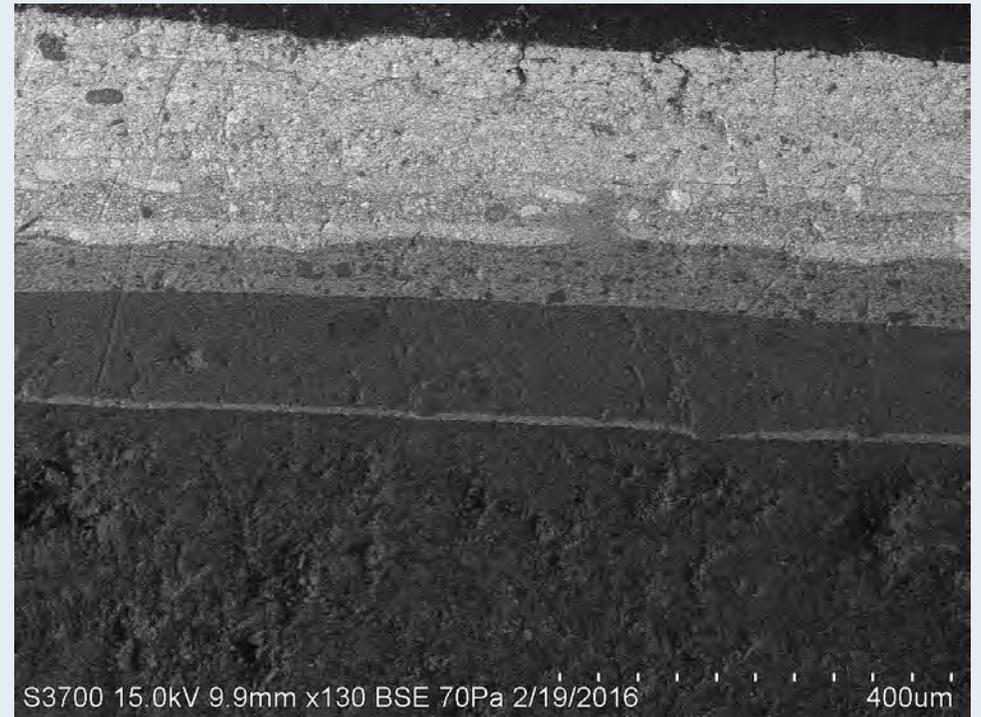
# SEM-EDS

- Rare, but emerging methodology
- Expensive equipment
- Slower processing time-lines
- B & W Imagery
- Elemental Data

# Optical Microscopy



# SEM-EDS



Sample B-2

# Visual Analysis of Data- Cube

## Optical Microscopy



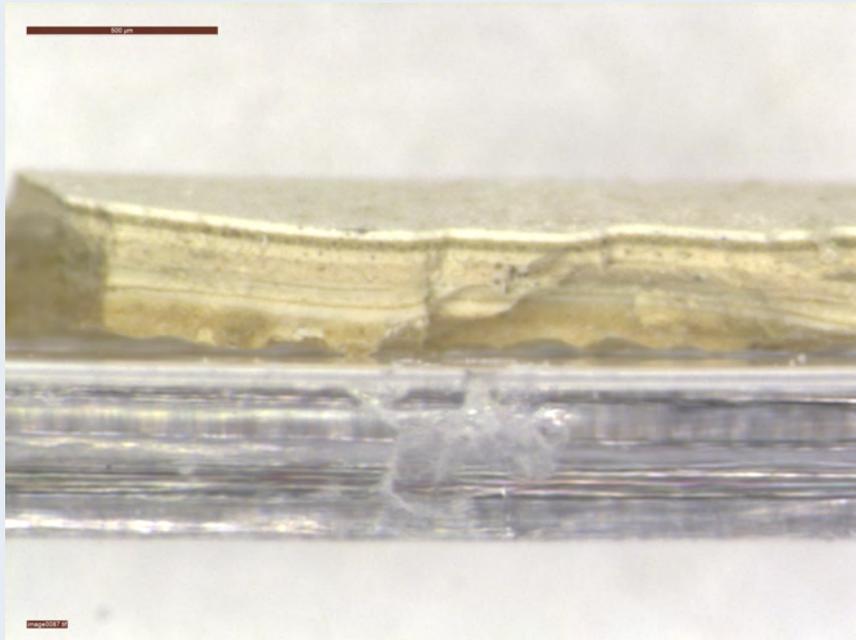
Sample E-1

## SEM-EDS

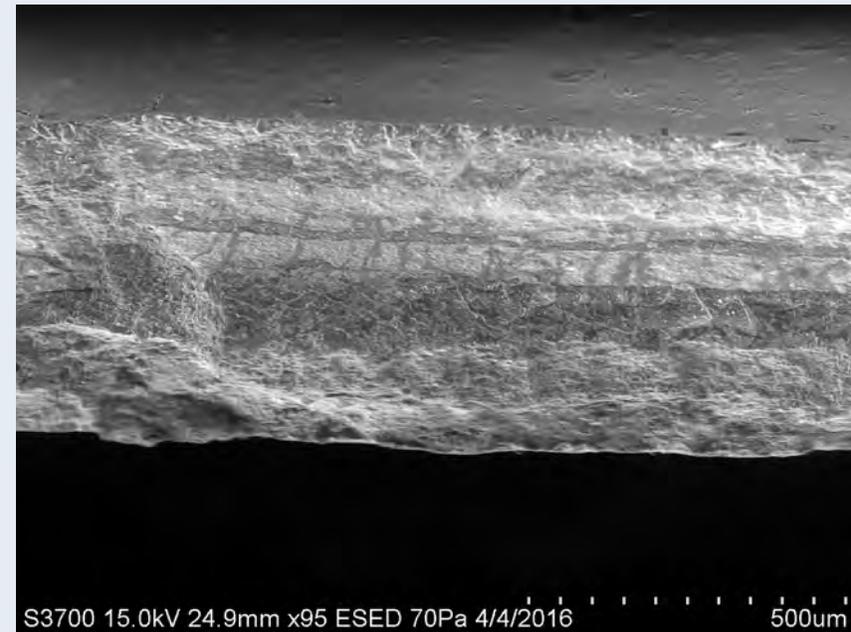


# Visual Analysis of Data- Raw

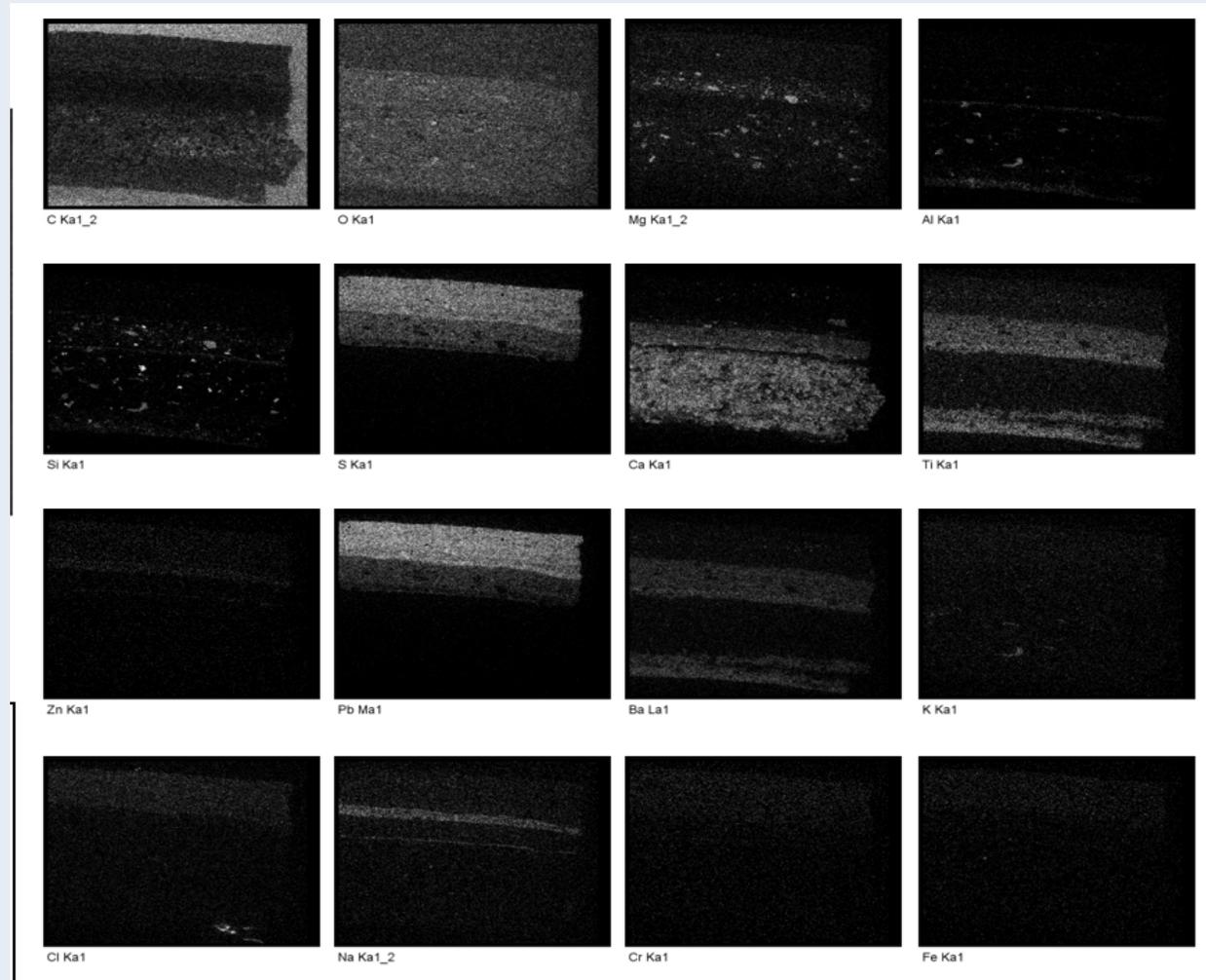
## Optical Microscopy



## SEM-EDS



# Elemental Analysis of Cube vs. Raw



# Analysis of Data

## **Optical Microscopy**

Cube: Ease of application, interpretation, some sanding debris noted

Raw: Highly difficult application, new visible data

## **SEM-EDS**

Cube: Ease of application, high level of debris (visual & elemental)

Raw: Ease of application, less contamination

# In Conclusion

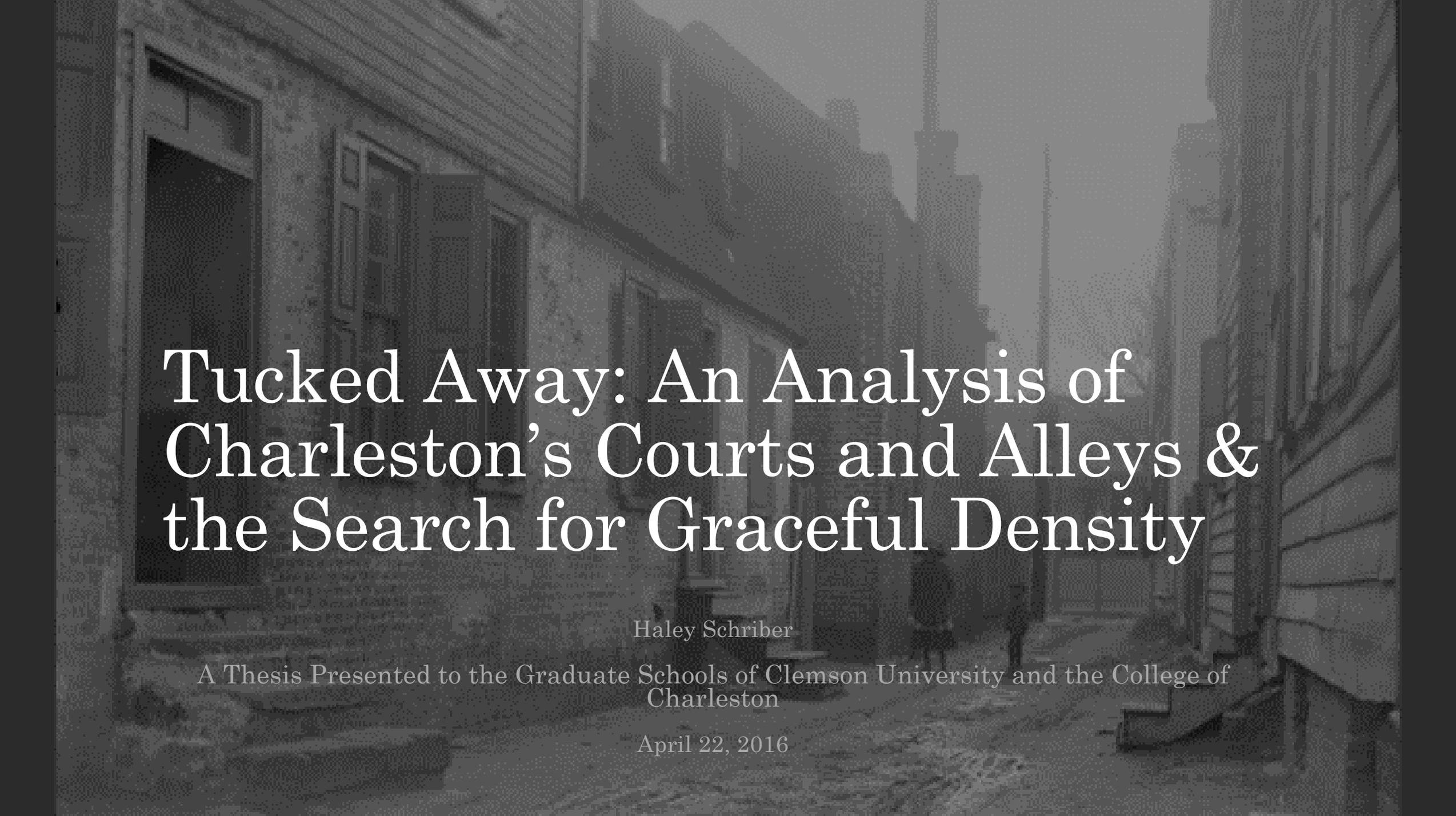
Sample preparation does affect the sample interpretation, both in positive and negative ways.

However, additional elemental analysis is required to conclusively finalize.

# In Conclusion

- The use of cross-section resin cubes in sample preparation greatly assists in the archaeological understanding of the stratigraphy.
- Improved visual interpretation
- The process of preparing the cross-section was detrimental to the elemental data.
- Contamination
- False data with sensitive equipment
- Irreversible

Questions?



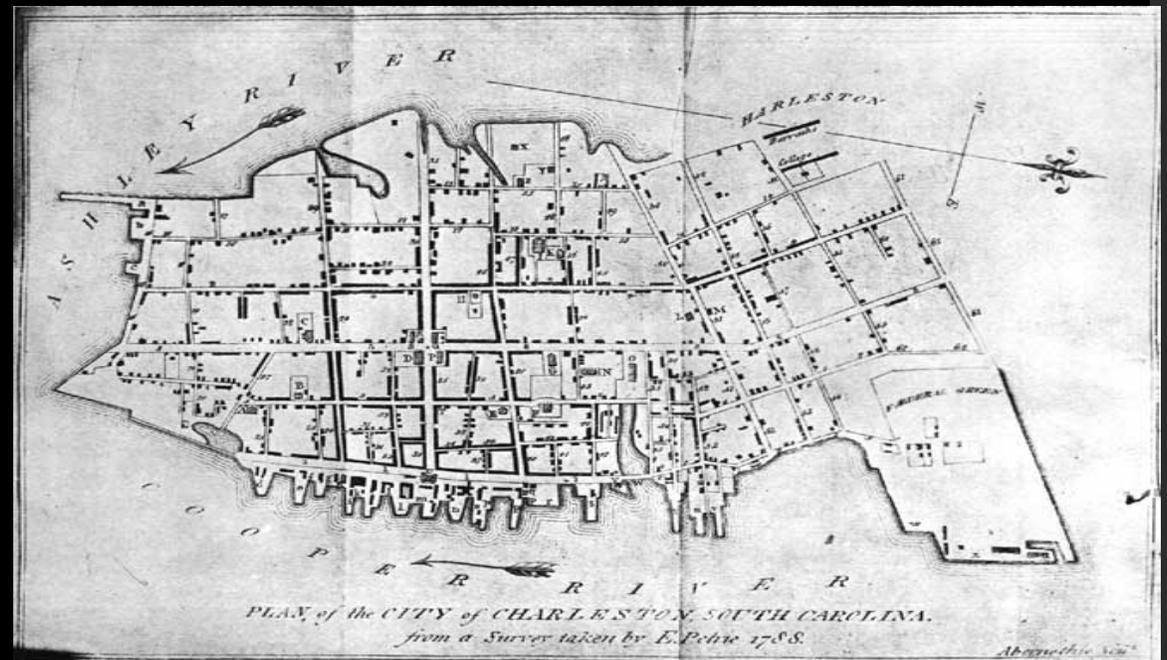
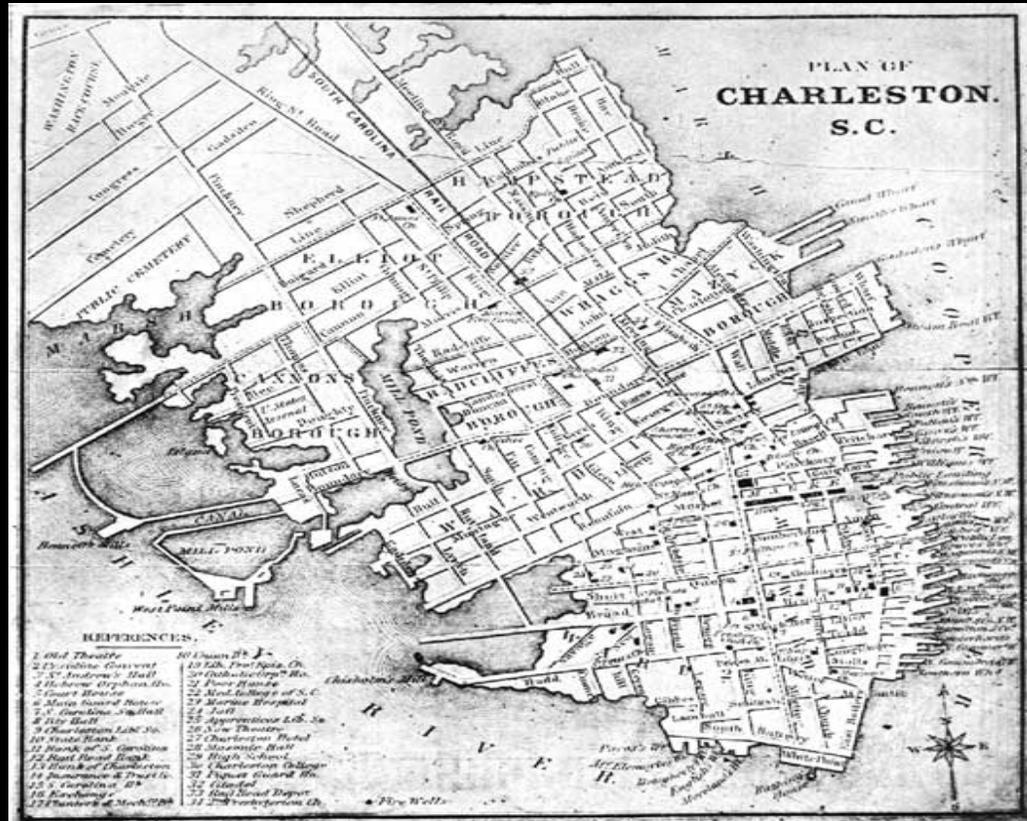
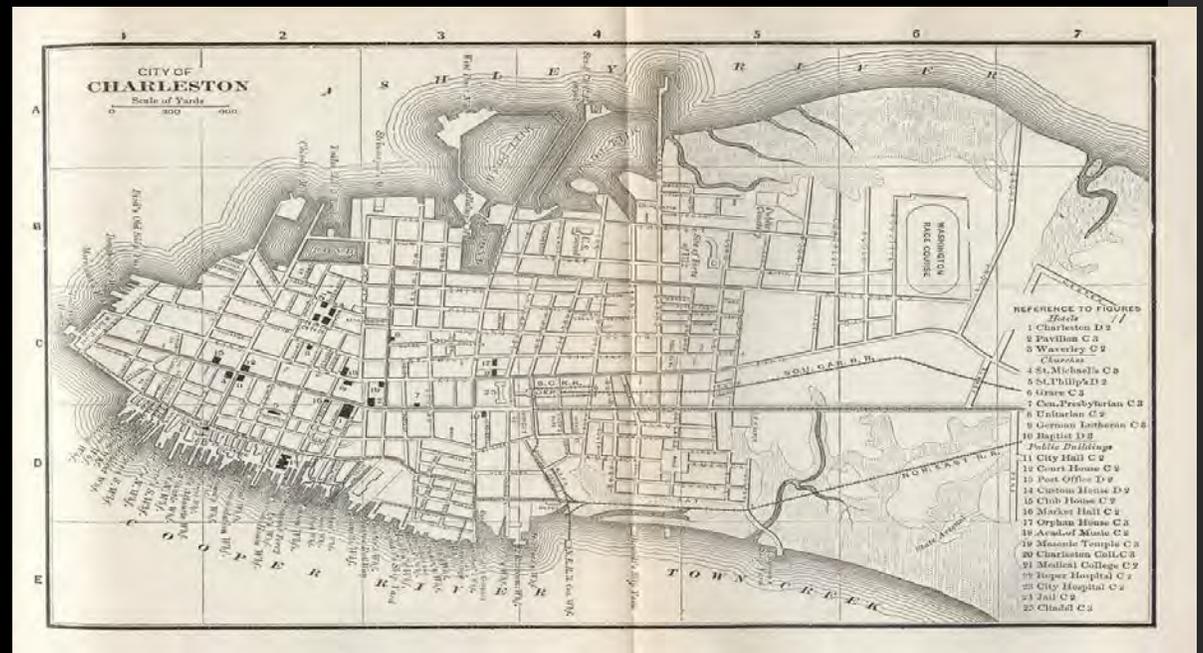
# Tucked Away: An Analysis of Charleston's Courts and Alleys & the Search for Graceful Density

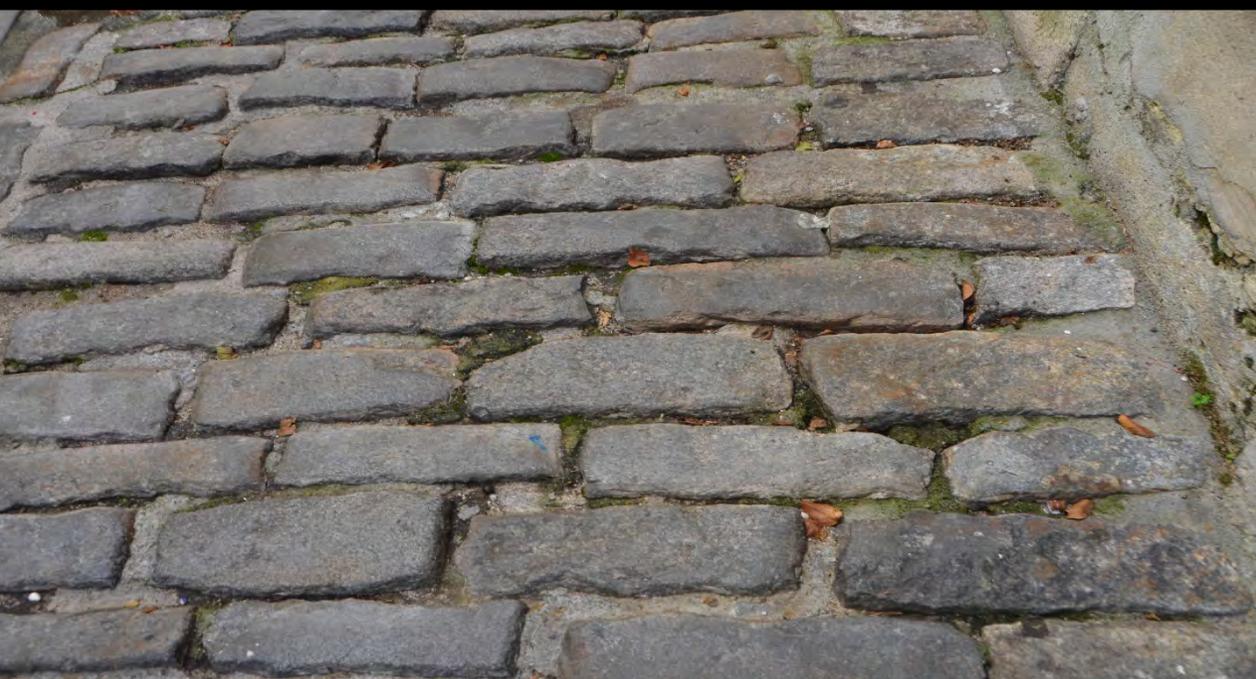
Haley Schriber

A Thesis Presented to the Graduate Schools of Clemson University and the College of  
Charleston

April 22, 2016

# Consulting Maps





# History of Alleys & Courts: Origins and Perceptions



ELIZABETH O'NEILL VERNER, 1883-1979

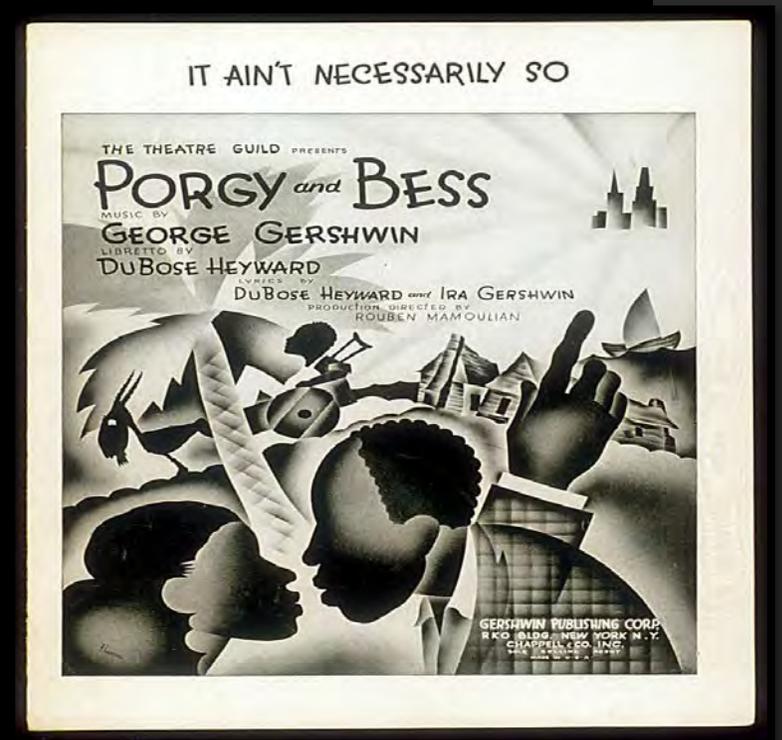
## QUAINT CHARLESTON ALLEYS

SCENES OF MANY INTERESTING  
EVENTS IN YE OLDEN TIMES.

**But Now, Alas! Given Over to the  
Negro Inhabitants of the City—St.  
Michael's and Its Old Law Offices,  
Once Occupied by Distinguished  
Men—The Spot Where Masonry Was  
First Established—Cow Alley the  
Scene of a Famous Duel.**

CHARLESTON, S. C., Jan. 6.—Charleston alleys, for narrowness and length, will bear comparison with any in the country, and in quaintness will yield probably only to Boston or Annapolis. Travelers say that they are reproductions of alleys in old cities like Chester, England, and in towns of Normandy.

St. Michael's Alley is interesting from



# Analysis Results

Total 113

Current: 56

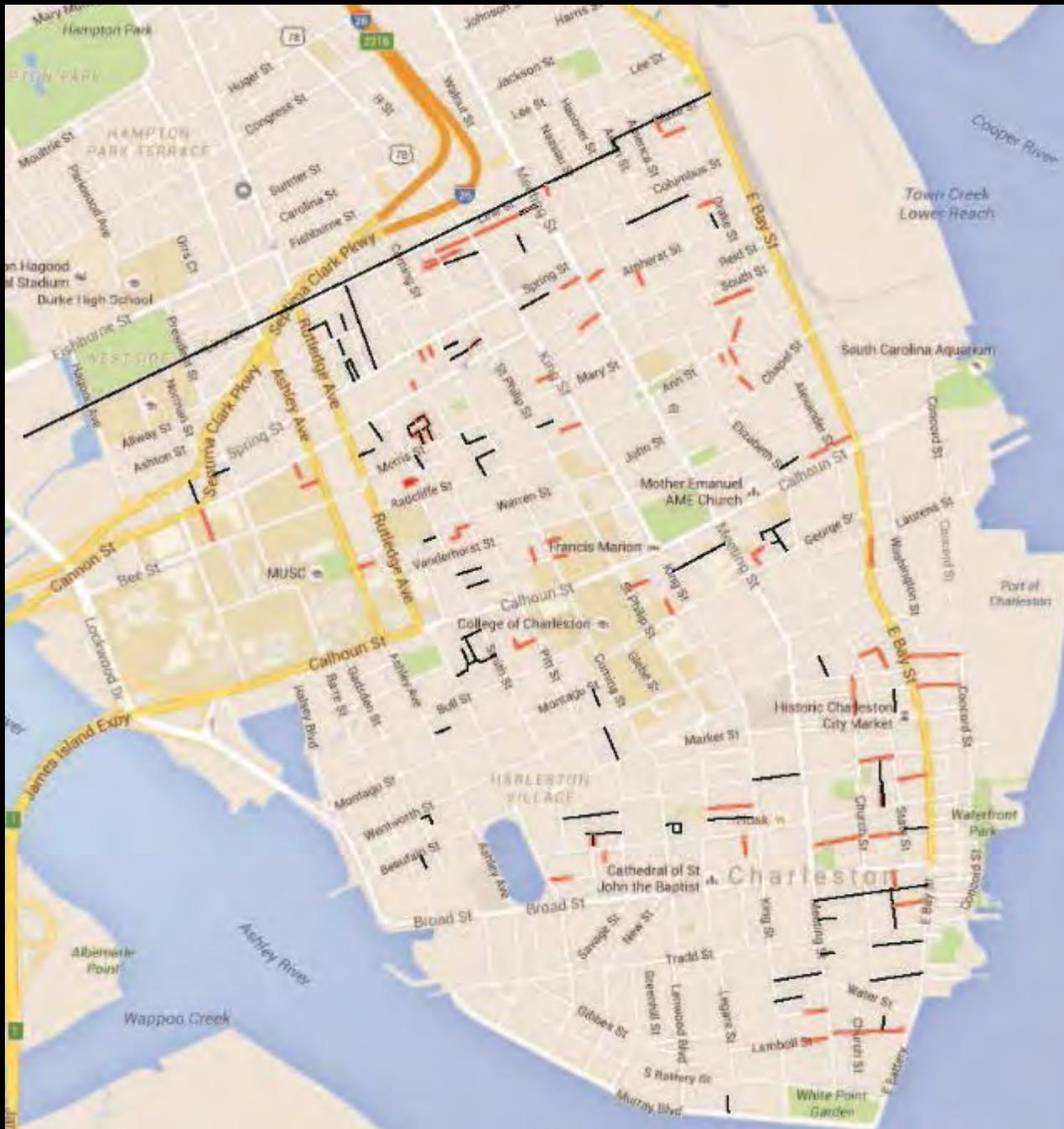
Lost: 57

Percentage Lost: 50.44%

27 alleys & 29 courts

Neighborhoods most affected:

- Ansonborough
- College of Charleston
- **Hampstead (Eastside)**
- Elliotborough/  
Cannonborough
- Mazyckborough/  
Wraggborough



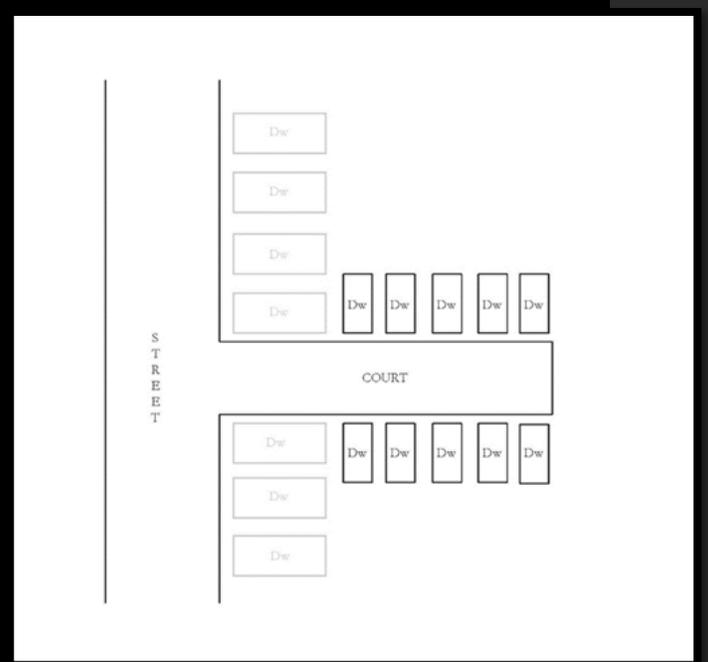
# Conclusions

## Alleys

- Definition
- Lower density levels
- Changing widths
- Demographics
  - 1870 & 1920

## Courts

- Definition
- Lower density levels
- Changing widths
- Demographics
  - 1870 & 1920
  - Distinct exclusion of courts after WWI
- Northern boroughs have the highest amount



# Conclusions

## Alley and Court Retention and Loss Rates

Neighborhood	Historic Total	Current	Lost	Change (% Retained)	Change (% Lost)
Ansonborough	12	6	6	50.00%	50.00%
College of Charleston	2	0	2	0%	100.00%
Hampstead (Eastside)	16	2	14	12.50%	87.50%
Elliotborough/Cannonborough/MUSC	26	13	13	50.00%	50.00%
Harleston Village	17	13	4	76.47%	23.53%
Mazyckborough/Wraggborough	6	2	4	33.33%	66.66%
Radcliffborough	13	7	6	53.85%	46.15%
South of Broad	7	4	3	57.14%	42.86%
Walled City	14	9	5	64.29%	35.71%
<b>Total</b>	<b>113</b>	<b>56</b>	<b>57</b>	<b>49.56%</b>	<b>50.44%</b>

Significance: unique forms shaped by economic and social forces, vernacular architecture, and a valuable method for increasing density.



Image courtesy of wikipedia.org

# Can the Center Hold?

Grappling with the Decline of a Small-City Downtown in Meridian, Mississippi

Meredith Wilson  
MSHP Candidate  
Clemson University/College of Charleston

An analysis of downtown revitalization and preservation efforts in Meridian, Mississippi, reveals the major challenges facing stand-alone small cities: a lack of sufficient resources and professional preservation expertise to effectively carry out preservation policies and an over-reliance on large, signature developments to catalyze downtown revitalization.

THE CITY OF MERIDIAN.  
One of the Great Railroad Centres of the South,  
AND THE YOUNGEST, LIVEST, AND MOST ENTERPRISING CITY  
IN THE STATE OF MISSISSIPPI.

Image courtesy of Lauderdale County Department of Archives and History



Image courtesy of Lauderdale County Department of Archives and History

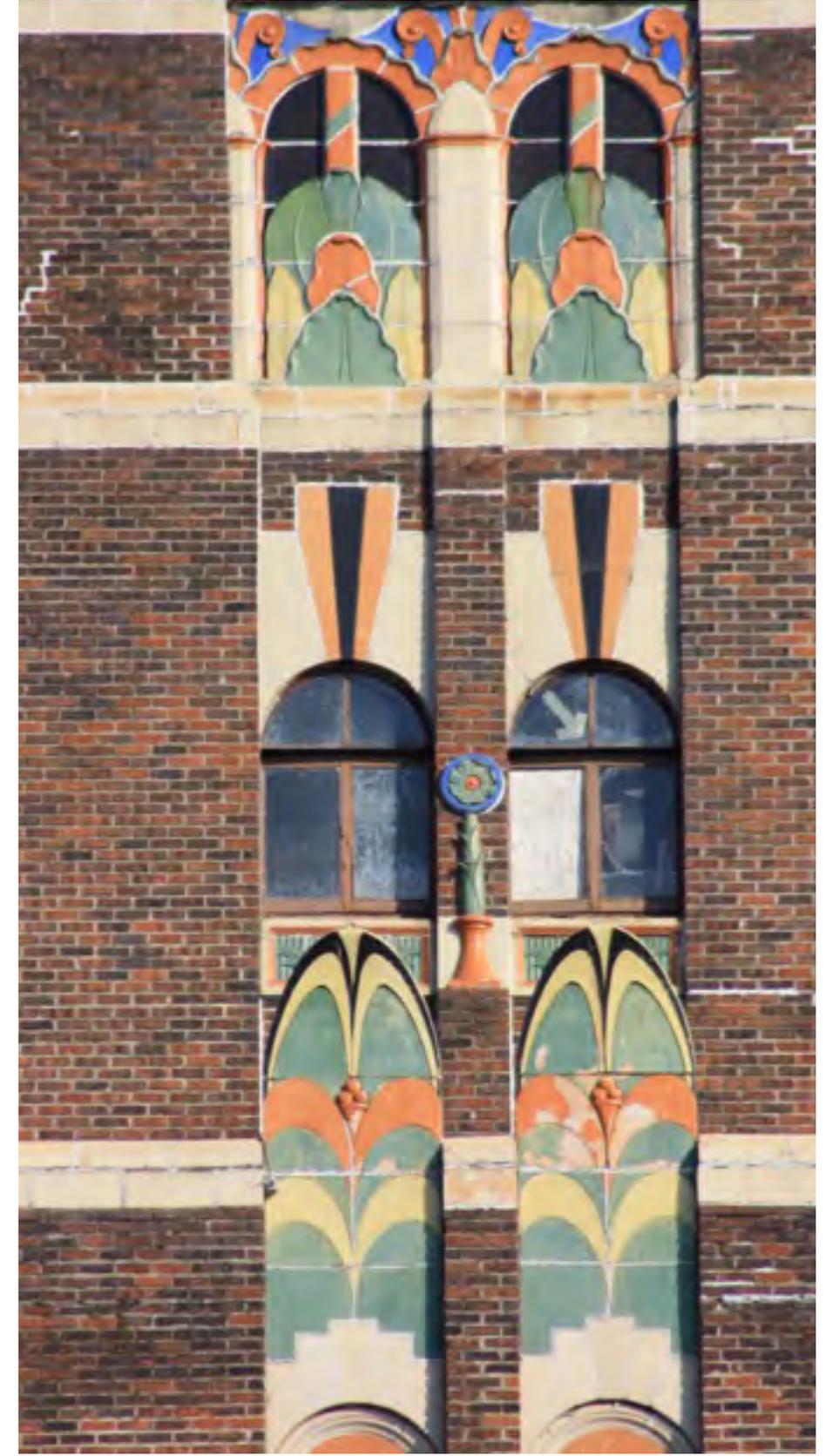


Image courtesy of Mississippi Department of Archives and History



Union Station Multi-Modal  
Transportation Center

1997



Threefoot Building | 1929



Image courtesy of MSU-Riley Center

MSU-Riley Center for  
the Performing Arts

1889 | Reopened 2006



Image courtesy of the Mississippi Arts and Entertainment Experience

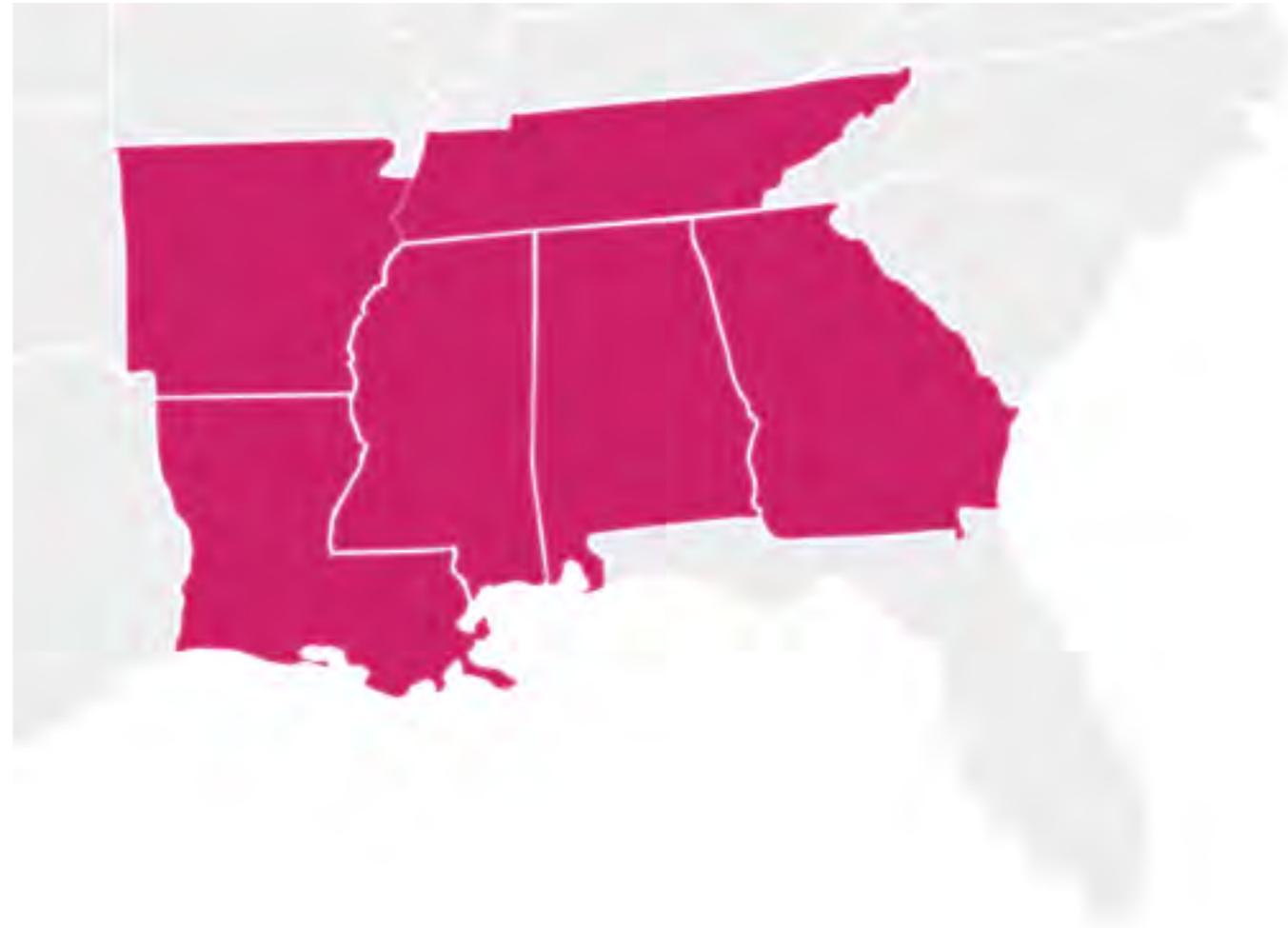
# Mississippi Arts and Entertainment Experience

2017

# Museum Study

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- Museums with annual operating costs between \$1 million and \$10 million
- 990 Tax Forms available on [guidestar.com](http://guidestar.com) for 2012 and 2013
  - Must have expenses, revenue, program service revenue, and occupancy expenses for both years
- Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, and Tennessee





Demolition-by-Neglect

# Recommendations

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- Continuing education for HPC members
- Strengthen relationships between various local and state preservation and community development organizations
- Rework the demolition by neglect ordinance
- Focus on place-specific, small-scale development that capitalizes on Meridian's existing building stock
- De-incentivize urban sprawl

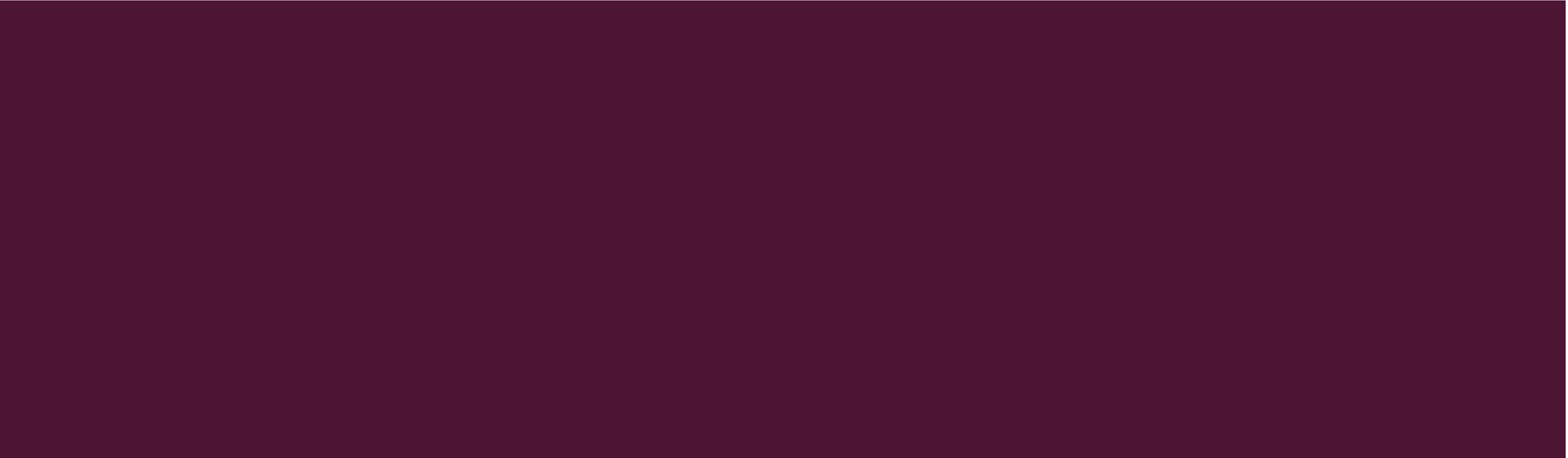




# HISTORIC PRESERVATION AS SOCIAL JUSTICE: ANALYZING HISTORIC CHARLESTON FOUNDATION'S ELLIOTTBOROUGH NEIGHBORHOOD IMPACT INITIATIVE

NAOMI DODDINGTON

APRIL 22, 2016



## TOPIC

- This thesis is a thorough analysis of the Neighborhood Impact Initiative. This program was an effort by Historic Charleston Foundation that aimed to protect and restore buildings in the Elliottborough neighborhood of Charleston while stabilizing the neighborhood and preventing gentrification.

## PURPOSE

- Though much has been written about gentrification and many different anti-gentrification efforts have been made nationally (and internationally), there is very little literature that studies the anti-gentrification programs that have been attempted. The purpose of this study is to discern what worked in the Neighborhood Impact Initiative, what didn't, and why. In this manner, the thesis aims to be a call to other researchers to rigorously study other programs, eventually developing best practices in the realm of anti-gentrification.

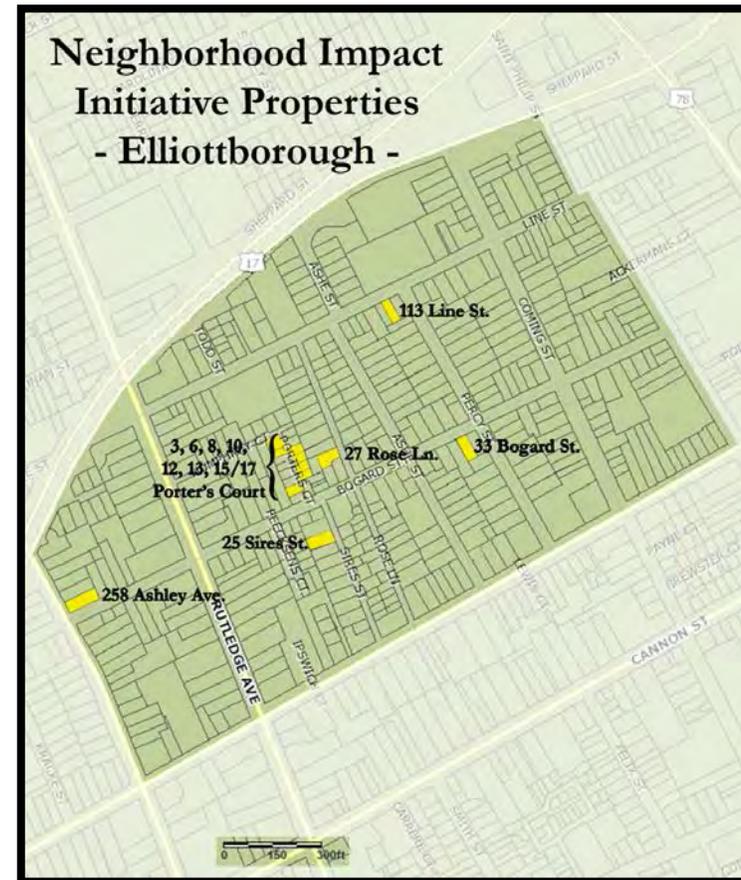
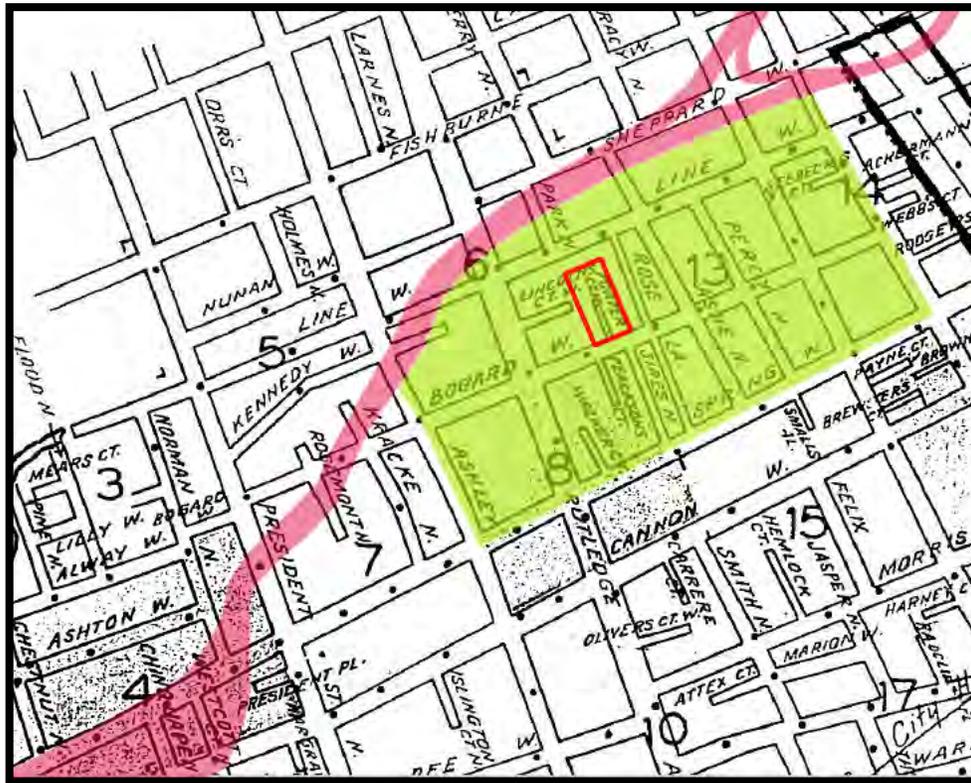
# GENTRIFICATION

- Gentrification is the process by which a run-down urban area attracts an influx of middle- and upper-class residents who rehabilitate the buildings and displace the existing poorer community.
- Gentrification is both a **cultural** and a **financial** process
  - In Charleston, the cultural often takes on a racial dimension

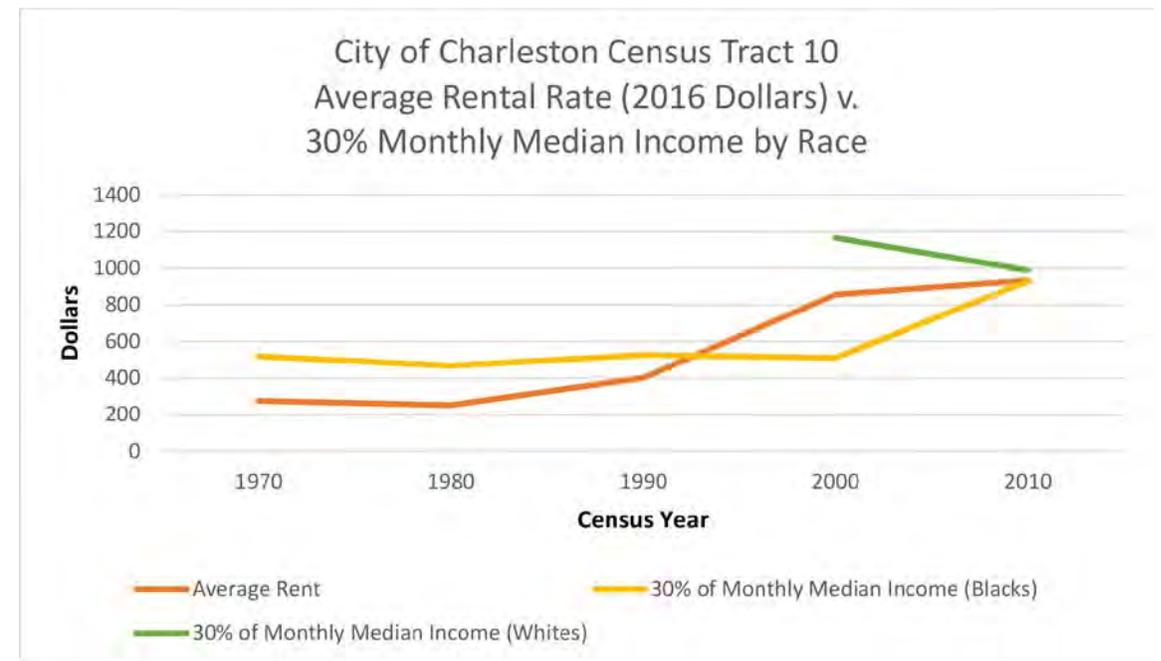
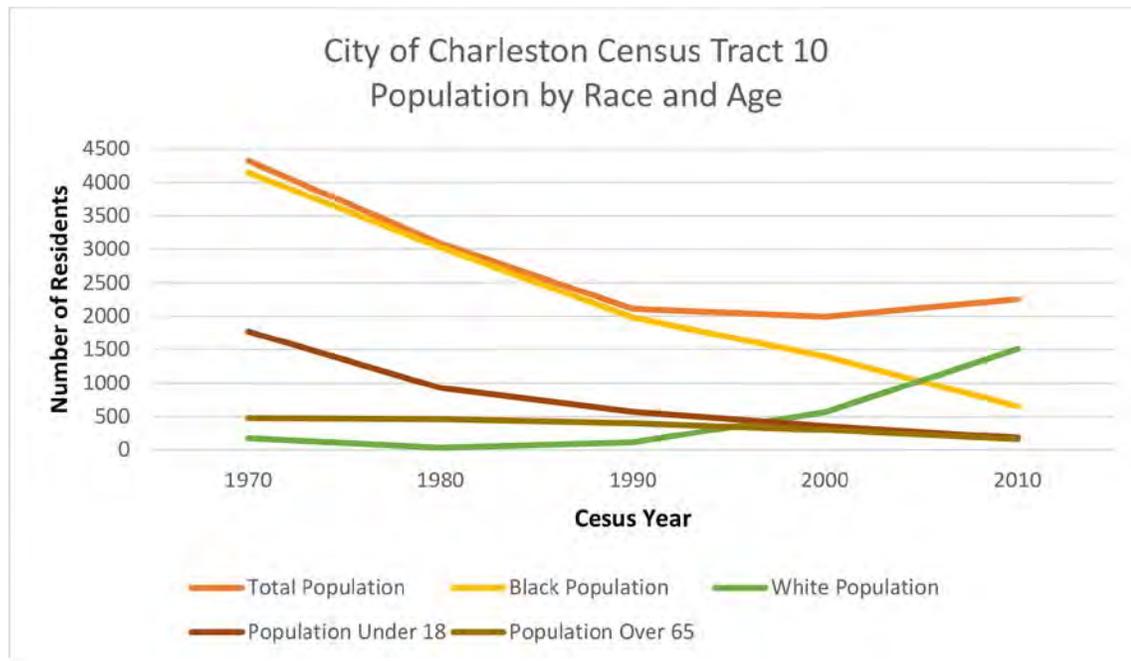
## METHODOLOGY

- Research on gentrification studies (lit review)
- Research on anti-gentrification efforts
- Census data
- HCF archives
  - Financial Information
  - Timeline of the program
- City Records Office
  - Financial Information
- Interviews

# ELLIOTTBOROUGH



# FINDINGS



# FINDINGS

Episcopal Diocese Community Housing Development Organization  
& Historic Charleston Foundation- Elliottborough Partnership Funding 1998-2000

AMOUNT	SOURCE
\$200,000	South Carolina State HOME Funds*
\$150,000	Community Development Block Grant
\$35,000	Historic Charleston Foundation Neighborhood Impact Initiative Fund
\$15,000	Wachovia Bank Grant
<b>\$400,000</b>	<b>Total</b>

Episcopal Diocese Community Housing Development Organization  
& Historic Charleston Foundation- Elliottborough Partnership Budget (developed by HCF)

BUDGET	ITEM
\$165,000	Acquisition Fund for 9 properties
\$48,250	Stabilization of 9 properties
\$31,500	Marketing
\$27,000	Development (Architectural Services)
\$55,278	Origination Fees, etc. for Construction Loan
\$39,825	Impact Fees (Sewer/Water)
<b>\$366,853</b>	<b>Total</b>
\$365,000	Amount of Grants**
<i>\$1,853</i>	<i>Amount Over Grant Funds**</i>
\$593,500	Construction/Rehabilitation for 9 properties
\$500,000	Anticipated Construction Loan
<i>\$93,5000</i>	<i>Amount Over Loan Funds</i>
<b>\$960,353</b>	<b>Total Budget Construction and Program Administration</b>
\$865,000	Total Grant + Loan Funds
<i>\$95,353</i>	<i>Amount Over Total Funds</i>

# FINDINGS

Property	Purchase Price	Date	Total Acq. Cost	Rehab Cost	Total Cost	Sale Price	Date	Profit
33 Bogard Street*	23,000			86,810	92,355/110,855	80,000		-12,355
<i>Appraisal</i>	24,445	10/93		169,207	193,652	78,469	09/95	-115,183
2 Ashe Street*						25,000	09/97	21,500
<i>Appraisal</i>	3,500	11/96						
258 Ashley Avenue*								
<i>Appraisal</i>	1,400	10/95	2,678	121,104	123,782	90,000	04/98	-36,482
25 Sires Street*								
<i>Appraisal</i>	18,652 + 9,063	12/94	24,445			69,000	08/98	-----
	65,000							
27 Rose Lane				112,380				-2,255
<i>Appraisal</i>	1,464/20,000	03/98	20,135	112,980	133,115	100,000	08/00	-33,115
						140,000		
3 Porter's Court^	700/1,500		8,300	65,000/95,000	103,300	80,000		-23,300
<i>Appraisal</i>	1,800	04/97	9,544	129,600	139,144	87,200	11/00	-51,944
						128,000		
6 Porter's Court^	23,200			65,000	109,067			
<i>Appraisal</i>	25,000	07/98	27,418	92,986	120,404	95,200	11/00	-25,204
	18,000					129,000		
8 Porter's Court^	23,000							
<i>Appraisal</i>	20,000	07/98	20,135	111,896	132,031	133,000	03/01	969
	19,000					130,000		
10 Porter's Court^ †	10,000/12,500		16,500	65,000/95,000	100,367	80,000		-31,500
<i>Appraisal</i>	9,000	12/99		111,850	120,850	127,000	09/02	6,150
	9,000							
12 Porter's Court^	23,000							
<i>Appraisal</i>	25,000	07/98	27,418	95,746	123,164	128,000	06/02	4,837
	15,000					130,000		
13 Porter's Court^								
<i>Appraisal</i>	12,000	10/98	12,351	95,000	107,351	100,000	04/02	-7,351
	10,000					50,000		
15/17 Porter's Court^								
<i>Appraisal</i>	129+125	04/95	254				-----	-----
113 Line Street^	25,000			65,000				
<i>Appraisal</i>	10,000	05/98	10,544	4,459	14,459	52,000	04/03	37,540

Budgeted

Actual

*Appraisal*

\*Property completed without the CHDO

^Property begun as joint effort, finished by CHDO alone

†Diocese purchase

# CONCLUSIONS

- Neighborhood Impact Initiative
  - Mission
  - Mechanics
  - Financial
  - Social

# RECOMMENDATIONS

- Historic Charleston Foundation
  - Advocacy
  - Fundraising
  - Education
- CHDO
  - Funding
  - Shepherds
- College of Charleston
  - Housing
- City of Charleston
  - “Gentrification & Neighborhood Change: Helpful Tools for Communities”
  - “Technical Memorandum on Gentrification Issues”
  - Public Transportation

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# HISTORIC PRESERVATION AS SOCIAL JUSTICE: ANALYZING HISTORIC CHARLESTON FOUNDATION'S ELLIOTTBOROUGH NEIGHBORHOOD IMPACT INITIATIVE

THANK YOU

