

DIGITAL HUMANITIES AND THE URBAN BUILT ENVIRONMENT: PRESERVING THE HISTORIES OF URBAN RENEWAL AND HISTORIC PRESERVATION

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ABSTRACT — This article asks how the digital humanities are affecting the research, dissemination, and interpretation of the history of the built environment. The author introduces four ways in which “thick mapping” projects have aided such processes—through the digitization, aggregation, spatialization, and community-level cultivation of primary sources—citing example projects that demonstrate the digital humanities in practice. The author then looks more closely at digital humanities projects that have sought to recapture landscapes lost to demolition through urban renewal, arguing for the equal applicability of digital humanities approaches to unearthing the material history of preservation-based urban renewal as well. Using an in-progress online project to document the urban renewal of Philadelphia’s Society Hill neighborhood, the author shows how diverse visual and textual data can be aggregated and organized to reconstruct the reconstruction of a neighborhood. In the case of Society Hill, this excavation of previously obscured processes, impacts, and voices is an act of preservation—of this particular community, but also of the history of the field—itsself.

INTRODUCTION

The digital humanities are rapidly enhancing the ways we research, disseminate, and interpret the history of the built environment. New tools offer the opportunity for deeper, wider, and more integrated analysis of urban history. They also hold the potential to engage the public more directly—as informed community members participating in remembrance, interpretation, and advocacy, and as primary sources themselves for documenting the history of the everyday landscape.

In this article, I consider the applications of digital humanities approaches to the historical study of the urban built environment. Although other scholars have usefully argued for the relevance of quantitative analytical tools, like geographic information systems (GIS), to urban historical research, I complement their work by focusing largely on more qualitative approaches (Knowles and Hillier 2008). First, I explore four major ways in which the digital humanities are reshaping built

environment research, drawing upon a growing body of map-based digital humanities projects. I derive many of my examples from the digital archival infrastructure of Philadelphia, Pennsylvania, the focus of my current teaching and research. Second, I examine a set of projects that map the drivers and losses of urban renewal, showing the particular relevance of digital humanities tools to uncovering a demolished past. Finally, I demonstrate opportunities for more fully integrating the history of preservation planning into the urban digital humanities endeavor. I do so by outlining a digital humanities project I am codeveloping on the urban renewal of Philadelphia's Society Hill neighborhood. As this remains a work in progress, I focus on the framework behind the project and briefly introduce some of the kinds of new insights an urban digital humanistic approach can begin to provide. In the specific case of the urban renewal of Society Hill, digital tools can help document ground-level processes and impacts, thereby facilitating the recovery and preservation of an important piece of the history of the preservation field itself.

DIGITIZATION, SPATIALIZATION, AGGREGATION, AND CULTIVATION

The digital humanities are significantly enhancing the study of the history of the built environment in at least four key ways. At their most basic, digital tools for scanning, searching, and graphically depicting primary-source material on the Internet can dramatically improve access to representations of existing documents. This is a valuable contribution on its own. But many projects move beyond digital replication alone to also advance capabilities for historical analysis, interpretation, and engagement. They do so largely by spatializing data, aggregating different kinds of data, and generating new sources of data from the public. Individual projects need not accomplish all these tasks on their own. But the collective impact of a variety of tools has been to enrich the study of the urban built environment with deeper, wider, and more connected sources of historical information.

Digitization of Existing Sources

While sources documenting the history of the built environment have long existed in libraries and archives, digitization has greatly improved access to and awareness of many of these materials. Individual repositories have scanned collections of primary-source visual materials—including photographs, prints, maps, and other media—and made them available online. The Free Library

of Philadelphia's online map collection, for example, includes thumbnail and high-resolution images for each map sheet in their holdings (Free Library of Philadelphia 2017).¹ Archives have also scanned text-based primary-source collections—such as historical manuscripts, censuses, city directories, and deeds—among a range of other materials. In the case of both visual and textual documents, the ability to search and view these documents online increases the scope, speed, and ease of archival research. Such digitization projects can also make researchers aware of materials they might not otherwise have seen. As an added benefit, document scanning can be a conservation strategy for aging materials at risk of physical deterioration through continued use.

Once an item is digitized, additional software can increase the searchability of these sources by enabling researchers to survey large swaths of text for passages of interest. Ancestry.com effectively applies such tools to historical social data.² While the contemporary eye does not always easily read handwritten census records, manual transcription and digitization turn scrawl into decipherable and text-searchable characters. The site similarly enhances the accessibility of city directories. Although residents' last names organize a typical city directory, a reverse directory structures its listings by address instead (or as well). Digitized versions on Ancestry.com to which optical character recognition has been applied allow searching by any term desired, making all directories equivalent to—or even better than—purpose-made reverse directories. Thus, digital archives that represent physical documents bring new life to existing resources.

While this article focuses mainly on digital projects built upon primary sources, the great value of digitizing secondary sources is also worth noting. From journal articles stored in databases like JSTOR to electronic book manuscripts searchable in platforms like HathiTrust and Google Books, the “text-searchable turn” has made historical research into scholarly sources more accessible and efficient, and less limited by existing indexes. It greatly increases the prospects for finding evidence in places where a researcher might not otherwise have thought to look. As historian Lara Putnam notes, however, this accessibility comes with certain risks, including the absence of context that accompanies greater fluency with bodies of scholarship into which researchers are now able to quickly dip their feet (Putnam 2016). But, to the extent that online versions serve as gateways for deeper engagement with related or cited sources—or

are sufficiently suited to the question at hand to stand on their own—these tools greatly assist scholars in casting their research nets wider.

Spatialization and Aggregation of Sources

Another category of digital urban humanities not only replicates the contents of existing archives, but also spatializes and aggregates that data to construct new kinds of archives entirely. Given the primacy of space to much of this work, many of these projects take the form of what scholars have variously termed “thick maps,” “deep maps,” or “digital cultural mapping.” These visual representations convey a sense of “spatio-temporal order.” As defined by Todd Presner, of the foundational *HyperCities* project, “‘thick mapping’ refers to the processes of collecting, aggregating, and visualizing ever more layers of geographic or place-specific data.” In a manner not dissimilar to anthropological “thick description,” “thick maps” combine multiple layers to convey context and meaning—and, in this case, “spatio-temporal order”—and they are never truly complete (Presner, Shepard, and Kawano 2014, 18–19, 45, 53, 56; Fishkin 2011).³ Such “thick maps” aptly describe many of the qualitative digital humanities projects pursued by historians of the built environment thus far.

A most basic advance of some digital mapping projects over their hard copy referents is the ability to reconnect that which the limits of physical publishing have rendered separately. A digital image, for example, can be stitched together from the individual sheets of a map book. In this regard, the digital version may prove superior to the original by facilitating more seamless conception of relationships within the whole. Yet it should also be noted that the three-dimensionality of certain kinds of maps gets lost in the two-dimensional representation. This is the case for Sanborn Fire Insurance Maps, the most famous set of insurance company maps created to depict the dimensions, materials, and uses of structures in thousands of cities and towns across North America. As changes to buildings and land use occurred over time, mapmakers often pasted new layers onto the original map sets.⁴ A single scan often erases this temporal layering. This shortcoming aside, however, by stitching images together and incorporating a zoom function, digitized maps enable the user to appreciate a single cartographic representation at multiple scales, without having to choose one over the other.

The true thickness of these projects derives from the connections they make between a single map and other

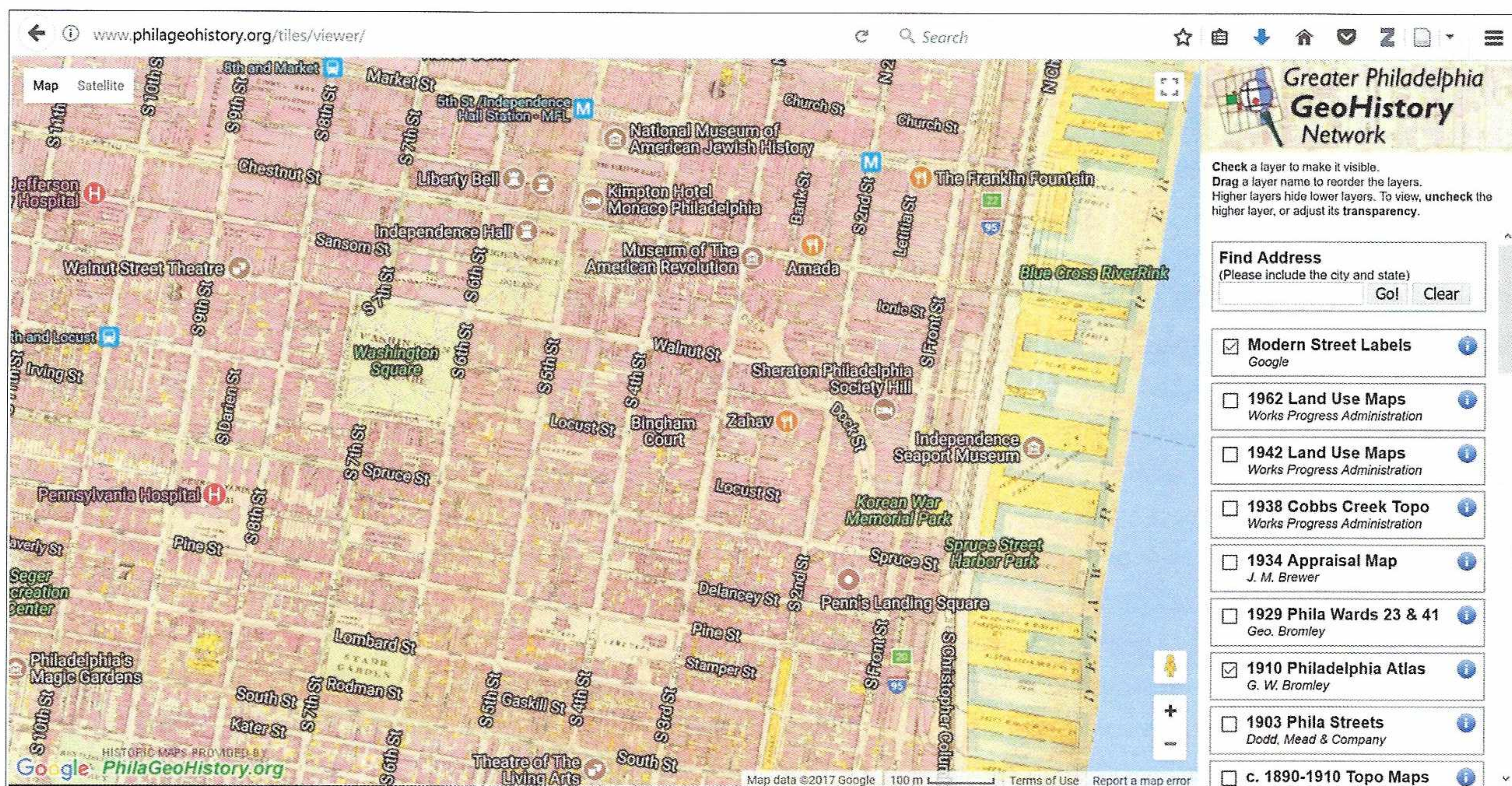


Fig. 1. This map-based website georectifies multiple historical maps of Philadelphia, enabling users to interactively switch between layers for the same geography. G. W. Bromley's 1910 Philadelphia atlas, held in the collection of the Athenaeum of Philadelphia, is the layer depicted in the view above. (PACSC, Greater Philadelphia GeoHistory Network, <http://www.philageohistory.org/tiles/viewer/>. Reproduced by permission of Greater Philadelphia GeoHistory Network, Athenaeum of Philadelphia.

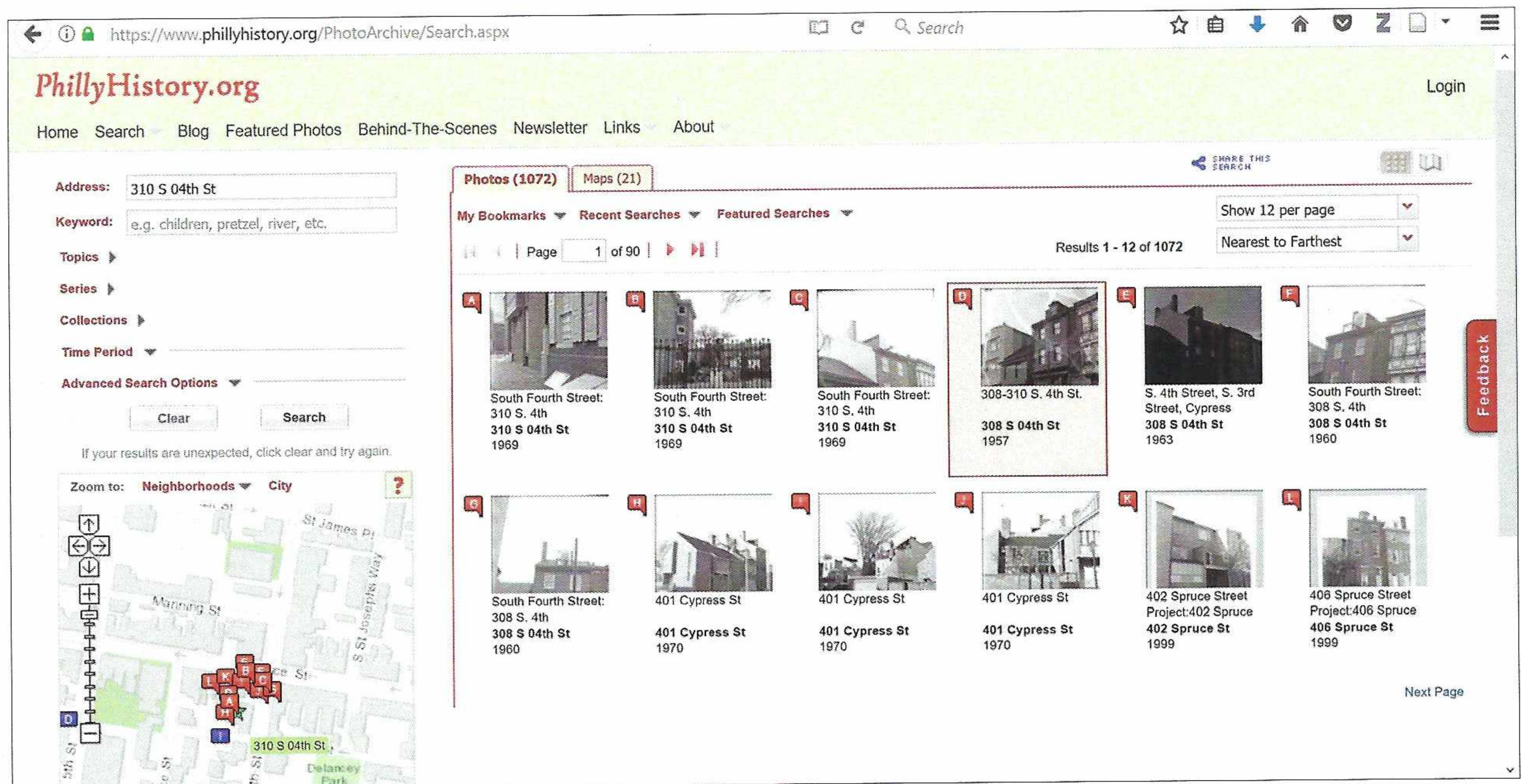


Fig. 2. This largely photographic website plots historical photographs of Philadelphia onto a contemporary map of the city. (Reproduced by permission from PhillyHistory.org, a project of the Philadelphia Department of Records.)

sources. They often do so by layering georeferenced historical surveys—that is, maps that have been aligned to a known coordinate system—on top of one another, allowing the viewer to toggle between years to see changes over time. One project of this type is the *Greater Philadelphia GeoHistory Network*, a collaboration between the member institutions of the Philadelphia Area Consortium of Special Collections Libraries (PACSCL). The site reproduces some of the same scanned maps found online through the Free Public Library, but it also puts these to greater use (PACSCL 2017). Its Interactive Maps Viewer georeferences a subset of available maps to enable precise geographic comparison, across time, that would not be possible by viewing maps of varied sizes, scales, and subjects one by one or side by side (see Figure 1).

Digital humanities projects can also activate the spatial dimension of other kinds of sources. Some photographic projects, for example, aggregate visual representations of the same location—possibly physically residing in separate archival collections—so that they can be viewed in succession. *PhillyHistory.org*, for example, consolidates historical photographs primarily from the Philadelphia City Archives, but also from other area institutions, and geotags them to a contemporary map (City of Philadelphia Department of Records 2017b). Users who enter an address then obtain a list of thumbnails of photographic subjects located at or near that site (see Figure 2).

Searching by keyword also generates a list of thumbnails based upon content in photographic captions. Physical filing systems for such images might rely on folders organized by keyword or address as well, but each image would likely only appear in one folder. Thanks to digital tools, however, these images are now searchable by multiple terms. The interactive interface also enables users to update the photograph list by panning across the map. The shift from a static archive to an interactive one, with multiple and overlapping means of sorting the same set of sources, is one of the great enhancements afforded by the digital humanities to historical primary-source research.

Digital maps can be especially useful in making sense of large-scale archives that are difficult to interpret as a whole. Managing such an unwieldy trove might otherwise require limiting oneself to close reading and case study analysis of selected images. There is much to be gained through such an approach. With digital tools, however, it also becomes possible to classify and even quantify the larger whole without sacrificing the possibility of a deep dive as well. Yale University's *Photogrammar* project maps the 170,000 photographs in the Farm Security Administration / Office of War Information collection by space, time, and photographer (Wexler et al. 2017). Users can also mine the underlying database through visualizations that plot the distribution of images by urban versus rural, among other subject classifications. Of course, the

data sets to which such spatializing approaches apply need not be primarily visual at all. For example, Emily Thompson's web-based audio archive, *The Roaring 'Twenties*, locates recordings of the 1920s soundscape on a map of New York City (Thompson and Mahoy 2017). Users can access textual descriptions of noise complaints, copies of correspondence, and multimedia clips of the sights and sounds themselves. The user-friendly site sorts these sources in multiple ways, including by medium, geography, and time.

Such aggregation and spatialization allow a re-sorting of archival collections based upon research questions, rather than the logics that structure archival holdings and finding aids. They also enable a new kind of comparative seeing by putting one source visually beside another. The legibility of such comparisons is often otherwise restricted by the geographic dispersion of the archives in which related materials reside, or even by individual archives' quite justifiable policies regarding the examination of only one box or folder from a single collection at a time.

Other projects add a more quantitative approach to their juxtaposition of historical data. Amy Hillier uses GIS combined with historical census data to recreate W. E. B. Du Bois' nineteenth-century Philadelphia survey on the website *The Ward: Race and Class in Du Bois' Seventh Ward*. Her research bolsters Du Bois' earlier findings, while adding additional demographic nuance and detail about race, class, and national origin (Hillier and Boddie 2017; Hillier 2010). Another set of maps integral to the history of city planning is that created by the Home Owners' Loan Corporation (HOLC), during the interwar years, to subjectively grade neighborhoods on the security of mortgage lending. In cities across the country, mapmakers gave low scores to areas occupied by racial and ethnic minorities, limiting investment in these communities. A GIS analysis of HOLC maps for Philadelphia, however, suggests that the causal relationship between lending patterns and low-scoring maps is less obvious (Hillier 2003). *Mapping Inequality: Redlining in New Deal America*, a collaborative project based at the University of Richmond (and depicted in Jennifer Minner's article in this volume), has digitized and georeferenced the entire HOLC map collection. Although the National Archives has long held this material, the digital project greatly increases accessibility (Nelson et al. 2017). Further, the ongoing effort to pair these maps with more recent census data should help demonstrate the enduring consequences of HOLC-related disinvestment over time.

Such applications of contemporary tools and data to historical maps revalorize these documents while eliciting additional information from them.

Community Engagement and Cultivation

Through attractive, accessible, and easily navigable websites, digital humanities projects like these can also introduce archival documents to new audiences, lending new energy to the public humanities. While digital humanities and public humanities need not be one and the same, the emergent field of digital public humanities generally characterizes many of the urban built environment projects discussed here (Tilton and Hale 2017). *The Ward* particularly embraces this public engagement. Site developers pair maps with teaching materials and a board game aimed at spreading the reach of Du Bois' work to further generations (Hillier and Boddie 2017). Similarly, widespread journalistic coverage of the *Mapping Inequality* project, in publications like *National Geographic*, offers the potential for these documents to reach a popular audience in a way that decades of academic scholarship on these same topics have not (Miller 2016). For historic preservation, a field whose material impact on the built landscape relies on advocacy, engaging the public with historical resources is particularly urgent. Since anyone can nominate a building for a local or national registry, these resources are critical to informing such work with reliable primary-source evidence and deeper historical understanding.

But the public need not serve only as consumers of this information. The digital humanities can also allow the opportunity for everyday citizens to contribute directly to the creation of the emerging historical archive. Most simply, some websites turn to the public to crowdsource editing of their data, providing invitations for visitors to update site content. *HistoryQuest DC*, for example, maps historical data, derived largely from the District of Columbia's historical building permits, by building site. A clear "Propose Data Change" link at the top of the page invites users to submit information "that would correct, enhance or enrich this map" (DC Historic Preservation Office 2017). In a less scripted way, a space for comments can serve as the prompt that initiates conversations and ultimately culminates in a full oral history interview (should a particular project be interested in collecting those).

Scholars refer to the more participatory and generative approach to cultivating active engagement in these projects as "Humanities 2.0" (Davidson 2008). In the

latest iteration of *The Ward*, for example, site developers are actively conducting and curating a growing body of oral history interviews that “feature the life stories of African Americans who lived in or near the Seventh Ward” (Hillier and Boddie 2017). The field of historic preservation can particularly benefit from such outreach as homeowners are the keepers of unrecorded stories of buildings’ histories. They are also among the most likely to have collected scrapbooks of photographs (depicting exteriors, interiors, and social scenes), news stories, and other documents related to their specific properties. Since these sources are more commonly found in dusty attics than in dusty archives, it behooves historians to reach out to the keepers of these “accidental archives” (Heathcott 2007).

Adding public knowledge, voices, photographs, and other ephemera advances the depth, diversity, and texture of historical documentation while also empowering the community members as agents—rather than just objects—in the crafting of history. Thus, community engagement projects can help demonstrate historic preservation’s continued relevance to constituencies whose investments in the built environment are more social and vernacular, extending beyond architectural style and the “great men who slept here” attribution. Of course, the field has advanced well past such limited arguments for significance, but the public has not always kept up with that growth. Such projects, therefore, broaden the historic preservation umbrella with both information and advocates.

The Roy Rosenzweig Center for History and New Media at George Mason University has been at the forefront of such collaborative public history projects, seeking to “encourage public participation without losing the integrity of evidence collected or compromising the privacy of a contributor” (Brennan and Kelly 2017). Following Hurricane Katrina, the Center partnered with the University of New Orleans to launch the *Hurricane Digital Memory Bank*. The site allowed users to upload images, emails, and other reflections on the Katrina experience (and later Hurricane Rita as well) and to geolocate their submissions (RRCHNM and UNO 2017). In Philadelphia, the *West Philadelphia History Map*, developed by the People’s Emergency Center and the Islamic Cultural Preservation and Information Council, similarly invites members of the community to add photographs and stories of “historical events, special buildings, roads, waterways, historical topography, and other things” to a growing online map about the neighborhood (PEC and

ICPIC 2017). The interactive site grew out of a neighborhood planning process that uncovered resident interest in showcasing their community’s history and cultural identity (*Philadelphia Sunday Sun* 2016). Projects like these not only help document neighborhood change but also turn the very process of documentation into an opportunity to make connections across the community.

But simply inviting community input does not achieve true engagement. As experience with the *Hurricane Digital Memory Bank* has shown, driving use remains a challenge. A lack of digital literacy and project ownership also imposes impediments. Landscape architect Anne Whiston Spirn recognized this decades ago, when she first began engaging the low-income Mill Creek neighborhood of West Philadelphia in a landscape history project focused on their community. She and her University of Pennsylvania and, later, MIT students partnered with a Mill Creek school to impart the digital and landscape literacies necessary for residents to unearth their histories themselves through both GIS analysis of floodplains and settlement patterns and reading the landscape itself (Spirn 2005, 2017). While individuals remain permanently changed by this experience, sustaining projects like this one requires ongoing digital and face-to-face interaction and education. In this need for often intensely local and ongoing engagement, digital projects are not so different from those of the predigital past. Truly engaging communities in the authorship and consumption of digital humanities projects is difficult and time-consuming work. Despite the medium’s up-to-date technology, it often still requires old-fashioned publicity and education efforts on the ground.⁵

DIGITAL HUMANITIES AND URBAN RENEWAL

Urban renewal imposed dramatic changes upon the fabric of postwar American cities, as documented in a varied archival record. Digital humanities tools are aptly suited to digitizing, spatializing, aggregating, and cultivating this vast trove of materials. Given the neighborhood-wide scale of urban renewal, these tools are particularly useful in organizing documentation for the multitude of sites contained within one plan. Since the policy is well known for having been imposed upon existing communities, rather than implemented with their participation, urban renewal offers a particularly relevant opportunity for incorporating community engagement into the writing of its history as something of a counterbalance to that uneven past. Finally, the era

offers an opportunity for multifaceted interpretation of a contested historical moment. With their capabilities for documenting multiple temporal moments on individual sites, digital humanities tools allow for the documentation of both the landscapes that have been lost to the postwar bulldozer and those that designers and community members created to take their place—themselves increasingly eligible for National Register listing today.

Documenting Demolition

In the case of clearance-based redevelopment, the digital humanities allow for excavation and preservation of a lost past in a form that is necessarily virtual. The Housing Act of 1949 provided federal grants to cover two-thirds of the cost of acquiring and clearing land for new construction. Postwar planners deployed this funding to tear down large swaths of the urban built environment (Ammon 2016). While the landscape itself has now lost most traces of this prereneal fabric, digital projects can help recover these losses and reinscribe their material and social life upon the maps. In this way, they demonstrate the scale, scope, and impact of destruction.⁶

Some projects approach the aggregation of past data in a comprehensive, somewhat technical way. Colin Gordon's online project *Mapping Decline: St. Louis and the American City* was a relatively early effort, plotting changes in zoning, redlining, census demographics, and urban renewal planning efforts across space and time. Geographic analysis served as an input to his book of a similar title—which includes seventy precise, static color maps focused especially on the census. The online project provides an interactive platform for engaging with the maps (Gordon 2008, 2017). As Amy Hillier has noted, however, while this pathbreaking effort is notable for its book-length demonstration of the accessibility of GIS to urban historians, the abundance of detailed map information largely replicates known patterns in visual forms, rather than exposing previously hidden relationships (Hillier 2009).

Whereas Gordon's website maintains an aerial mapping perspective on changes in the city, *Mapping Waterville*, based on a lab class at Colby College, takes visitors closer to the ground and individual sites. The website's urban renewal exhibit, for example, uses a 1930s Sanborn map as its base layer and permits users to click on each parcel for basic data. There, users may find historical photographs, postcards, data from a city directory, or basic information about date of sale or acquisition. Color coding indicates building survival

versus demolition. Other sections of the site map associate additional sources—including newspaper articles and crime and fire data—with these same addresses. In addition to digitally archiving primary sources, the site also provides brief, encyclopedia-style background on key figures and processes (Lisle 2017).

Still other digital urban renewal projects strive to convey deeper interpretive narratives. The project *98 Acres in Albany*, by scholars at the University at Albany and St. Thomas Aquinas College, uses an aerial photograph, rather than a lot-delimited map, as its organizing framework. Users can click on individual pins to read brief stories about a select number of addresses. Site designers call this their “story map.” While geographic coverage is less comprehensive than in *Mapping Waterville*, the information conveyed about individual lost properties is much deeper—typically including one or more historical photographs embedded in a capsule history, rather than just the primary documents themselves. Short illustrated essays also populate the site, examining selected nuggets of the city's renewal history (Pfau et al. 2017). The continuing development of these essays gives visitors a reason to return to the site for the latest content. In this way, *98 Acres in Albany* is similar to the blog section of *PhillyHistory.org*, which incorporates selected photographs—that are also available through the interactive map—into short contextualizing essays on focused topics (City of Philadelphia Department of Records 2017a).

By unearthing the demolished past in these varied geographies, the act of digital reconstruction is itself a work of preservation through documentation. The websites recover a lost history of communities transformed by urban renewal and give them, their buildings, and their stories new virtual life online. The large-scale aggregation of these many stories helps expose the process of urban renewal on the ground. The sites take us beyond the high-level discussion of policies and plans to examine material impacts on individual residents, businesses owners, and other everyday actors. Such an excavation of history can also have great value to these communities. Scholars have documented the damaging psychosocial impacts of dislocation and demolition, and projects like these help revalue what planners once deemed only worthy of destruction (Fried 1963; Fullilove 2004; Gans 1962; Thursz 1966). Further, with demolition on the rise in contemporary postindustrial cities, such as Detroit, projects like these can help us remember the losses of the past as these places embark upon new variants of urban renewal today (City of Detroit 2017; Hendrix 2017).

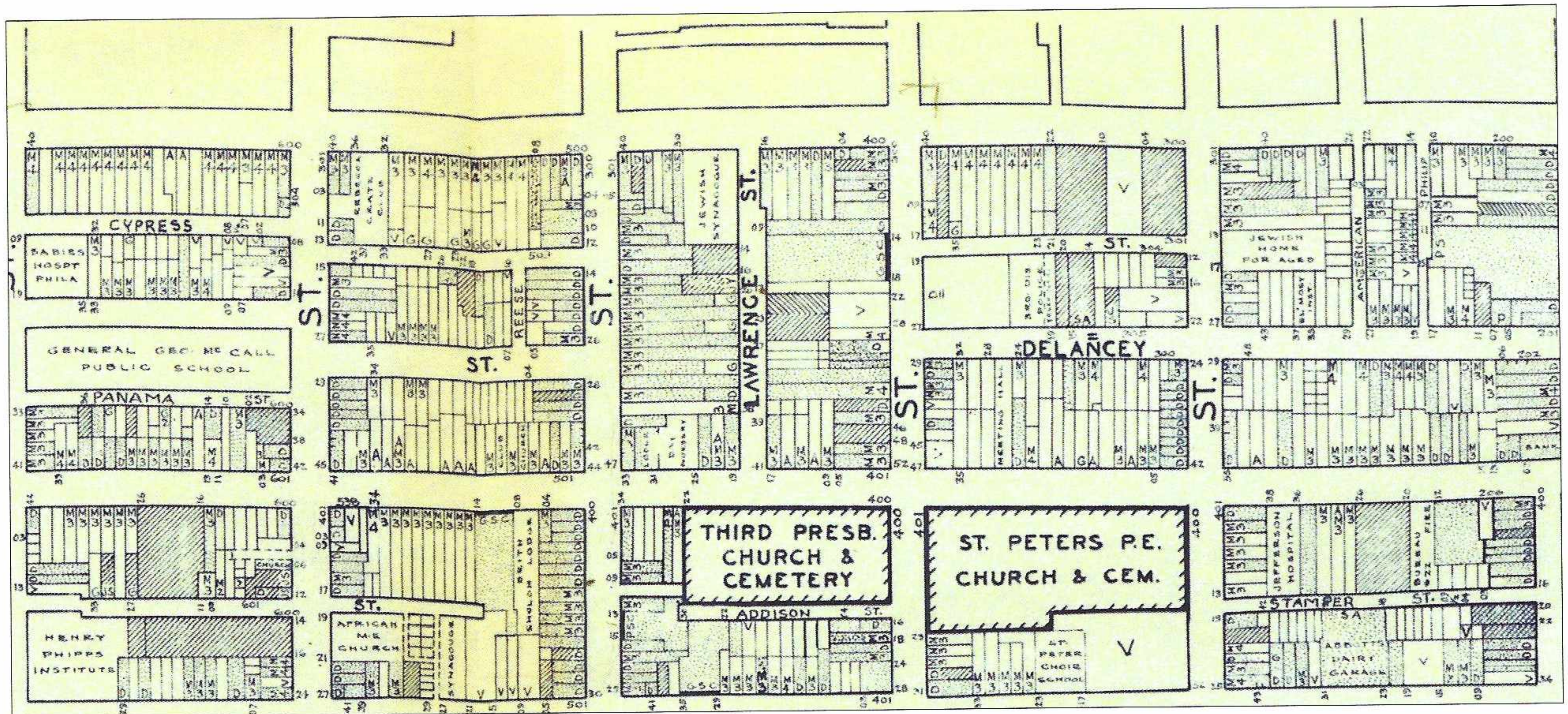


Fig. 3. Historical maps like this one, produced by the Works Progress Administration in 1942, show land use in Society Hill prior to urban renewal. (Plans and Registry Division, Bureau of Engineering Surveys and Zoning, Department of Public Works, Federal Works Progress Administration for Pennsylvania, "Philadelphia Land Use Map," Plate 3B-3, 1942, Free Library of Philadelphia. Reproduced by permission from Free Library of Philadelphia, Maps Collection.)

Documenting Demolition and Preservation in Society Hill, Philadelphia

Not only digital humanities projects about urban renewal, but also broader scholarship on the policy have tended to emphasize its destructive nature. This is an apt reflection of its typical impact. With passage of the Housing Act of 1954, however, the federal government expanded renewal funding to apply to rehabilitation as well as clearance. The digital humanities can be useful in documenting this other strain of urban renewal practice, which—despite its less overtly destructive emphasis—wrought transformative social, material, and economic impacts. Digitizing and aggregating varied available sources, and ordering them spatially and temporally, can illuminate the less well-understood process behind this alternative renewal practice. In documenting that story, such projects also help write an important chapter in the history of historic preservation: the role of the field as participant in postwar urban renewal. Further, whether urban renewal projects were based on clearance or rehabilitation, scholars have paid much less attention to postrenewal landscapes than to those built environments—both physical and social—that preceded planning interventions (Ammon 2009). Digital tools can be useful in recovering these stories as well.

Philadelphia's Society Hill neighborhood—known

formally as Washington Square East for urban renewal planning purposes—was a landmark site for the implementation of urban renewal through historic preservation (Birch and Roby 1984; Ryberg 2013). Although Philadelphia was not alone in this approach, it gained national prominence for its initiative in publications ranging from *Architectural Forum* to *Time* magazine (*Architectural Forum* 1952; *Time* 1964). In Society Hill, a five-by-eight-block area on the east side of Center City, the Philadelphia Redevelopment Authority cleared a wholesale food market to make way for I. M. Pei's three thirty-one-story high-rise towers (Donofrio 2014). Planners also undertook demolition on smaller-scale sites—including clusters of buildings, but also one-off structures—when existing land use was incompatible with the largely residential vision planners drew up for the area. When demolition was not necessary, restoration was the order of the day. As a result, a prereneal landscape populated with eighteenth- through early twentieth-century row houses; mixed-use, multifamily buildings; and industrial structures gradually transformed (see Figure 3). In its place, planners realized concentrated pockets of commercial use, a network of greenways, new infill housing of contemporary or neocolonial design, and the restoration of existing structures that showcased a reimagined, largely Federal and Georgian residential row house past (see Figure 4).

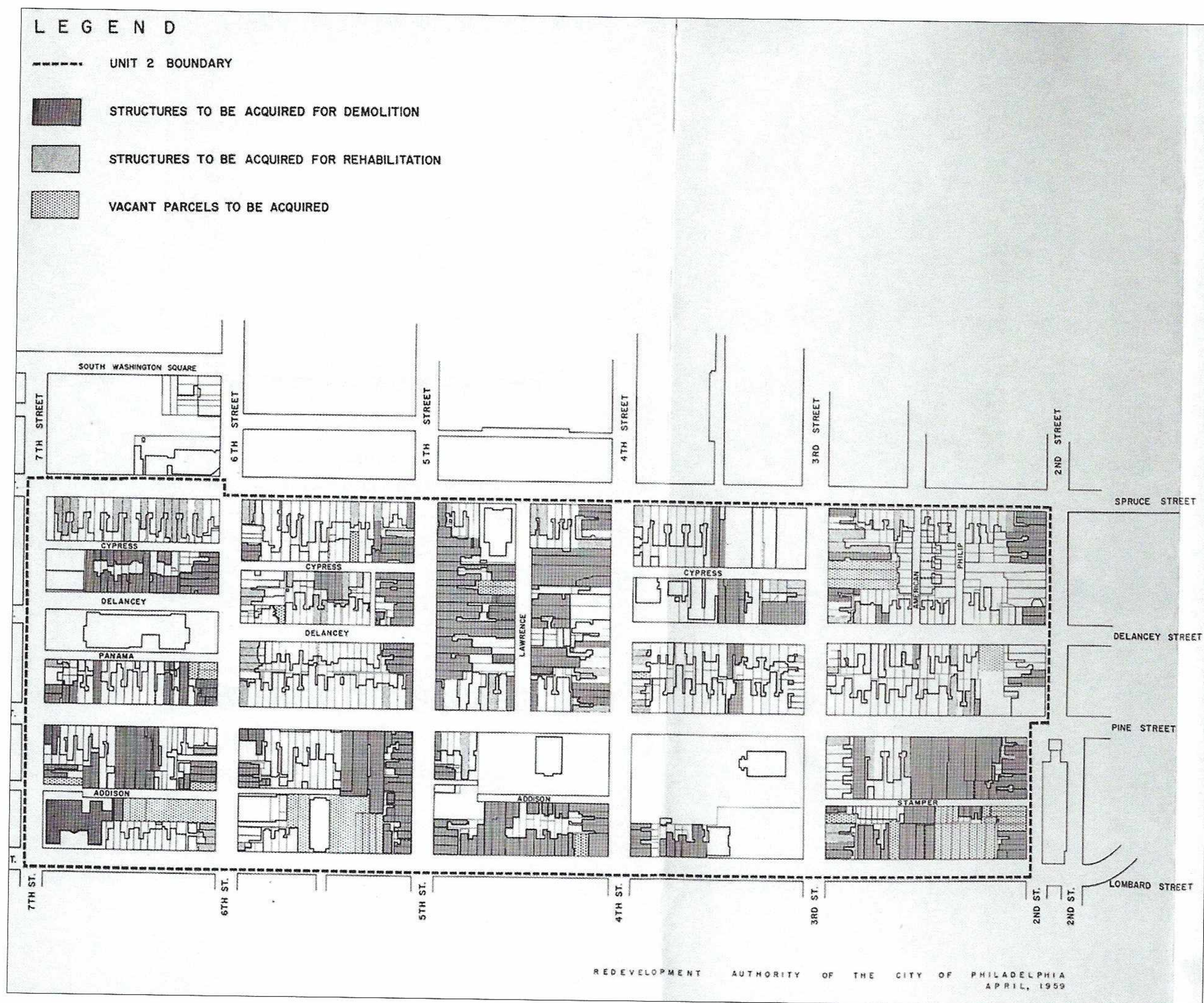


Fig. 4. This plan for the second of the three units of the Society Hill renewal area identifies individual parcels for acquisition for purposes of demolition or rehabilitation. Homeowners also rehabilitated some unshaded parcels, albeit without the need for acquisition by the city. (Redevelopment Authority of the City of Philadelphia, "Washington Square East Redevelopment Area, Washington Square East Urban Renewal Area, Unit No. 2," May 19, 1960, Folder 10, Box 5, Series 16, Housing Association of Delaware Valley Records, Temple University Libraries, SCRC, Philadelphia, PA.)

Recounting the history of this preservation-based version of urban renewal requires the excavation and aggregation of many small-scale stories. While large-scale plans drove the overall strategy for remaking the neighborhood, hundreds of site-specific efforts by individual residents, architects, preservationists, and Philadelphia Historical Commission members ultimately realized these plans on the ground. An aggregated, site-specific approach to exploring this process can help answer a variety of outstanding questions surrounding preservation-based renewal's means and meanings. For example, while plans articulate criteria for demolition versus restoration, how did these principles play out on the ground?

Why were some buildings saved while others fell—particularly on sites that fell through the cracks of established criteria? Further, what did historic preservation mean at this moment in time? What did it look like, both inside and outside individual structures? What time and place were planners privileging? And what tools helped preservationists guide restoration decisions? Lastly, what of the residents and businesspeople who experienced renewal on the ground? Why did new residents choose to move to the neighborhood, and how did lived reality match their expectations? Equally important, how did existing residents face the changes imposed by urban renewal, and how did old and new neighbors interact day-to-day?

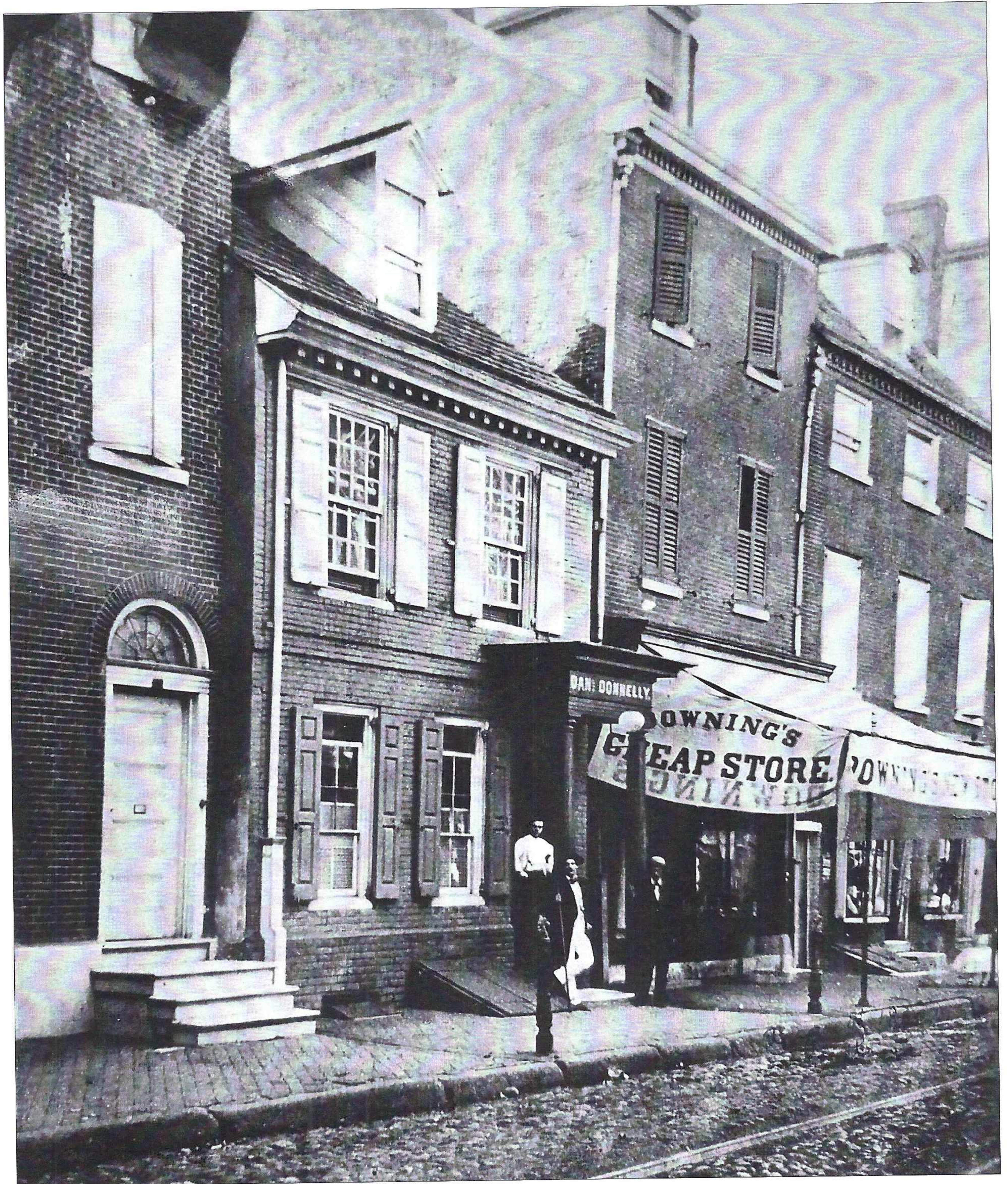


Fig. 5. In 1860, the properties at 308 (right, with awning) and 310 (center) South 4th Street both contained commercial uses on the ground floor. A copy (from 1959) of this photograph resides in the Historical Commission file for 310 South 4th Street, likely indicating that it functioned as inspiration for reconstruction of the facades during urban renewal. (Folder: 310 S. 4th St, Philadelphia Historical Commission; original [1860] from Boies Penrose Pictorial Philadelphia Collection, Pennsylvania Historical Society.)

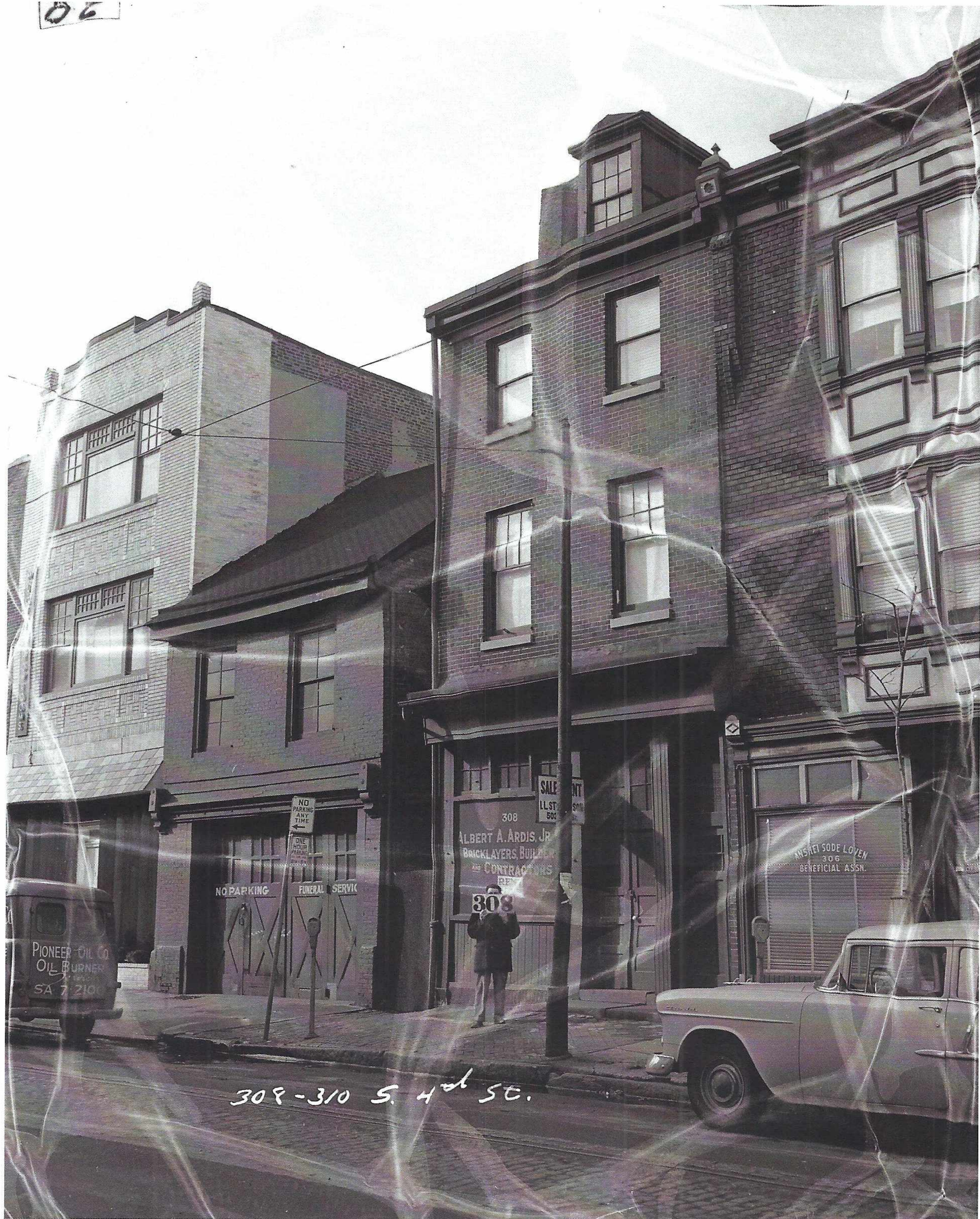


Fig. 6. By 1957, 310 South 4th Street was functioning as a garage, while 308 maintained its mixed use character of old—albeit with different tenants. Damage to the physical photographic print demonstrates the fragility of these materials in their hard copy form. (“308-310 S. 4th St.,” January 23, 1957, Photo courtesy of PhillyHistory.org, a project of the Philadelphia Department of Records.)

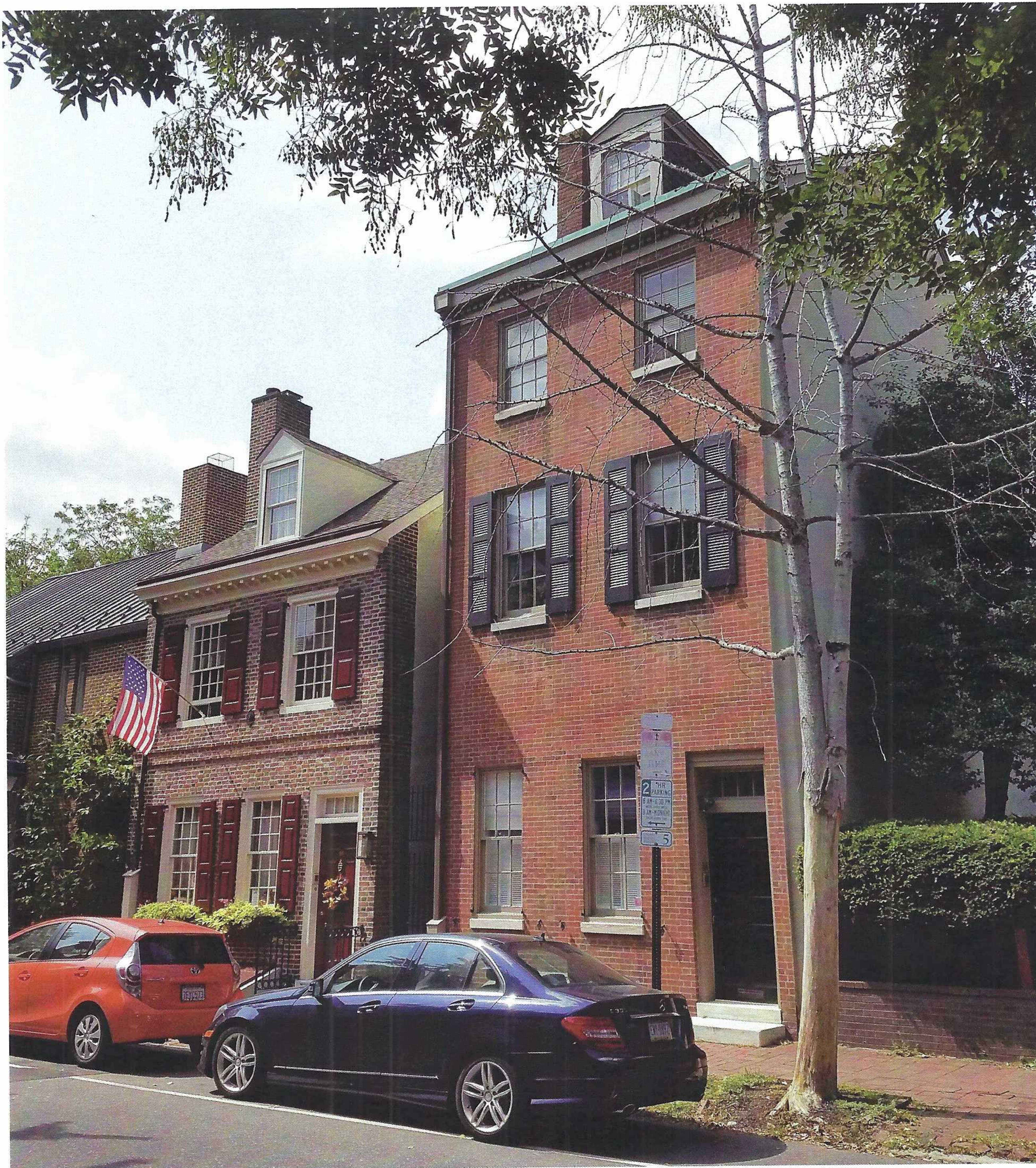


Fig. 7. After restoration, the facades of the buildings at 308 and 310 South 4th Street largely reflected their mid-nineteenth century appearances—except for the postrenewal absence of any commercial uses. (Photograph by author, 2017.)

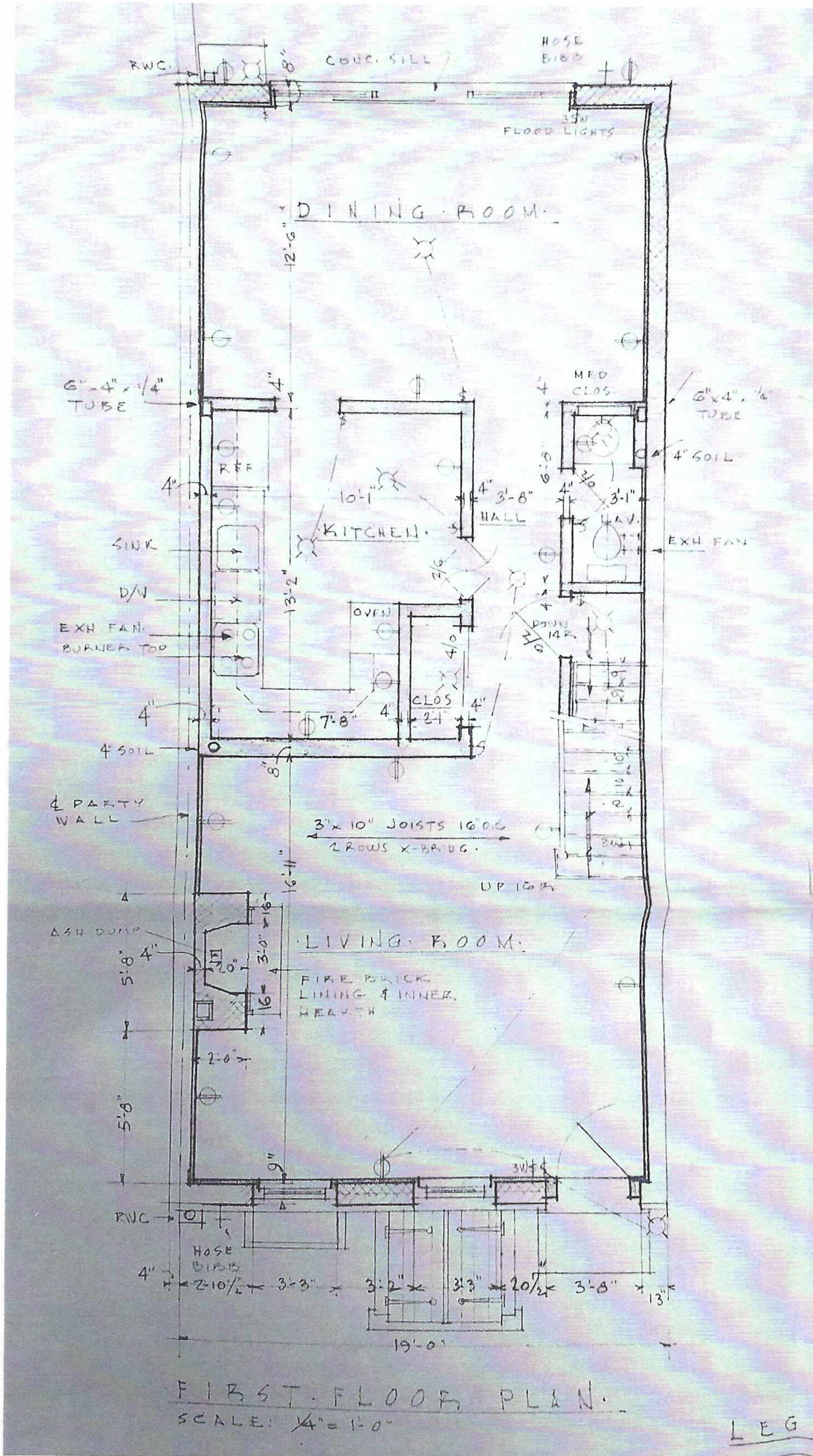


Fig. 8. As shown in this first floor plan from 1967, architect Joseph Praissman designed the interior layout of 310 South 4th Street in a more modern manner. (Joseph Praissman, Architect, "Alterations to Residence, 310 South Fourth Street, Philadelphia, Penna.," 1967, Folder: 310 S. 4th St, Philadelphia Historical Commission.)

While archival evidence exists to help answer these questions, it resides in dispersed collections and has not yet been aggregated, spatialized, and analyzed—parcel by parcel—on a neighborhood-wide scale. Redevelopment reports designate individual sites for demolition or rehabilitation (Wright, Andrade & Amenta Architects, and Philadelphia Redevelopment Authority 1958, 1959c). Photographs commissioned by the city document the neighborhood on the eve of renewal (see Figure 5). Historical maps fill in further details by recording prere-natal parcel-level building materials and land uses. The papers of real estate assessors, where available, supplement this record of existing conditions. Deeds convey if and when the Redevelopment Authority acquired buildings and resold them to redevelopers—while also including detailed lists of the exterior restoration work required of new owners (Wright, Andrade & Amenta Architects and Philadelphia Redevelopment Authority 1959a, 1959b). Property-level files at the Philadelphia Historical Commission contain piecemeal correspondence for individual sites. Sometimes these files include historical photographs of architectural features that commission members required homeowners and their architects to recreate in their restoration plans (see Figure 6). Building permits, held in City Archives, further clarify which restoration activities moved from idea to implementation—and with the help of which architects and contractors. More recent photographs provide a visual counterpart to prere-natal photographs, showing what projects looked like when complete (see Figure 7). Written correspondence held in municipal archives, combined with newspaper articles and photographs, only add to this story.

Archival materials can also help excavate the history of this neighborhood beyond exterior architecture. The interior character of newly constructed and preserved properties is just as important to this story, even if it is less immediately obvious to the eye on the street. Historical Commission files often contain architectural plans for restoration that are vital for comprehending the three-dimensional impacts of this process (see Figure 8). Comparison of these drawings with architectural surveys contained in earlier fire insurance policies demonstrates the degree of exterior as well as interior transformation (see Figure 9). They show that, while preservation turned back the clock on street-facing facades, it did not necessarily hold similar sway over interior environments.

With property-level census data not yet publicly available for this period, reconstructing the changing

social character of the neighborhood is more challenging. Where they exist, city directories supplement basic data available in deeds—particularly since much of the housing was rental, rather than owner occupied, before renewal. Public hearing transcripts introduce residents' and business owners' own voices into the narrative. Oral histories conducted with a variety of individuals, from long-term residents to those who arrived during or after renewal was in progress, help further develop the social history of the neighborhood across time. In the case of Society Hill, a small group of renewal-era residents had the foresight, over a decade ago, to interview dozens of individuals connected with the neighborhood. These interviews offer a unique window into the social side of postwar urban renewal and historic preservation. Unpublished memoirs, also written by residents who realized the significance of the moment they were living through, can finally find a public audience through the digital medium as well. In urban renewal scholarship, such valuable first-person accounts of renewal on the ground are rare.

On their own, these sources can help recover the histories of individual sites. But a more cohesive story of patterns and trends is only achievable by reconstructing the history of whole blocks and the entire neighborhood from these sources. This synthesis requires an aggregation and spatialization of these many different types and sources of data, and the digital humanities are well suited to that function. As in the case of *Photogrammar*, digital interfaces can help organize large archival collections. An interactive graphical display can then enable users to make sense of the neighborhood by digging deep into individual properties and also comparing property to property and block to block relatively easily. *Photogrammar* not only connects photographs to their sites, but it also orders them in time to reconstruct photographers' contact sheets. A similar attention to the ordering of photographs of individual sites, over time, will illuminate the choices embedded in postwar historic preservation. Juxtaposing these photographs will help recover those parts of a building site's past that have been silenced by restoration to another era. It will also move us beyond the more limited

Fig. 9. (Opposite page) An insurance survey of Lewis Rush's two-story house, at 310 South 4th Street, describes key interior and exterior features of the building in 1811. For example, each of the two stories contained two rooms. (Photocopy in Folder: 310 S. 4th St, Philadelphia Historical Commission.)

2
1
0
1
1
0

Survey of Lewis Rush's two story Brick house, stands ³¹⁹ on the west side of fourth, between Spruce & pine streets, about 17 feet depth 32 feet. First story, 2 rooms, 1 wainscoted suburban high, Breastboard with cornice over door, Suburban, washed, Closets & window cases, Cornice half way & wainscoted suburban high, Suburban, washed & wood cornice, Common square head front door. Second story 2 rooms, similar to first story except no wainscoting. Garret 2 rooms & plastered, Trap door, Roof a third worn, 2 dormer windows, 12 lights each glass 8 by 10 inches, Common winding stairs, Board partitions, Kitchen, 12 feet by 17 feet two stories high, First story as customary, Chamber, washed, Closet & window case, Common winding stairs, Roof a third worn, floor heart pine board, Third worn, Glass 8 by 10 inches, Party walls 9 inches, Brick ash hole, North about 3 feet off. A two story frame house, South a two story Brick house, next to the yard by a 3 feet alley water plenty.

\$ 1000-

March 1811 Philip Justus

On the House	\$ 700
Kitchen	300

\$ 1000.	@ 2 3/4 %	\$ 27 50
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Policy & incidental expenses	6
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\$ 33.50

The above is a correct survey of the premises as now insured

Chic^o May 23. 1811

Lewis Rush

Inspected Nov 18. 1911. This building remains as per survey

Walter Joyday
Surveyor

categories of “before” and “after” photographs, which dominate urban and architectural history, to more accurately capture the multiplicity of histories embedded in any one site across time (Ammon 2016, 146). Digital tools particularly excel at conveying such multiplicities.

Preserving Society Hill is a GIS-based website currently in development to fulfill the potential described above. Like many digital humanities projects of this type, the site will not remain static after it launches. In part, by showcasing the project to members of the Society Hill Civic Association, itself founded during the early days of urban renewal, I and other creators of the website hope the initial version will inspire other residents to come forward with their own historical photographs, documents, and other ephemera as well as inspire interest in adding to the oral history collection. This will expand the breadth of coverage on the site and the range of perspectives included. We also hope to incorporate the collections of institutions resident in the neighborhood, from churches to schools and archives. Engaging the community with this project is integral to realizing its core objectives. Municipal documentation of urban renewal projects largely conveys the top-down portion. But Society Hill community members were the agents and objects of this process, and their stories need to be told as well.

The project holds the potential to enrich historical understanding of this particular neighborhood and of urban renewal-era historic preservation more broadly. First, it will spatialize the archivally-dispersed Society Hill documentary record and consolidate it in a central location for easier access and exploration. Second, it will organize the vast, but underinterpreted photographic record of renewal. Placing historical photographs in sequence for individual sites will illuminate processes of change that are no longer visible from the sidewalk. Lastly, it will supplement this historical record with stories, photographs, and artifacts from community members, thereby expanding the existing archive. These are accomplishments of aggregation, representation, organization, and—critically—cultivation. The reputation of preservation as a multifaceted field that exists with and for existing communities—rather than an elite architectural practice imposed upon communities—will only be furthered as individuals see stories more reflective of their own lives.

Further, the project can help reinterpret Society Hill’s history. These new interpretations may reside in exhibits on the website itself, or they may instead draw upon site-based evidence to advance new arguments in venues

ranging from books to articles, public talks, walking tours, and historic register nominations. Existing accounts of the neighborhood’s remaking have tended to privilege either the structural forces behind this transformation or the roles of major architects, planners, and municipal bureaucrats in directing this process (Smith 1996; Heller 2013; Lowe 1967). Local and national register nominations focus largely on the neighborhood’s architectural history: especially noteworthy eighteenth- and early nineteenth-century buildings connected with prominent individuals, or the more well-known new constructions of urban renewal, including high-rises and townhouses by famous architects like I. M. Pei. Most popularly oriented walking tours today also highlight Society Hill’s older past, rather than its important place in post-World War II preservation and planning history.

A site-based excavation of the neighborhood’s history, realized through a digital humanities approach, affords the opportunity for a more inclusive and diverse history of the neighborhood that brings greater attention to the individual restorations and new constructions of the postwar period—rather than just the earlier days of many of these same sites and structures. Much of the built fabric of Society Hill consists of vernacular structures, the renovations of which occurred at the hands of first-time homebuyers who invested substantial sweat equity in upgrading dilapidated structures. Daily interactions with the fledgling Historical Commission helped guide this work. Rehabilitating the neighborhood also extended beyond the buildings themselves to include many social functions, such as partnering with neighborhood schools, organizing the civic association, and debating if and how to maintain some low-income housing for otherwise-displaced residents. These people-centric stories—experienced by young and old, men and women, long-term residents and new arrivals, and individuals of varied ethnicities and races—are equally important to the neighborhood’s history as a community. But they are only accessible by exploring this history at the scale of individual residents and building sites and then aggregating these disparate stories from across the space of the neighborhood.

This more detailed history of planning and historic preservation should also make its way into historic district designations of the neighborhood (see Figure 10). Society Hill was first listed on the National Register of Historic Places in 1971 (Means 1971). Given the fifty-year cut-off for significance, that nomination largely ignores any mention of the urban renewal era history of

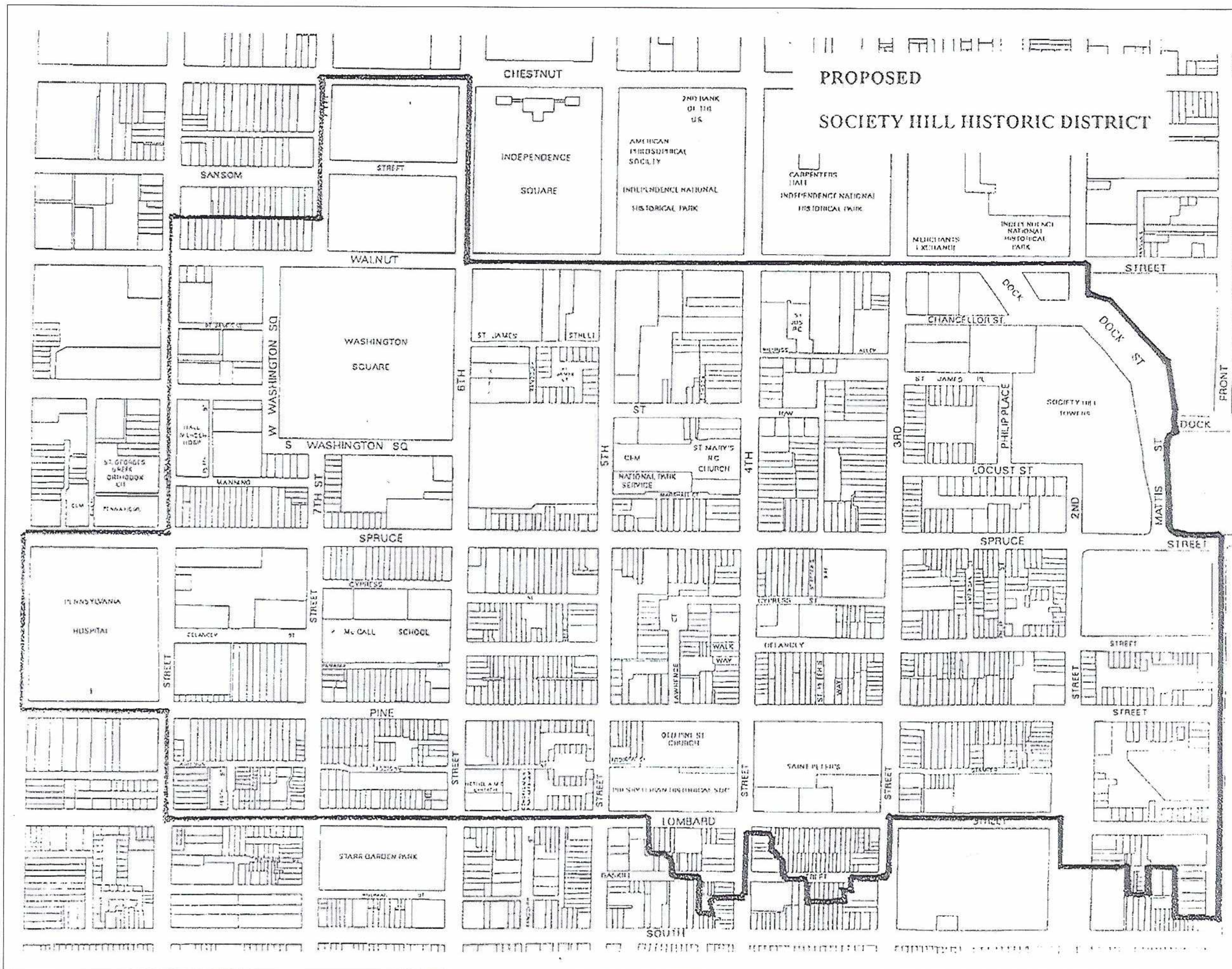


Fig. 10. This map shows the boundaries of the Society Hill Historic District (including Pennsylvania Hospital), as designated by the Philadelphia Historical Commission. (Laura Spina and Elizabeth Harvey, "Society Hill Historic District," 1999.)

the neighborhood. Although an addendum submitted in 1987 includes one paragraph on the postwar era that specifically singles out the contributions of architects who built major new buildings, the significance of restoration work remains vague (Thomas 1987). In 2015, Ludwig Mies van der Rohe's modernist urban renewal development of Lafayette Park, in Michigan, earned National Historic Landmark status. Should Philadelphia preservationists follow that lead and push for a further update to Society Hill's district designation, *Preserving Society Hill* will provide valuable evidence upon which to base that nomination. The neighborhood's Philadelphia historic district designation, from 1999, already enters this terrain with a specific section devoted to urban renewal. This is only a start, however, with further interpretive possibilities available beyond the single paragraph devoted there to the historic preservation piece of that story (Spina and

Harvey 1999).

Despite its status as a national and local historic district, Society Hill continues to change. Property owners submit proposals for modifications to their homes: from the addition of solar panels to the replacement of windows and doorways and changes in overall structure. Recently, a local developer announced plans to replace the largest shopping strip in the neighborhood—home to a grocery store and parking lot dating back to urban renewal—with a five-story mixed-use apartment building with more limited first-floor commercial space. Under the leadership of the civic association, a vocal contingent of neighborhood residents emerged to oppose this change. They cited the desirability of maintaining local shopping as well as the incompatibility of the new development in terms of massing, height, and density (*Society Hill Reporter* 2015, 1, 4). But they have few tools at their

disposal to make a compelling case grounded in history. Looking ahead, they are creating a master plan for the neighborhood that will proactively plan for future land uses (*Society Hill Reporter* 2016, 1). A more comprehensive history of their community—including the era of its historic transformation—can provide a stronger foundation for that vision.

CONCLUSION

Writing in the *American Historical Review*, historian Lara Putnam argues for the transformative impact of the “digitized turn,” particularly as it relates to the growth of transnational scholarship. But she also cautions about the associated blind spots of that turn, highlighting the ways that digital shortcuts can enable ignorance and disconnect scholarship from long-standing place-based research practices (Putnam 2016, 379). Such risks also exist with the digitized turn in the history of the built environment. Increased availability of primary-source evidence via one’s computer alone can never make up for the built landscape itself as the primary source for this field. Further, educators should be careful to prevent the appeal of digital tools from distracting the next generation from the breadth and tactility of materials still held in brick-and-mortar archives. Instead, we should embrace digital humanistic tools as a medium for introducing, compiling, organizing, and supplementing this abundance of resources for closer examination. All of this is to say that the digital humanities are not a panacea for replacing past methods of urban historical research. But they can help us make better use of—and derive further meaning from—existing sources and approaches when paired with ground-based efforts.

Critically, the digital humanities offer the prospect for engaging a larger number of small-scale analyses. These can complement deep case studies of selected buildings and sites, which have long been integral to the field, with more systematic research into entire neighborhoods. The groundwork required to unearth the records for this geographic scope remains an obstacle. Once these materials are gathered, however, digital platforms can provide an infrastructure for spatializing and integrating these source materials. In this way, some of the benefits of Big Data, so often heralded by quantitative researchers, can be realized in the realm of qualitative urban historical research as well. The gains here are not just in the form of more data but also in different data: operating at a smaller scale, focused on a more vernacular story, blending the

social and the material, and derived from both bureaucratic and community-level sources.

Related to this same point, digital humanities projects hold the potential to better connect the field of historic preservation with the public. They can serve as both a portal for community engagement—as sources and audiences members—and also as a repository for archiving and making publicly accessible a variety of sources (community-based and otherwise). These connections with the public open up new avenues for community-engaged or -derived forms of interpretation that focus more on the vernacular building and the everyday citizen. They can help further activate the social dimension of historic preservation, thereby increasing its appeal to an audience less exclusively concerned with the material dimensions of the built environment.

Lastly, in the particular case of preservation-based urban renewal, the digital humanities can also help archive and interpret a critical chapter in the history of the historic preservation field itself. This is a valuable addition to both historiography and popular understanding. Not only the history of one landmark neighborhood, then, but also that of a broader planning approach are preserved when we apply new digital tools to mining, organizing, analyzing, and supplementing the vast record already resident in brick-and-mortar archives. Yet the vastness of that record—in the number of parcels and individuals involved, range of relevant archives, and variety of media—can inhibit collecting and interpreting these many stories. The digital humanities offer one important venue for overcoming those obstacles. A growing body of built environment-based digital humanities projects demonstrates proof of their potential.

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ENDNOTES

1. For an outstanding online guide to sources—visual and otherwise—on the history of the built environment in Philadelphia and its surrounding counties, see Jeffrey A. Cohen's "Places in Time: Historical Documentation of Place in Greater Philadelphia," <http://www.brynmawr.edu/iconog/>.
2. See, for example, "U.S. City Directories, 1822–1995" and "U.S. Census Records" in Ancestry.com, <https://www.ancestry.com>.
3. HyperCities was a relatively early and still-evolving collective for exploring the relationship between the digital humanities and cities. According to the developers, it is both "a storage engine for geotemporal narratives and a browser for viewing these narratives." It is also, however, a platform for engaging intellectually and technically with the development of this interdisciplinary field. See <http://www.hypercities.com/>.
4. In May 2017, the Library of Congress announced that it will be digitizing, and making available online, its entire collection of U.S. Sanborn maps by 2020. See <https://www.loc.gov/rr/geogmap/sanborn/>.
5. Of course, it should be noted that not everyone has equal access to computers, smartphones, and related technologies for accessing the web. Even so, open-access digital projects are still generally more widely accessible and inviting than scholarly books held only in select libraries and articles stored behind Internet paywalls.
6. A methodological note: While many of the projects discussed thus far are relatively finished in their form and even their content, the nature of the online medium makes the typical project a living document that is open to continued development. Several of the urban renewal-based projects discussed in this section are in a relatively earlier stage of their development, making them even more likely to transform over time. Indeed, some of the observations advanced here may be out of date by the time this article goes to print. The author regrets any confusion this may cause, but still recognizes the value of engaging with digital humanities archives and scholarship before—if ever—they reach a "finished" state.