



# Review of Historic Property Identification Surveys & Strategies

## For Managing Post-World War II Housing in Transportation Projects

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Prepared for  
**AASHTO Committee on Environment and Sustainability**

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## **EXECUTIVE SUMMARY**

This report presents a summary of National Cooperative Highway Research Program (NCHRP) Report 723, a literature review of post-World War II identification and evaluation approaches and methodologies; findings of a survey on the current state of practice of state Departments of Transportation (DOTs) and State Historic Preservation Offices (SHPOs); and case studies that provide insight as to how state DOTs and SHPOs are dealing with the survey and evaluation of post-World War II housing resources. Surveys were designed to understand the impact of NCHRP Report 723 on subsequent post-World War II approaches and methodologies.

The state of practice for post-World War II housing resources depends on the resources and needs of the state. Some states have not developed any approaches, whereas others have developed postwar style guides, historic contexts, and streamlined survey methodologies and evaluation guidelines. Each state also appears to have its own reasons for adopting NCHRP Report 723, wholly or in part. Some agencies found the national context useful but not the streamlined survey approach, and others use the context and survey approach with little alteration for their projects.

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## LIST OF ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials	HUD	U.S. Department of Housing and Urban Development
APE	area of potential effect	MPDF	Multiple Property Documentation Form
BLM	Bureau of Land Management	NCHRP	National Cooperative Highway Research Program
Caltrans	California Department of Transportation	NPS	National Park Service
CRF	Cultural Resource Fund	[NPS] AKRO	Alaska Regional Office
DHR	[Virginia] Department of Historic Resources (VA SHPO)	NRHP	National Register of Historic Places
DOT	Department of Transportation	PHMC	Pennsylvania Historical and Museum Commission (PA SHPO)
DTD	[CO] Division of Transportation Development	SCDAH	South Carolina Department of Archives and History (SC SHPO)
FCC	Federal Communications Commission	SHA	[MD] State Highway Authority
FHA	Federal Housing Administration	SHPO	State Historic Preservation Office
FHWA	Federal Highway Administration	TRB/ ADC50	Transportation Research Board/ Committee on Historic and Archaeological Preservation in Transportation
GLO	Government Land Office	THPO	Tribal Historic Preservation Office
GTC	Georgia Transmission Corporation	VA	Veterans Administration
HPF	Historic Preservation Fund		



## INTRODUCTION

Departments of Transportation (DOTs) are tasked by law and regulation to consider the effects of their projects on properties listed in or eligible for listing in the National Register of Historic Places (NRHP), including buildings and structures. In doing so, state DOTs typically follow NRHP criteria for evaluation, which focus primarily on resources 50 years of age or greater. As each year passes, however, the quantities of post-World War II resources—particularly buildings and structures—reaching the 50-year threshold increases exponentially. The conventional building-by-building approaches to historic property identification surveys have become increasingly expensive and time-consuming, and therefore a growing impediment to efficient project delivery, which represents a problem of national scope relevant to all state DOTs.

NCHRP Report 723, *A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing* (Pettis et al. 2012), was completed in 2012. The goal of NCHRP Report 723 was to develop a “practical, consistent, efficient, and useful approach to the identification and evaluation of post-World War II resources that can be used within the framework of Section 106” (Pettis et al. 2012:1). The report has three main components: (1) methodology for identification and evaluation of NRHP eligibility of single-family housing built between 1946 and 1975, (2) a national context of post-World War II housing developments and a guide to evaluating residential property types, and (3) the application of a model historic context on locations in Arlington County, Virginia; Arlington, Texas; and Madison, Wisconsin. The methodology component of NCHRP Report 723 provides a clear framework for approaching the survey and evaluation of post-World War II housing developments, including a selective survey methodology complemented by the development of a local context. The survey methodology focuses first on the identification and evaluation of resources as components of a potential historic district because many residential properties from the period will not meet NRHP criteria. Only post-World War II forms and styles within these potential districts that stand out as noteworthy would be examined for individual eligibility. The model context outlined in Appendix B of that report, which includes broad contextual themes and expected property types and styles, provides guidance for the development of the local historic context.

NCHRP Report 723 was well publicized through presentations, webinars, and websites (e.g., AASHTO’s Center for Environmental Excellence) and well received by the National Council of Historic Preservation Officers and several other agencies. However, NCHRP Report 723 only suggested a framework for approaching the problem and left specific implementation solutions to state DOTs and State Historic Preservation Offices (SHPOs). The specific approaches being used by state DOTs or SHPOs are not readily available.

One of the expected outcomes of NCHRP Report 723 was to streamline the Section 106 review process. Streamlining practices are commonly conducted when complying with Section 106 but are not well publicized; they tend to exist in project documentation in agency files. Therefore, the objective of the Task 110 project is to determine the extent to which the model created by NCHRP Report 723 has been implemented by surveying and interviewing state DOT and SHPO personnel. The current report will be a resource for state DOTs that are researching the creation and implementation of post-World War II

housing programs or are looking to improve existing approaches created before or because of NCHRP Report 723.

An additional objective of this research effort is to compile and summarize any such efforts to date, thus providing state DOTs the opportunity to access and use this information with their regulatory partners. Appendix C contains a summary of methodologies that can be used for understanding post-World War II housing trends.

## **REPORT ORGANIZATION**

This synthesis of successful strategies is organized into eight chapters and five appendices.

- Introduction. The chapter introduces the synthesis by providing background information and summarizing the scope and organization of the synthesis report.
- Summary of NCHRP Report 723. This chapter summarizes the key recommendations provided in the report as they relate to the development of a post-World War II housing methodology for determining NRHP eligibility.
- Literature Review. This chapter provides a review of the literature on post-World War II research, identification, and evaluation approaches and methodologies from local, state, and federal agencies.
- State of Practice. This chapter summarizes and discusses the findings of the surveys of state DOTs and SHPOs.
- Agency Practices and Experiences. Additional insights from the state DOT and SHPO survey.
- In-Depth Survey Results. Analysis of the survey.
- Case Studies.
- References.
- Appendix A—Screening Survey.
- Appendix B—In-Depth Interview Questions.
- Appendix C—Summary of Methodology and Growth Statistics for Sample Communities.
- Appendix D—Post-World War II Housing Resources.
- Appendix E—State of Practice Matrix.

## SUMMARY OF NCHRP REPORT 723

### OVERALL GOALS

As stated above, the goal of NCHRP Report 723 was to “develop a practical, consistent, efficient, and useful approach to the identification and evaluation of postwar resources that can be used within the framework of Section 106” (Pettis et al. 2012:1). The specific objectives of the project were the following.

- Develop a methodology for identification and evaluation of NRHP eligibility and non-eligibility of:
  - Postwar single-family housing built between 1946 and 1975 that is not part of a planned subdivision or unplanned neighborhood, and
  - Postwar single-family housing developments built between 1946 and 1975 as planned subdivisions or unplanned neighborhoods.
- Develop a national historic context and a model historic context for a state or region that address these types of properties.
- Apply and test the model historic context in a state or region to demonstrate its utility to state DOTs and SHPOs.

### METHODOLOGY FOR IDENTIFICATION AND EVALUATION

The methodology was designed to provide an appropriate level of documentation for postwar residential resources while allowing flexibility for survey documentation standards that may vary from state to state. The developed overall methodology included all the major steps in conducting a compliance survey: project preparation, identification, historic context, evaluation, and documentation (Pettis et al. 2012:6).

#### Project Preparation

The task of project preparation outlined in NCHRP Report 723 follows the standard procedures of identifying survey requirements, project scoping, and preliminary research.

#### Identification

To develop the survey methodology, NCHRP Report 723 reviewed relevant NRHP bulletins, nominations, and multiple property document forms (MPDFs) as well as postwar compliance and community survey reports. Based on this literature review, the survey methodology focused on a “selective survey approach that includes the review of all properties in the field with documentation completed for those postwar residences and neighborhoods that have the most potential to be recommended eligible for the National Register” (Pettis et al. 2012:6). This methodology limited in-depth survey to only the most significant individual resources with the most integrity and a more detailed definition of the character-defining features and architectural elements of postwar forms and styles (Pettis et al. 2012:6).

The methodology recommended in NCHRP Report 723 included two approaches to streamline the reconnaissance survey process, which is the most daunting task when dealing with post-World War II residential housing because postwar housing forms are far more numerous than pre-World War II resources and have very simple forms and features. The two approaches are as follows.

- Documentation of similar concentrated properties developed as a planned subdivision or unplanned neighborhood with similar forms, massing, and materials as a single group or potential district. The overall subdivision and its characteristics are documented along with individual intact examples of typical forms and styles. If information on original form/style and characteristics cannot be gleaned through background research, typical forms can be identified during the reconnaissance survey with assumptions made on original materials and character-defining features based on age and locally prevalent/available materials.
- Survey of individual properties constructed as in-fill development in older neighborhoods, as isolated rural residences, or in postwar neighborhoods with little or no architectural cohesion. The approach assumes an understanding of the minimum threshold of integrity and significance based on “exterior appearance and retention of a degree of integrity and character-defining features” that may not be readily available (Pettis et al. 2012:11). The report acknowledges this potential lack of information and recommends that surveyors rely on their professional judgment when selecting properties to document (Pettis et al. 2012:15).

NCHRP Report 723 also presents three additional streamlined approaches as alternatives if the recommended selective survey approach is not accepted by project sponsors (Pettis et al. 2012:24-25):

- Provide a list of non-documented properties in the area of potential effect (APE)/survey area that were not included in the selective survey. The list would provide the address, style or form, and a statement as to why the property was not documented.
- When the majority of resources are similar in size and scale, provide information on non-documented resources through a single record that summarizes the number of resources, styles and forms, and alterations or lack of character-defining features.
- Develop a management summary for the entire project area that provides similar information as the first two approaches in a narrative format.

NCHRP Report 723 outlines the most popular forms and styles of the postwar period and provides typical materials and character-defining features of each.

### **Historic Context**

Historic contexts provide a framework for evaluating the significance of subdivisions and/or neighborhoods and individual resources with respect to NRHP criteria. Appendix B of NCHRP Report 723 contains a model context outline that can be used as a guide for developing a local historic context:

- Identify postwar residential development trends for the region.
- Include a development history for the APE/survey area to place the area within the broader context of postwar development and identify whether the subdivision or neighborhood is significant within that context.
- Include a discussion of the “local and regional influences, such as planning and zoning regulations; the work and influence of local architecture firms, builders, or plan services; and regional variations in building types and styles” (Pettis et al. 2012:27).

### **Evaluation**

NCHRP Report 723 recommends using the registration requirements in the MPDF, *Historic Residential Suburbs in the United States, 1830-1960* (McClelland et al. 2004) as a baseline for evaluation of postwar residential districts and individual resources, with the following specific guidance for NRHP eligibility and integrity.

- Guidance for eligibility under specific NRHP criteria, focusing on determining whether individual buildings or a group of resources could be determined eligible under Criterion A with specific reference to Community Planning and Development, Social History, and Ethnic Heritage (Pettis et al. 2012:29-34).
- Guidance for determining significance under Criterion C in the areas of Architecture, Community Planning and Development, and Landscape Architecture (Pettis et al. 2012:36-41).
- Guidance specific to post-World War II resources on integrity requirements, the relationship between significance and integrity, character-defining features, and alterations.
- Specific guidance in the alterations section on the types of alterations to post-World War II resources that compromise integrity of both individual resources and historic districts (Pettis et al. 2012:44-47).

### **Documentation**

Recommendations for completion of the documentation step of the survey and evaluation methodology follow standard compliance report documentation procedures and deliverables. No special considerations are outlined for documentation of post-World War II residential housing surveys.

## LITERATURE REVIEW

The first step in gathering information for this project was to conduct a review of the professional literature related to the survey and evaluation of post-World War II housing resources. The review included approaches that were developed both before and after NCHRP Report 723 was published in 2012. The literature review was limited to housing resources, but approaches for other types of resources, such as commercial and religious, were also included.

The first post-World War II subdivision to be listed in the NRHP was Arapahoe Acres in Englewood, Colorado, in 1998. Since that time, the increased awareness and popularity of mid-century modern resources have prompted a number of state agencies and SHPOs to develop their own historic contexts and methodology for dealing with post-World War II residential housing within the context of Section 106. *Historic Residential Suburbs: Guidelines for Evaluation and Documentation for the National Register of Historic Places* (McClelland and Ames 2002) provided a historic context that includes broad patterns of suburbanization in the United States and a proposed framework for conducting research on suburban developments for states to use as a tool to develop their own statewide contexts. For some of the earliest studies, however, the primary driving force was Section 106 compliance.

The McClelland and Ames (2002) publication clearly provided much needed guidance to agencies, as many studies published after 2002 incorporated information and evaluation guidance from this document. In the late 2000s a number of SHPOs and DOTs (including California, Colorado, Georgia, Maine, Montana, New Hampshire, Ohio, Pennsylvania, and South Dakota) developed statewide post-World War II contexts in an effort to provide some guidance for identifying and evaluating post-World War II resources. Most studies included a statewide historic context; a guide to architectural styles, forms, and building materials; and some guidance on evaluation of resources. Many studies were not limited to residential resources, also encompassing post-World War II commercial, industrial, educational, and social resources. All these studies, except for California and Georgia, included a conventional approach to surveying post-World War II resources with an initial focus on the entire subdivision backed by varying levels of survey for individual resources.

A large number of cities, including Atlanta, Georgia; Tucson, Phoenix, Tempe, and Scottsdale, Arizona; Pasadena, San Diego, and San Jose, California; Denver and Boulder, Colorado; Washington, D.C.; Charlotte, Greensboro, and Raleigh, North Carolina; Dayton, Ohio; Eugene, Oregon; Burlington, Vermont; and Olympia, Washington, also developed contexts to assist in local preservation planning.

The widely varying studies and survey practices outlined above may have been an impediment to the implementation of the streamlined methodology of NCHRP Report 723. Acceptance of change to a long-standing survey methodology is difficult. The inclusion of three model contexts in NCHRP Report 723 was designed to “test” the concept and alleviate potential skepticism of the untested methodology, which may have been a significant factor in the wide acceptance of the new methodology.

Several strategies found through the literature review are outlined below, listed by state and organized by the major steps for conducting an architectural survey of post-World War II housing resources:

identification, historic context, and evaluation. A table of all websites and resources for the identification, historic context development, and evaluation of post-World War II housing resources as well as pertinent scholarly works is located in Appendix D. A more detailed state of practice matrix that contains additional information on resources is contained in Appendix E.

## ALASKA

### Identification

The Alaska SHPO, located within the Alaska Department of Natural Resources, updated its *Alaska Historic Buildings Survey Manual & Style Guide* in 2016 to include post-World War II styles and forms. The survey manual provides an overview of each style/form, listing primary and secondary stylistic features and evaluation considerations. Some of the more uncommon residential styles/forms include Dingbat (also called Shoebox or Dumb-box), A-Frame, Geodesic Domes, and Quonset Hut.

### Historic Context

In 2016 the Alaska Regional Office of the National Park Service (NPS-AKRO) completed the historic context, *Mid-Twentieth Century Architecture in Alaska Historic Context (1945–1968)* (Ramirez et al. 2016), to support the identification, evaluation, and management of resources from the period for the NPS-AKRO, other federal agencies, state agencies, and others. The context includes broad themes of population, exploration, military, transportation, travel and tourism, and education and provides an overview of the development of post-World War II housing in the state. Architectural styles and forms are outlined as well as prominent architects. A robust annotated bibliography lists resources on a wide variety of topics related to post-World War II resources.

## ARIZONA

### Historic Context

In 2007 the City of Tucson, Arizona, completed the context, *Tucson Post World War II Residential Subdivision Development: 1945–1973*. Similar to historic contexts in other states, the history of post-World War II growth and subdivision development, and a guide to architectural styles are included. The context goes beyond the built environment to residential landscape design elements and typical landscape design typologies.

## ARKANSAS

### Historic Context

The Arkansas Historic Preservation Program published a statewide historic context in 2014 for postwar resources that covered a general history of postwar housing development in the state, architects, housing developers, and specific housing developments and styles. The context, which was developed after NCHRP Report 723, cited several aspects of the nationwide context from that publication, particularly the creation of the Federal Housing Administration (FHA) and the low-interest, long-term mortgage program and FHA housing standards (Hope 2014).



## CALIFORNIA

### Identification

Another study completed in 2011, just prior to the completion of NCHRP Report 723, was *Tract Housing in California, 1945–1973: A Context for National Register Evaluation*, prepared by the California Department of Transportation (Caltrans) (Caltrans 2011). The report contains a statewide historic context for post-World War II suburbs and a streamlined survey methodology that deals with suburban developments as a whole rather than as individual structures.

Chapter 7 of the Caltrans (2011) study describes the various types of developments as well as the features of postwar housing tracts, such as common planning and design principles, patterns of development, and location within metropolitan areas. Chapter 9 of the study outlines the house types and styles found in the state from 1945 to 1973. The study identified three distinct types of housing in the postwar era: Postwar Minimal, 1945–ca. 1953; Ranch, from ca. 1953; and Multi-level, from ca. 1963. Distinct styles of housing include Contemporary, Rustic Ranch and Storybook Styles, Asian Influence, Sweeping Roof Houses, Later Eclecticism, and Sea Ranch.

### Historic Context

The statewide historic context included in Caltrans (2011) covers the pre-World War II period, the war years, and postwar suburban development. Along with the typical topics associated with postwar suburban growth, the context delves into the history of segregated suburbs and the Cold War and fallout shelters.

### Evaluation

The study proposes a streamlined survey methodology that treats the housing tract as a whole when conducting survey. Each house type within the tract would be documented and the tract would be treated as an historic district for the purposes of NRHP eligibility. The methodology is based on the premise that postwar houses have a key characteristic: “they were built in multiples.” Whether as the work of a single builder or multiple builders, postwar housing tracts were usually constructed in a very short amount of time and houses within the tract displayed similar “size, quality, and degree of architectural elaboration.”

The study describes the potential criteria and areas of significance under which a housing tract or individual residence could be eligible for listing in the NRHP. Chapter 2 provides an assessment of integrity with photographic examples for both individually eligible houses and houses in a historic district.

## COLORADO

### Identification

In 2006, the Colorado SHPO prepared a style guide, *Selected Post-World War II Residential Architectural Styles and Building Types* (Center for Historic Preservation Research et al. 2006) for the 2006 Colorado Preservation, Inc. Conference Workshop entitled, “Identifying, Evaluating and Nominating Post-World War II Neighborhoods.” The guide provides a brief description, photos, and



common elements for the most popular forms found in the state, including Minimal Traditional, Ranch, A-Frame, Split-Level, Bi-Level, and Neo-Mansard.

### **Historic Context**

The Applied Research and Innovative Branch of the Colorado DOT, in conjunction with the Federal Highway Administration (FHWA), sponsored an MPDF for the Denver area's post-World War II suburbs in 2011 entitled, *Historic Residential Subdivisions of Metropolitan Denver, 1940-1965* (Simmons and Simmons 2010). Funding for the project was provided by the Colorado DOT, the Research Branch of the Division of Transportation Development (DTD), and a grant from the Colorado State Historical Fund. The specific goal of the document was to assist in determining the eligibility of those resources affected by transportation projects. The 187-page historic context within the MPDF covers all aspects of the postwar housing history of the city, including transportation, housing, education, commercial development, and infrastructure. A comprehensive list of architects, builders, and house types is also included.

### **Evaluation**

The MPDF for the Denver area post-World War II suburbs provides associated property types and registration requirements for each type. Subdivisions were separated into five different subtypes: Existing Subdivision, Domestic Subdivision, Multiple Filing Subdivision, Planning Suburban Community, and Specialty Subdivision.

## **GEORGIA**

Perhaps the most comprehensive post-World War II historic context and survey methodology developed in response to the growth of mid-century resources came out of the Georgia Department of Natural Resources, Historic Preservation Division (the Georgia SHPO). Directed by Georgia Deputy SHPO Dr. Richard Cloues and dubbed the "Ranch House Initiative," the project, which started in 2005, produced a series of contextual documents, typologies, and a national award-winning publication, *The Ranch House in Georgia: Guidelines for Evaluation* (Sullivan 2010). The driving force behind the initiative was the increasing number of Section 106 reviews involving post-World War II housing required for transportation, housing, and disaster recovery projects.

### **Identification**

Post-World War II housing, in the form of the minimal traditional or "American Small House," as it is termed in Georgia, was first encountered by the Georgia SHPO through NRHP nominations of neighborhoods in the Atlanta metropolitan area as well as in Section 106 project reviews. The first comprehensive study on this particular house type, *Atlanta Postwar Housing: 1944-1965* (Burns et al. 2001), was completed in 2001 by graduate preservation students at Georgia State University. This study provides an overview of the national architectural "trendsetters" of the postwar period, regional architectural influences and architects, and architectural styles and forms.

Building upon the Atlanta postwar housing study, in 2010 the Georgia SHPO published *Ranch Houses in Georgia: A Guide to Architectural Styles* (Georgia SHPO 2010a) and *Ranch Houses in Georgia: A Guide to House Types* (Sub-Types) (Georgia SHPO 2010b). The style guide outlines four predominant styles—Contemporary, Eichleresque, Rustic/Western, and Colonial Revival—and three less prevalent styles—Spanish Colonial, Frank Lloyd Wright influenced, and Plain. The house type guide identifies nine sub-types—Compact, Linear, Linear with Clusters, Courtyard, Half-Courtyard, Bungalow Ranch, Rambling, Alphabet, and Architect-Designed.

### **Historic Context**

The historic context developed as part of the Ranch House Initiative provides an overview of the development of the Ranch style nationally, regionally, and within the state, and highlights the evolution of the Ranch over time (Sullivan et al. 2010). A visual guide lists the overall features, materials, and styles of Ranch houses and provides an overview of each Ranch sub-type.

### **Evaluation**

The final aspect of the Ranch House Initiative to be completed were the guidelines for evaluation. Presented in the same document as the historic context described above (Sullivan et al. 2010), the guidelines outline the typical criterion under which a Ranch may be eligible and discuss the aspects of integrity that are important under each criterion. The guidelines list, with photographs, the typical alterations that may or may not affect integrity. Numerous examples of NRHP evaluations of various individual Ranches and historic districts are also included in the document.

## **INDIANA**

### **Historic Context**

In 2017 the Indiana Division of Historic Preservation and Archaeology sponsored the MPDF, *Residential Planning and Development in Indiana, 1940-1973*, which drew information from the national historic context of NCHRP Report 723, providing a national prospective on FHA and U.S. Department of Veterans Affairs (VA) mortgages and loans, and postwar housing and development characteristics (Higgins 2017).

Similar to other statewide historic contexts, the MPDF describes “the major societal, political, economic, cultural, and technological influences that impacted the planning, design, construction, and ownership of housing during the period and help relate how such trends are reflected in the built environment” (Higgins 2017). The context covers housing discrimination for minority populations as well as efforts to address low- to moderate-income housing, among many other topics.

### **Evaluation**

Section F of the MPDF includes two different postwar housing types: the single-family dwelling and residential development, and outlines their potential eligibility and registration requirements. Subtypes of housing developments include the following.

- World War II Era Housing Development, ca. 1940-1949
- Transitional Developments, ca. 1945-1955
- Tract Developments, ca. 1945-1965
- Custom Developments, ca. 1950-1973
- Planned Developments, ca. 1950-1973

The eligibility of mobile homes is discussed within the context of Criteria Consideration B for Moved Properties:

Individual mobile homes will in all but the rarest circumstances not be individually eligible for listing in the NRHP; exceptions may be extant examples of early or innovative models that influenced subsequent trends in mobile home design and manufacturing, if such examples are known to be in limited quantity. Mobile homes are more likely to be identified as contributing or non-contributing components of a historic district as part of a mobile home park, a type of Planned Development. In such instances, if a majority of individual mobile homes are found to be at least 50 years of age, retain sufficient integrity, and have been originally located in or relocated to the park during the period of significance, the district may be found to meet Criteria Consideration B [Higgins 2017].

## MARYLAND

### Historic Context

In 2000 the Maryland DOT-State Highway Administration (SHA) was the first agency to develop a historic context that illustrated the history of suburbanization, provided a methodology for research and survey, and created guidelines for evaluating significance with respect to NRHP criteria (KCI Technologies 1999). This was developed in response to a highway improvement project along a 42-mile stretch of Interstate (I)-95/I-495, a project corridor that contained a large number of suburban resources. Although the historic context was completed to assist in the evaluation of suburban areas around Washington, D.C., the contextual themes briefly covered national trends and development history of suburbs within the state, particularly Baltimore.

### Evaluation

The historic context included a section on property types, similar to an MPDF. Postwar houses were divided into three groups:

1. Unplanned suburban neighborhoods, which consist of all suburban settlements not conceived as a planned neighborhood or planned development, and isolated residences
2. Planned suburban neighborhoods, which consist of tracts of land subdivided by real estate speculators and developers; and
3. Planned suburban developments, which are residential developments that are comprehensively planned and constructed by developers.

Neighborhoods were defined as “a community of associated structures, including residential, commercial, industrial, municipal, etc. constructed by a variety of individuals over a period of time ranging from a few

years to a number of decades” (KCI Technologies 1999:b). Eligibility of each property type within each period is included in the narrative as well as a breakdown of character-defining elements of each. Eligibility and character-defining elements are also included for non-residential property types, such as commercial business districts/industrial properties, community buildings, federal facilities, and recreation/conservation areas.

## **OHIO**

### **Identification**

The residential styles and building types in the *Dayton Area Survey* are used as a style guide for postwar houses statewide (Ohio History Connection n.d.). Special attention is given to garage and apartment complexes within the residential styles and types section. Non-residential building types are also included in the style guide.

### **Historic Context**

Using grant funds from the U.S. Department of the Interior Historic Preservation Fund (HPF), the Ohio SHPO, in partnership with Ohio DOT, Ohio Department of Development, Ohio Humanities Council, the City of Dayton, and the University of Dayton, developed a comprehensive statewide historic context document for post-World War II resources that includes an extensive list of builders and a methodology for surveying and evaluating resources. The context includes an extensive chapter on technological innovations in construction methods and materials that influenced postwar housing. This study includes a survey and evaluation of these resources in Dayton, Ohio.

### **Evaluation**

Chapter 5 of the historic context addresses the identification and evaluation of postwar housing resources. The evaluation criteria and potential areas of significance are cited from McClelland et al. (2004) and are expanded to include resources constructed up to 1970. A section on evaluating integrity of these resources is also included.

## **OKLAHOMA**

### **Historic Context**

In 2014 the Oklahoma SHPO completed a statewide historic context for post-World War II housing built from 1946 to 1976 (Ozan 2014). The context covers the themes of transportation, federal housing programs, social influences (including segregation), community planning and development, building materials, and site development, architecture, and landscaping.

### **Evaluation**

The context also contains a chapter on NRHP evaluation of postwar residential developments and individual dwellings and an architectural style guide. The evaluation criteria are similar to those in McClelland et al. (2004) and are expanded to include the entire period of the context, 1946-1976. The potential significance of developments under Criteria A and C are discussed in depth with relevant areas of significance listed under each criterion. Examples of these sections are included in the state of practice chapter (below).

## **SOUTH CAROLINA**

### **Identification**

In May 2013 the South Carolina SHPO published *Guidelines for Surveying Post-World War II Neighborhoods and Residences* (South Carolina SHPO 2013), which was directly influenced by the publication of NCHRP Report 723. The seven-page guidelines offer a brief background, overview of styles and characteristics for Ranches and Minimal Traditional dwellings, evaluation guidance, and specifics on conducting Section 106 surveys. The document uses core information and principles from NCHRP Report 723 and provides state-specific guidance on how these principles should be put into practice in South Carolina. The survey guidance goes beyond the recommendations offered in NCHRP Report 723 in many ways, including eliminating isolated groups of five or fewer postwar residences from consideration for survey and providing guidance on how to treat in-fill postwar housing, as discussed in detail in the state of practice chapter (below).

## **VIRGINIA**

### **Identification**

In 2014 the Virginia Department of Historic Resources (DHR) (the Virginia SHPO) completed a style guide for housing built from 1946 to 1991 (DHR 2014). The context also covers commercial and corporate architecture of the period. Style information sheets for each style provide a brief history, photographic examples, and a list of defining characteristics. An uncommon style defined includes Corporate Commercial (1945-present), for identical corporate “chain” buildings that were designed for easy automobile access.

## STATE OF PRACTICE

### SCREENING SURVEY

After completing the literature review, the project team sent out a screening survey (see Appendix A) to identify all state DOTs and SHPOs that have developed or are in the process of developing a post-World War II housing survey and evaluation program. As methodologies and approaches are often developed for specific Section 106 undertakings, it was likely that successful approaches would not be gleaned from the literature review alone. Understanding the current state of practice of post-World War II housing survey and evaluation methodologies was critical to effectively target state DOTs and SHPOs for the collection of successful postwar housing strategies.

Respondents were given three weeks to complete the online survey. Thirty-nine responses were received from 29 out of 50 states (Table 1), a 58 percent response rate. Six states returned responses from both agencies. Some agencies had responses from multiple staff within the agency. The response rate of the survey indicates that DOT and SHPO staff have a particular interest in this subject. The results of the screening survey were compiled into a state of practice matrix (Appendix E).

TABLE 1. Screening Survey Respondents by State and Agency

STATE	SHPO RESPONSES	DOT RESPONSES	STATE	SHPO RESPONSES	DOT RESPONSES
Alaska	1	1	North Dakota	1	1
California		1	Ohio	1	
Georgia	1		Oklahoma	1	1
Hawaii	1		Pennsylvania		1
Indiana	1		Rhode Island		1
Kansas	2		South Carolina	1	
Maryland	1	1	Tennessee	1	
Massachusetts	1		Texas	1	
Michigan		1	Utah	1	1
Mississippi	1		Vermont	1	
Missouri		1	Washington		1
Nebraska	1		West Virginia	1	
Nevada	1	2	Wisconsin		1
New Hampshire	1		Wyoming	1	1
North Carolina	1		<b>TOTAL</b>	<b>23</b>	<b>15</b>

## SCREENING SURVEY RESULTS

### NCHRP Report 723 Knowledge and Use

State DOTs and SHPOs were asked if they were aware of the NCHRP Report 723 and if they used the model from that report. The majority of respondents, 30 out of 39, were aware of the report (Figure 1). Twenty-three respondents were SHPO staff, and 15 were DOT staff. One respondent that replied was anonymous. Seven respondents said that they were not aware of NCHRP Report 723 (see Figure 1). All of the respondents reported concern regarding one or more types of post-World War II housing. The majority, five of the seven, had not developed any approaches or methodologies for use in connection with postwar housing.

Sixty-nine percent of those that were aware of NCHRP Report 723 also reported that they did not use the report, 27 of 39 total respondents (Figure 2). At least eight of these respondents had methodologies already in place by 2012 when NCHRP Report 723 was published. One agency had recently developed an MPDF for post-World War II housing but did not use NCHRP Report 723. One respondent added a note that they “utilize the general principles” of the report. This last response may indicate that although many reported that they did not use the model from the report, some may have used other aspects of the report, such as the streamlined methodology or evaluation guidelines.

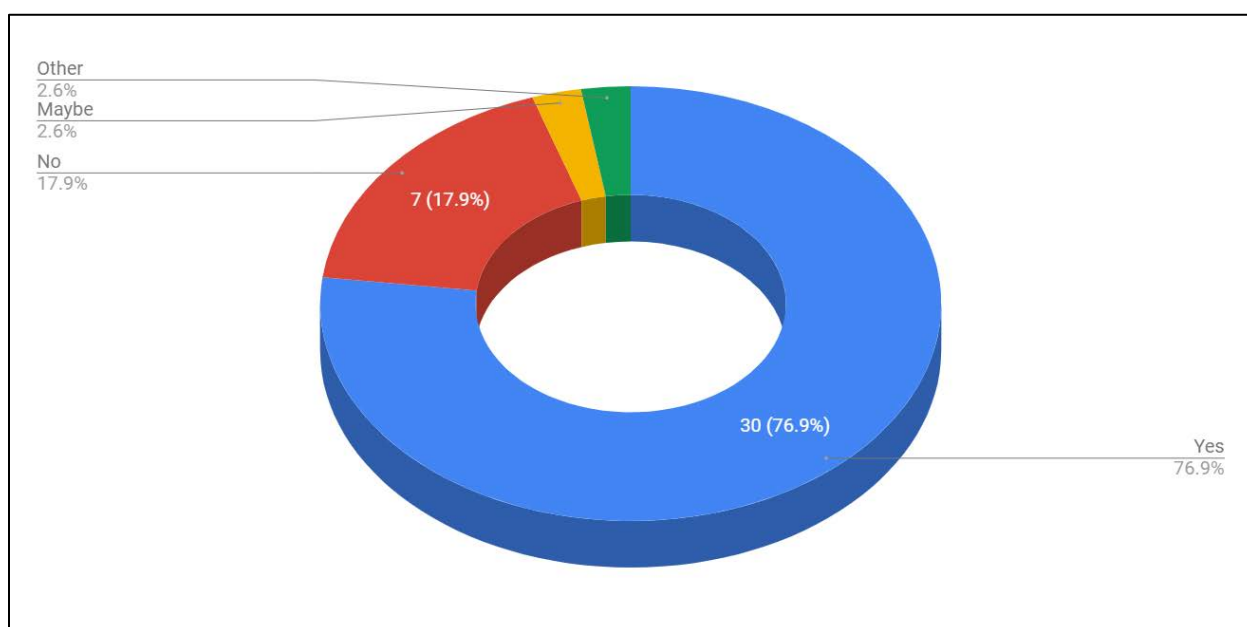


FIGURE 1. Number of Agencies Aware of NCHRP Report 723



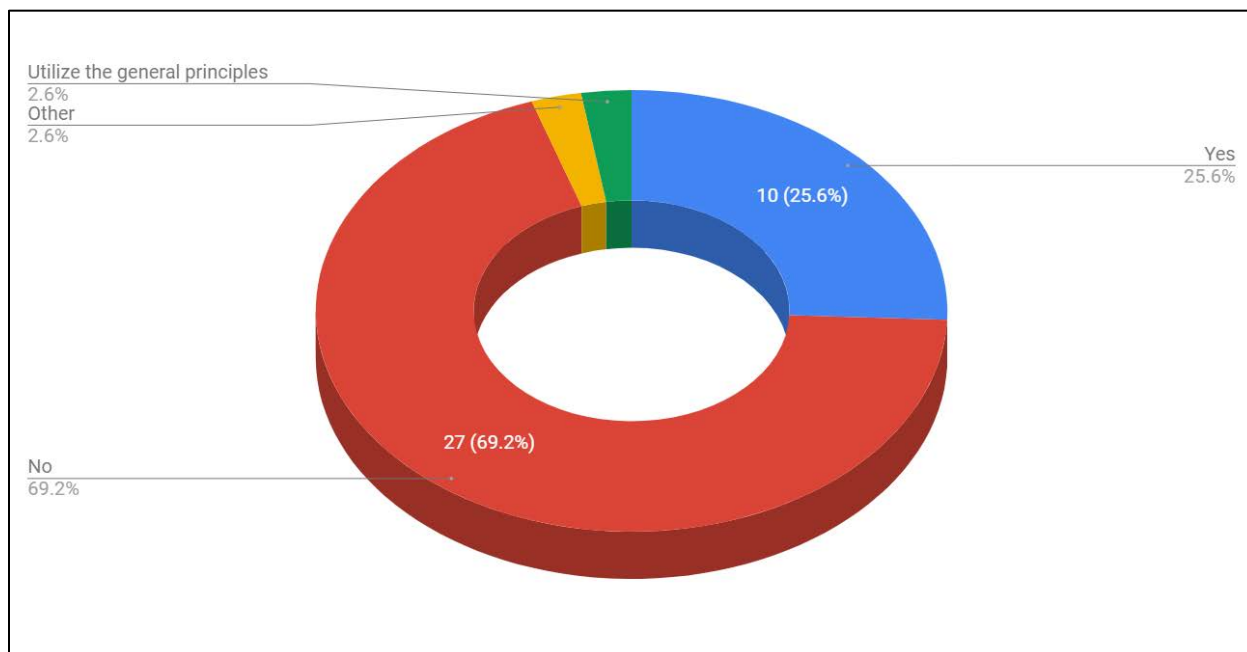


FIGURE 2. Number of Agencies that Have Used the Model from NCHRP Report 723

### Post-World War II Resources of Concern

Most respondents to the survey (42 percent) reported suburban developments as the post-World War II housing resource that they were most concerned about (Figure 3). Additional comments, quoted below, express specific concern regarding the ubiquity of post-World War II housing resources and the difficulty in evaluating these resources.

- “The majority of the resources are considered eligible based on integrity, and therefore many very similar properties are documented and evaluated as eligible for the NRHP. We are looking for ways to simplify documentation and have better guidance to identify truly unique elements that warrant further investigation.”
- “The biggest issue with post-war housing is its ubiquity and determining what of it may be NRHP eligible without expending unnecessary effort in research.”
- “We developed survey guidance for evaluating post war residential resources, a brief picture guidebook for the general public and have addressed these resources in recent countywide and citywide surveys. Being able to identify which among the currently numerous examples are significant is still a challenge and requires more research into local contexts and developmental histories.”
- “We need to develop a policy or follow national guidelines—this is starting to become an issue for us, and we are wasting taxpayer money and our time documenting houses that should not be eligible for the NRHP.”
- “Most of [our state’s] housing resources are of this age. Due to its repetitive nature, I have concern about significant resources due to the sheer volume of sameness.”



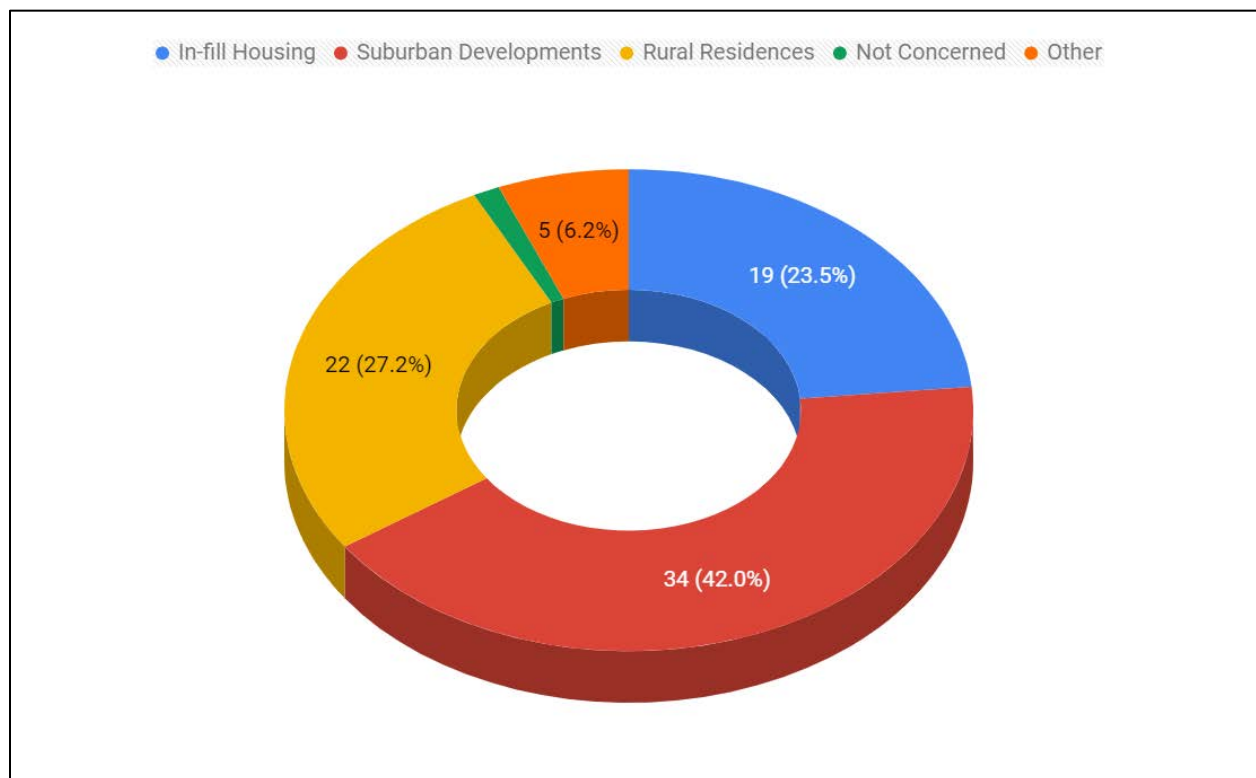


FIGURE 3. Post-World War II Resources of Concern

In-fill housing and rural residences were also areas of concern for 19 and 22 respondents, respectively. Most respondents were concerned with both types of resources; only two were concerned with in-fill housing alone. Many of these agencies have experience in dealing with suburban developments but remain perplexed about the best methodology to determine the significance of individual post-World War II housing resources. Respondents' specific comments are quoted below.

- “Guidance on how to evaluate the “one-offs” - houses that are in rural areas, on their own, but are good examples of a particular post-WWII style/form. This also applies to random post-WWII houses built as in-fill in 19th century neighborhoods.”
- “While most contexts identify post WWII housing in subdivision settings, it’s the individual ones that concern us, do they rise to that level of significance to be eligible or not?”
- “What appears to be the best strategy in survey of these resources, especially where neighborhoods are concerned, is to take a top-down approach that focuses on the history of the neighborhood as a whole, and whether it is eligible as a district. It seems best to assume that individual resources are not eligible, until further research suggests otherwise (i.e., association with a specific event or person, or perhaps a stand-out model of architecture).
- “What is still elusive, is the best strategies to evaluate stand-alone post-war residential resources, such as a rural farmhouse that was added (or replaced an existing house) in the 1940s-1960s.

While Criterion A provides an already functional framework, I'd certainly be curious about best practices to address rural post-war resources and their architectural significance.”

Respondents also expressed concern regarding evaluation of residential cellars/fallout shelters constructed during the post-World War II period as well as public housing developments from the period.

Respondents also mentioned concern regarding non-residential resources:

- “Industrial complexes that would have been the impetus for construction of post-war housing.”
- “Federal Government buildings in the suburbs (we have agencies like the Social Security Administration and the Atomic Energy Commission Building as well as Army and Navy bases). Also religious buildings (Buddhist temples, mosques, the Mormon Temple).”

One respondent indicated no concern regarding post-World War II resources but did not elaborate in the comment section. The respondent was aware of NCHRP Report 723 and stated that their agency used the model from the report.

#### Development of Methodologies to Address Post-World War II Housing Resources

A majority of survey respondents, 21 out of 39 (71.4 percent), reported developing some strategy to address post-World War II housing resources (Figure 4). Of these, four were DOT staff and 17 were SHPO staff.

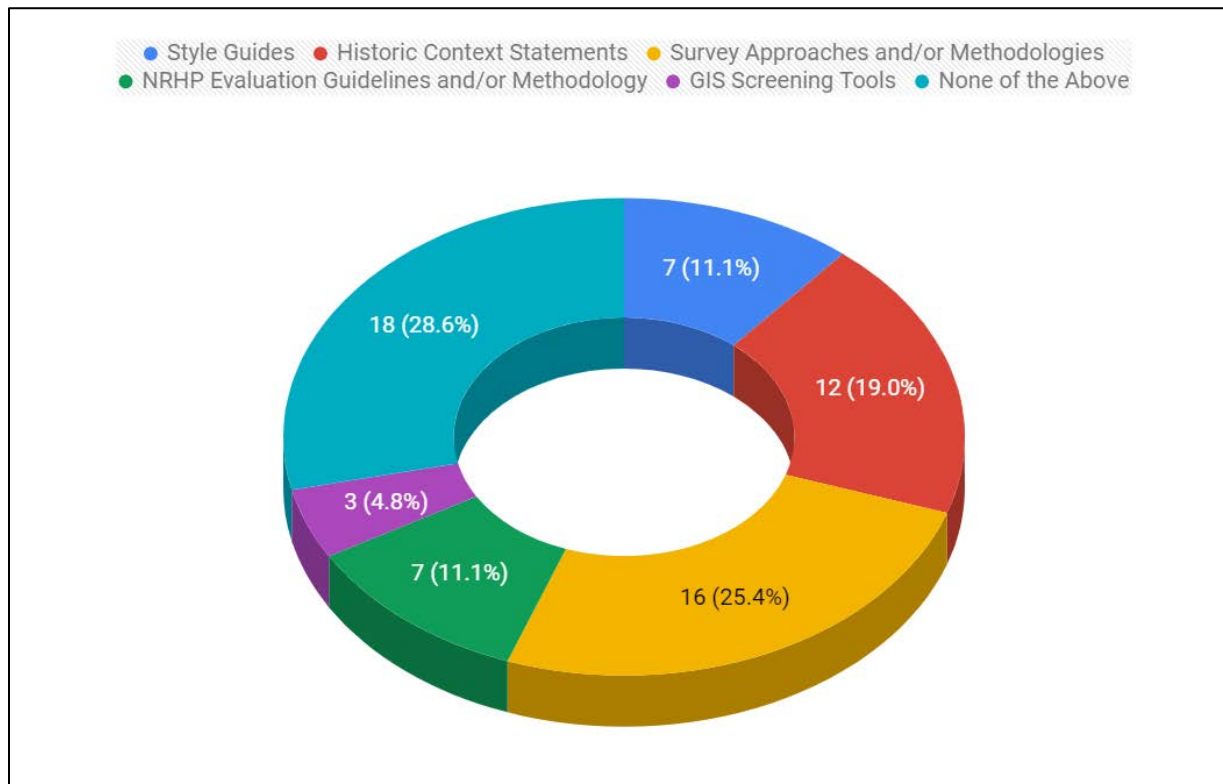


FIGURE 4. Strategies for Addressing Post-World War II Housing Resources

### *Survey Approaches and/or Methodologies*

Over 25.4 percent of survey respondents, six DOTs and 10 SHPOs, developed survey approaches and/or methodologies to deal with post-World War II resources:

- Alaska SHPO
- Caltrans
- Hawaii SHPO
- Kansas SHPO
- Maryland DOT
- Massachusetts SHPO
- Missouri DOT
- Nebraska SHPO
- Nevada SHPO/DOT
- North Carolina SHPO
- Ohio SHPO/DOT
- South Carolina SHPO
- Texas SHPO
- Utah DOT

Three DOTs (Maryland, Nevada, and Ohio) and two SHPOs (Indiana and South Carolina) used the model from NCHRP Report 723.

In 2011 **Caltrans** developed a historic context for evaluating the eligibility of post-World War II tract housing: *Tract Housing in California, 1945-1973: A Context for National Register Evaluation* (Caltrans 2011). Chapter 11 of the context outlines the selective survey methodology similar to NCHRP Report 723: treating the entire tract as a single property and surveying representative examples of each house type within the tract. The chapter goes on to outline specific areas of significance within the NRHP criteria that an individual post-World War II residence could be eligible.

As mentioned above, in 2000 the **Maryland SHA** (of the Maryland DOT) developed a methodology for survey of post-World War II housing in response to a highway improvement project along a 42-mile stretch of I-95/I-495: *Suburbanization Historic Context and Survey Methodology* (KCI Technologies 1999). The selective survey methodology established for this project, which has been accepted by the Maryland SHPO, has been used by the agency for current surveys of post-World War II housing constructed before 1960. The Maryland DOT and SHPO are working together to expand the existing context to include resources built between 1960 and 1978:

- “As we go into the new post-1960 study one of the challenges for us will be evaluating African American suburban developments, which in the past have not made the eligibility cut. But as we have come to understand more about the impacts of segregation and the different programs from the 1960s our thinking has been changing (which is a good thing).”

In 2010 the **Ohio SHPO** (a division of the Ohio History Connection), in partnership with the Ohio DOT and other agencies, developed a comprehensive statewide historic context document for post-World War II resources that includes a methodology for surveying and evaluating resources that was based on the guidelines in *Historic Residential Suburbs: Guidelines for Evaluation and Documentation for the National Register of Historic Places* (Ames and McClelland 2002). Similar to the NCHRP Report 723 survey methodology, subdivisions are treated as a single entity with only “representative examples and unusual or outstanding examples of building types” identified in the survey (Gray and Pape 2010:179). This methodology was utilized in the Dayton Area Survey Report (Ohio History Connection n.d.) and its surrounding suburbs.

The **South Carolina SHPO**, located in the Department of Archives and History, developed survey guidance for post-World War II residential resources, a research guide for mid-century/modern properties and a guidebook for the general public on postwar resources. *Guidelines for Surveying Post-world War II Neighborhoods and Ranch Houses* (SCDAH 2013), updated in 2013, provides specific guidance on surveying “isolated post-war residences and those in groups of 5 or less,” subdivisions/neighborhoods, and in-fill housing in older neighborhoods. Similar to NCHRP Report 723, which is cited as a resource, an abbreviated survey is recommended for post-World War II housing resources. The South Carolina SHPO recommends that isolated postwar residences or groupings of five or less do not, in general, need to be surveyed:

Properties that have been heavily modified, possess little integrity, or do not have character defining features may be excluded from the survey. If the residence appears to be a pristine, excellent example of its type, the surveyor should use his/her discretion when determining if the house should be photographed or recorded on a reconnaissance survey card [SCDAH 2013:5].

For subdivisions, one or two examples of each type of house in the subdivision along with the number of each house type is recorded along with all community buildings, if present, and significant landscape features. The methodology is the same for post-World War II houses that are present in prewar neighborhoods.

#### *Historic Context Statements*

Two DOTs (California and Maryland) and nine SHPOs (Georgia, Hawaii, Indiana, Maryland, Massachusetts, North Carolina, Ohio, Oklahoma, and Utah) reported development of historic context statements for post-World War II housing. Most of the contexts were apparently developed prior to NCHRP Report 723, including California, Georgia, Ohio, and Maryland. Although many respondents reported that these documents were available to the public, they are not always found on agency websites. The following two historic context statements were developed after NCHRP Report 723 by the Oklahoma and Indiana SHPOs.

- *Residential Planning and Development in Indiana, 1940-1973* (Higgins 2017).
- *The Historic Context for Modern Architecture in Oklahoma: Housing From 1946-1976* (Ozan 2014).

The **Indiana Division of Historic Preservation and Archaeology** (the Indiana SHPO) developed the MPDF, *Residential Planning and Development in Indiana 1940-1973* (Ozan 2014), to address evaluation of post-World War II properties. Typical of MPDFs, the document contains not only a historic context statement but also a list of associated property types, which includes residential development and individual dwellings. The MPDF describes five different types of residential developments and outlines integrity considerations and how each type could be eligible for listing in the NRHP. The document provides the same guidance for four different types of residential dwellings: prefabricated house, tract house, speculative house, and custom house.

### *NRHP Evaluation Guidelines and/or Methodology*

Seven respondents — three DOTs (California, Maryland, and Nevada) and four SHPOs (Indiana, Nebraska, Ohio, and Maryland) — reported development of NRHP evaluation guidelines and/or methodology. These are some of the same agencies that developed historic context statements and survey approaches, such as California, Indiana, Ohio, and Oklahoma. Usually these methodologies are contained within one document, most often a historic context statement. SHPOs in Utah and Nebraska have developed guidelines in response to Section 106 review.

Some agencies stressed the importance of a significant association when assessing the eligibility of postwar housing, either individual residences or subdivisions under Criterion A.

- A single residence would generally not meet Criterion A for association with the postwar housing boom or suburban growth. Although a subdivision or tract might be significant in that context, an individual residence would not be adequate to convey that association (Caltrans 2011:123).
- In addition to association with other events in local, state, or national history, a housing tract could meet NRHP Criterion A for association with the postwar housing boom and suburban growth. Nearly all postwar housing tracts could be said to have some association with this important theme. However, as noted in National Register Bulletin 15, “mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property’s specific association must be considered important as well.” Examples of important association with the postwar housing boom might include an early or prototypical housing tract or new community, an unusually large example, or one that incorporates innovative design qualities or mass-production techniques (Caltrans 2011:125).
- Postwar housing is a significant national trend in housing; however, association with this time period is not sufficient to meet NRHP Criteria. For example, the fact that a house or neighborhood is associated with the postwar period because it was constructed following World War II does not provide enough contextual information to evaluate its relative importance, even at the local level, or to demonstrate significance under Criterion A. The building or neighborhood should demonstrate a particular and significant aspect of the postwar housing themes as identified in the historic context to be eligible for the NRHP (Ozan 2014:27).

### *Style Guides*

One DOT (Missouri) and six SHPOs (Alaska, Georgia, New Hampshire, Ohio, Oklahoma, and Utah) have developed style guides according to the screening survey responses. However, a review of historic contexts, survey approaches, and NRHP guidelines shows that many more states have style guides embedded within these documents. SHPOs often have style guides available on their websites in association with survey guidelines and manuals. Most have updated these guides to include postwar housing types and styles. SHPOs in Colorado, Georgia, Maine, Pennsylvania, Virginia, and Utah published separate style guides for post-World War II residential styles and building types. Titles are listed below; complete information including website addresses is provided in the References Cited section and in Appendix D.

- *Selected Post-World War II Residential Architectural Styles and Building Types* (Colorado) (Center for Historic Preservation Research et al. 2006)
- *Pennsylvania's Historic Suburbs* (PHMC 2005)
- *Ranch Houses in Georgia: A Guide to Architectural Styles* (Georgia SHPO 2010a,b)
- *Post-World War II Residential Architecture in Maine: A Guide for Surveyors* (Elfin et al. 2009)
- *New Dominion Virginia Architectural Style Guide* (Virginia DHR 2014)
- *World War II/Post-War Building Styles* (Utah Division of State History n.d.)

### *GIS Screening Tools*

Three SHPOs indicated that their agency developed GIS screening tools for use in connection with post-World War II housing resources.

### *None of the Above*

Sixteen respondents—10 DOTs and six SHPOs—had not developed any strategies to deal with post-World War II housing.

- |                    |                     |                    |                      |
|--------------------|---------------------|--------------------|----------------------|
| • Alaska DOT       | • North Dakota DOT  | • Rhode Island DOT | • West Virginia SHPO |
| • Kansas SHPO      | • North Dakota SHPO | • Utah DOT         | • Wisconsin DOT      |
| • Michigan DOT     | • Oklahoma DOT      | • Vermont SHPO     | • Wyoming DOT        |
| • Mississippi SHPO | • Pennsylvania DOT  | • Washington DOT   | • Wyoming SHPO       |

It appears that four of these agencies (Alaska DOT, Michigan DOT, North Dakota SHPO, and Wisconsin DOT) have been using NCHRP Report 723 rather than develop their own strategies; they all indicated use of the model from the report. DOTs in Oklahoma and Pennsylvania had not developed strategies of their own because their SHPOs had already developed strategies. Only five of the 16 were not aware of NCHRP Report 723 (Mississippi SHPO, North Dakota DOT, Rhode Island DOT, Wyoming DOT, and Wyoming SHPO).

### *Availability of Methodologies*

Although all the strategies reported by respondents were noted as available to the public, many were not found through online sources. Many respondents noted that all resources had to be available to the public as federal agencies are required to comply with open record laws. Sources that were acquired during the course of the project are listed in Appendix D.



## AGENCY PRACTICES AND EXPERIENCES

This chapter provides some additional insight as to how state DOTs and SHPOs are dealing with the survey and evaluation of post-World War II housing resources through either the implementation of the recommendations and model in NCHRP Report 723 or development of their own approaches. This information is drawn from a survey of state DOTs and SHPOs conducted in the summer of 2018.

### INTERVIEWING AGENCIES

The current state of practice in this area and additional literature on the subject were discussed in previous chapters. To learn more about the existence of approaches and methodologies, an in-depth survey was conducted in the summer of 2018.

The questionnaire was emailed to selected respondents of the screening survey. These agencies were selected to gather a wide range of knowledge and expertise on the subject matter and to determine if the agency has used the model from NCHRP Report 723. Participants were provided a four-week response period and could either fill out the questionnaire or request a telephone interview. The survey response time frame was extended to the end of September 2018 as only seven responses were received within the initial four-week period.

All participants were asked about awareness and use of NCHRP Report 723. Those agencies that had little or no established approach for surveying and evaluating post-World War II housing resources were given a different set of questions from those that had established approaches. Appendix B contains the questionnaire.

Of the agencies that received the questionnaire, 10 agencies provided responses:

- Alaska DOT
- Nevada DOT
- South Carolina SHPO
- Washington DOT
- Georgia DOT
- Oklahoma DOT
- Utah DOT
- Maryland DOT
- Oklahoma SHPO
- Utah SHPO

## IN-DEPTH SURVEY RESULTS

Although the 10 agencies that responded to the in-depth survey are a small sample of the DOTs and SHPOs that were initially surveyed during the screening survey process, the responses illustrate the varying level of both existing expertise and the need to define and evaluate approaches to post-World War II housing. As noted in the literature search and screening survey results, the Maryland and Georgia DOTs have two of the most fully developed approaches to the survey and evaluation of post-World War II housing in the country. Oklahoma, Nevada, and South Carolina have begun to develop approaches; and Alaska, Washington, and Utah either have limited need for these approaches or have just begun to develop them.

To clearly present the results of the in-depth interviews, responses are organized below by general topic. Answers to general questions are summarized in narratives. Answers to yes/no and multiple-choice questions are tabulated with the number of responses in parentheses following each answer. Not every question was answered, and some answers were very brief. When more detailed responses were given, the interview question with respondent's answers in bullets is provided.

### AWARENESS AND USE OF NCHRP REPORT 723

All of the respondents except one were aware of NCHRP Report 723. Three knew of the report through the Transportation Research Board (TRB) Committee on Historic and Archaeological Preservation in Transportation (ADC50) or their work on an NCHRP panel. Five agencies had heard of the report through co-workers, other agencies, email lists, or cultural resource meetings. One respondent became aware of the report through browsing the Internet.

A majority of the respondents found the nationwide historic context in NCHRP Report 723 useful. The survey methodology was also found useful by half of the respondents. The list below enumerates the sections of NCHRP Report 723 and the number of respondents, in parentheses, who found that section useful.

- the nationwide historic context (7)
- survey methodology (5)
- guidelines for developing historic contexts (4)
- evaluation methodology (4)
- model context outline (3)

When asked to elaborate on any of the aspects of NCHRP Report 723, interviewees provided the following responses.

- “The nationwide context provided valuable information, and the guidelines for developing historic contexts was useful; the other areas were not as useful—they read a bit like NPS Bulletins, which provide a lot of broad suggestions but not much specifics. Now that we are in the vexing 1970s era, it has been very helpful to read up on the history of materials (vinyl!) and aspects of integrity. Actually, it was our consultants who brought the efficacy of the report to my attention (although I’ve been wanting to delve into in detail for quite some time).”



- “All the above. On a major project, we used the strategy to work through large surveys of housing quickly.”
- “MDOT SHA already has a context, so we generally use that but we do review the nationwide context.”
- “It was all useful and valuable information as an example of a model approach. The scale and contexts were a mismatch in most cases I have tried to use it in Anchorage, AK. There are a variety of historic disconnects and differences that make Alaska unique and which make the patterns described in this work seem divorced from the patterns observed in the wild. The architectural descriptions are good, as are the guidelines for developing historic contexts.”
- “Considering our office, in collaboration with others, did a statewide context and methodology for Ranch Houses in 2010, it was interesting to read/have the nationwide perspective, as well as the additional mid-century house types, styles, etc. While those outside of the Ranch House that are outlined in the report are not necessarily prevalent in Georgia, they do occasionally make an appearance, so having the survey methodology as a reference is important.”

Most respondents found the survey methodology from NCHRP Report 723 useful; however, only one stated that they had adopted the methodology for surveying post-World War II housing resources. Six respondents said they had not adopted the methodology. Reasons for not adopting the methodology included already having a survey methodology, not yet encountering a project where a methodology was needed, and specific issues that limit adoption of methods from elsewhere.

For example, Alaska DOT responded:

- “The scale of projects so far has not necessitated a survey of the scope and scale used in the document. We have cooperated with the Municipality of Anchorage which has an ongoing program to create its own postwar housing context, neighborhood contexts and so on in an effort to satisfy SHPO requests for extensive context documentation.

Our projects have included onesy-twosy indirect effects to residential properties with a different model of development than depicted in the document. Homesteads were let [leased, presumably for farming or grazing] from before World War II through the 1960s, and the homesteaders would prove up the land by building a cheap residence, clearing the required land, and truck farming until the title came in from GLO [Government Land Office] or BLM [Bureau of Land Management]. Then they would sell or subdivide and sell their homesteads, resulting in a variety of sharply contrasting neighborhoods and housing arrangements.

A few neighborhoods in Anchorage have themes that reflect those of this document. But many are hodgepodge arrangements that don’t “hang together” like the examples. Many were built before any zoning or codes could be put in place. The cycle of our transportation projects only now start to impinge on the existing setting as higher traffic flows and the rule of law demands purchase of right of way for amenities and environmental components, e.g. settlement ponds for stormwater, culverts for drainage, crosswalks and center turn lanes, pockets at intersections and so on.”

Those agencies that either adopted the NCHRP Report 723 methodology or developed their own similar methodology generally reported positive results through streamlining the survey and evaluation process, saving staff time by eliminating multiple Section 106 reviews, and providing early planning data to engineers. Georgia DOT noted, “Since the Ranch House comes up in almost every review for Section 106, having a set means to evaluate is crucial in allowing reviewers to systematically review and respond accordingly.”

However, two agencies reported difficulty with adopting the NCHRP Report 723 selective survey methodology. One agency had instructed consultants to adopt the NCHRP Report 723 survey methodology, but the consultants had been reluctant to comply with the request, continuing to conduct comprehensive surveys. One agency had success in persuading consultants to adopt the methodology but encountered issues when the SHPO did not approve of the survey product. Although the respondent believes that the issue may have been in the execution of the final product, the additional information requests that resulted did delay the project.

None of the respondents identified other approaches that were preferable to the NCHRP Report 723 recommendations other than the continuation of the existing standard survey methodology. One respondent found the report useful as is. The Alaska DOT has been “working with the Municipality of Anchorage and other local government partners to find a strategy that results in consistent results. This is elusive at this time.”

Seven of the 10 respondents found that NCHRP Report 723 provided sufficient guidance for developing a methodology. One respondent noted, “I think it is a valuable work and in other states would likely have no problem applying the methodology and typologies in a systematic way to a successful result. In my private sector life we came up with a similar kind of program but it would have saved a great deal of time to have a recipe book like this.” Maryland DOT noted that they would look at NCHRP Report 723 again during the development of the expanded historic context but that they would probably mirror the new document on the historic context they developed since it has worked so well for them. None of the respondents provided answers to what was lacking in NCHRP Report 723 if it did not provide guidance adequate to their needs.

## **ALTERNATIVE METHODOLOGIES AND APPROACHES**

Two of the 10 respondents, Georgia and Maryland DOTs, had post-World War II housing approaches in place (i.e., a statewide context, style guide, or evaluation criteria) when NCHRP Report 723 was published in 2012. The South Carolina SHPO developed their own selective survey approach using NCHRP Report 723 as a guide and developed additional guidance specifically for individual Ranch houses and in-fill housing. Oklahoma and Utah did not develop any alternative survey approaches, citing the standard survey approach as adequate; however, Oklahoma did apply a variation of the selective survey approach for areas of subdivisions located outside a given study area (see Case Study in the following chapter).

Washington DOT has also not adopted the selective survey methodology, as they have not encountered a project with large numbers of post-World War II housing. For small projects, where they have encountered a few postwar structures, they evaluate each structure individually.

As might be expected, Maryland DOT has used their alternative methods for a large number of projects in suburban areas in Maryland, including Montgomery, Prince George's, Allegany, Anne Arundel, Baltimore, Dorchester, Frederick, Carroll, Harford, and Washington counties. Maryland reported that the methods they used resulted in saved staff time, a streamlined identification process, a smoother consultation process, and consistency in survey and evaluation results.

### **In-fill Housing and Individual Resources**

The issue of evaluating the eligibility of post-World War II in-fill housing and individual dwellings was cited as a particular concern during the screening survey. Respondents to the NCHRP Report 723 awareness survey reported mixed results when attempting to apply existing guidance to these resources. One respondent had not encountered any in-fill housing and therefore it was not an issue. Another respondent noted that their existing context "worked more for mid-century residential development versus in-fill." A third respondent found their own approach worked well with regard to in-fill housing. Two of the three respondents used the same housing survey and evaluation methodology for both small groupings of housing in rural areas and for suburban areas. Georgia DOT noted that Ranch houses in mid-century developments are now themselves being replaced with more modern in-fill.

### **Formal Agreements**

None of the agencies that responded to the questionnaire reported that methods/approaches for in-fill and/or individual resources were addressed in formal agreements between DOTs and SHPOs, such as programmatic agreements. Only three agencies responded to this specific question in the survey.

### **Funding, Development, Training, and Expansion**

Four of seven respondents (Georgia, Oklahoma, South Carolina, and Utah) reported that their SHPO offices initiated development of post-World War II housing survey and evaluation approaches. Nevada DOT initiated the development in conjunction with a consultant. Maryland DOT also initiated their development of alternative approaches. South Carolina and Georgia DOTs obtained input from their respective SHPOs during development. Alaska DOT reported that the City of Anchorage developed its own methodologies and guides that the DOT staff used for projects in the city. Only Georgia DOT worked with state partners other than the SHPO, partnering with the utility company, Georgia Transmission Corporation (GTC).

Funding for post-World War II housing studies and methodologies came from a variety of sources, including project-level funding, Historic Preservation Funds, in-house staff time, and volunteer time. Two respondents indicated a combination of project funding and in-house staff as the funding source.

Three states indicated plans to expand post-World War II approaches/methodologies. Maryland DOT is planning an expansion of its context to include developments constructed from 1960 to 1980 for a new project along I-495 in Montgomery and Prince George's counties. Georgia has completed some historic context and typology for Split-Level and Split-Foyer houses and is in discussions with GTC to develop another context/methodology for mid-century commercial. Nevada DOT intends to expand its approach to include a mid-century commercial historic context and methodology. Two states reported that they had no intention of expanding their program. Another respondent was unsure but expected that any approach would not differ from the standard methodologies used for pre-World War II resources.

Several agencies reported obstacles to further development of methodology, such as SHPO buy-in and financing, as reported below.

- “Both financing and stakeholder buy-in are issues in developing methodology. We tried a number of years ago to conduct more surveyed areas in order to establish a better idea of eligibility rather than simply the age and integrity we use now, but in the end, SHPO relied on their former way of doing things. We ended up paying more money for more surveys that didn’t encourage SHPO to adhere to a more nuanced review.”
- “As previously stated our SHPO has their own program ideas which make successful completion of projects challenging as the goalposts are moved around.”
- “In our regulatory world we contract out the research to a qualified consulting firm. The products we get back vary widely in quality within and between contractors. If the SHPO decides that the product is insufficient after the money is all gone it falls to me to scramble. If I can browbeat consultants to use this guidance then that is a trail of breadcrumbs I can follow to amend [their] product. Otherwise it is often a do-over.”

Several different methods of training were reported by respondents, including DOT procedure manuals, presentations to agencies and consultants, and formal on-the-job training. One respondent noted that part of the training was to read current articles and books regarding suburban development.

#### **Additional Comments/Thoughts**

Several respondents provided additional comments that illustrate the issues that agencies face when applying model contexts and dealing with post-World War II housing survey and evaluation.

- “I really like the logic and consistency of the document. It is not difficult to imagine applying it successfully in other states. The Pacific Northwest is my reference universe for most historic preservation concepts so I picture this methodology as it could be applied to projects in Seattle, for example, or other communities in Washington and see exactly how it could be applied. Alaska is just so dissimilar, however, that I just couldn’t use it for the reasons noted previously.”
- “My general thought is that given the large numbers and common occurrence of post WWII structures (due to the incredible growth and urbanization of the US after 1950), any structures from that period that we are going to consider NRHP eligible need to be pretty outstanding examples of that period, with a high degree of integrity.”

## CASE STUDIES

Of the 18 agencies chosen for in-depth interviews, the following were contacted to conduct an additional telephone interview to gather more information about the agency's approach to survey and evaluation of post-World War II housing.

### GEORGIA

As noted previously, the Georgia SHPO began its "Ranch House Initiative" around 2005, when that agency began to see post-World War II housing resources as part of Section 106 reviews for highway projects, community development projects, Housing and Urban Development (HUD) weatherization projects, and flood-related undertakings. Although the study on postwar housing published by Georgia State University in 2001 established a general historic context and typology for post-World War II housing in Atlanta, it had little guidance on the evaluation of significance for these properties (Burns et al. 2001).

The Georgia SHPO was reviewing more and more highway projects with Ranch houses. Frequently, the Georgia DOT would determine post-World War II houses as not eligible, and the SHPO would disagree with that finding. Because there was no significant scholarly work on the subject of eligibility for these resources, there was no concrete foundation for an eligibility finding. The agencies continued to disagree on eligibility determinations until 2006, when a highway project in Bulloch County prompted the Georgia SHPO to put a statewide moratorium on evaluation of post-World War II housing resources until more research could be conducted and the agencies could come to an agreement on eligibility. This affected Section 106 review for all projects in the state, not just transportation-related undertakings.

An initial research effort found literature on the resources nationally and in the Southwest but nothing in the Southeast. The Georgia SHPO spent a year conducting windshield surveys, completing targeted research in national and regional Ranch house plan books, and conducting focused research studies on postwar housing. This research effort culminated in a statewide historic context that documented the history of the Ranch house, identified its character-defining features, and provided an initial chronology of the Ranch house in the state (Georgia SHPO 2010a,b). The historic context was released to the public through a series of presentations to advocacy groups, educational groups, historic preservation commissions, and other agencies such as the Georgia DOT, GTC, and their consultants. The research results provided a "common language" for agencies to discuss Ranch houses in the course of consultation. The information was also used by the Georgia SHPO to educate the public on the importance of Ranch houses.

Although agencies gained a better understanding of the nature of Ranch houses in Georgia, they still needed to address how to evaluate Ranch houses. In 2007 Georgia DOT partnered with GTC and the Georgia SHPO to conduct a day-long meeting with these agencies to discuss the historic context, Ranch houses, and NRHP eligibility. As a follow-up, a focus group was selected to meet once a month to "vet" the SHPO's historic context and "develop specific guidance for applying National Register criteria for evaluation of ranch houses."

Dubbed the Ranch House Assessment Team, or RAT, the group worked for a year, volunteering time to work through the issues. The goal of the group was to establish protocols for documenting and evaluating the significance of Ranch houses. The first outcome of the group was the creation of significant character-defining features for each Ranch type. Expected levels of integrity for each type were also established. In 2008 GTC, on behalf of RAT, contracted a consultant to develop guidelines for evaluation of Ranch houses, expanding upon and formalizing the work done by the group the year before. In 2010 *The Ranch House in Georgia: Guidelines for Evaluation* (Sullivan et al. 2010) was completed.

## INDIANA

In the late 2000s, around the same time as other SHPOs, the Indiana Division of Historic Preservation and Archaeology (the Indiana SHPO) began to see post-World War II housing appearing for review, as community surveys and for Section 106 undertakings, around 2008. Postwar housing became a high historic preservation priority. Indiana SHPO staff began reaching out to NRHP coordinators in other SHPOs via email to see how other states addressed the issue and how much such an effort cost. Indiana SHPO obtained examples of approaches from states such as California, Georgia, and Colorado, among others.

After conducting extensive background research on the topic, Indiana SHPO staff realized that the project was too time-consuming to take on in-house and that additional funding would be required to have an outside consultant complete the statewide context. The SHPO put the project on the list for potential HPF grants; however, the amount of grant funding available through HPF was not sufficient to complete such a study. Coincidentally, the Federal Communications Commission (FCC) issued a public notice on March 18, 2015, identifying all federally recognized Tribes and Tribal Nations and 41 SHPOs as eligible to receive grant funding through the Cultural Resource Fund (CRF). The CRF was created by seven Class I freight railroads that did not follow Section 106 reviews before installing poles for Positive Train Control (a technology intended to prevent railroad crashes) along railroad lines. The Indiana SHPO applied for and received funding from the \$10 million CRF fund to complete the current MPDF for post-World War II housing in Indiana.

In the first phase of CRF funding, recipients received between \$10,000 and \$15,000 for any cultural resource or historic preservation project. Using these grant funds, the Indiana SHPO hired a historic preservation consultant to begin the research for a statewide historic context for post-World War II housing. The second phase of CRF funding allowed grants of up to \$40,000. The Indiana SHPO used these funds plus an HPF grant for the consultant to complete the narrative for the statewide historic context, establish property types, and develop registration requirements for the MPDF. The consultant also conducted windshield surveys in nine counties in Indiana that represented the major metropolitan areas in every region of the state. This provided a baseline for the property type development for the document. Some information from studies produced in other states as well as NCHRP Report 723 were used in the development of the document.

Although the resulting MPDF, *Residential Planning and Development in Indiana, 1940-1973* (Higgins 2017), was conceived and executed by the Indiana SHPO, the document was reviewed by an external committee of interested agencies and parties, including Indiana DOT's cultural resource office; the statewide non-profit, Indiana Landmarks; an architectural consulting firm; a non-profit organization from



Fort Wayne; and a prominent local historian from New Albany, Indiana. The document was completed in September 2017 and further reviewed as an NRHP document by the Indiana Historic Preservation Review Board.

Almost immediately, the MPDF was used for a trail project along 56th Street south of the Castleton area of Indianapolis, where a post-World War II neighborhood was adjacent to the proposed project. East 56th Street was to be widened as part of the project, which would impact the neighborhood. The Indiana SHPO requested that the MPDF be used as a framework to evaluate the neighborhood. The historic preservation consultant did the requisite research and applied the registration requirements from the MPDF to the neighborhood to determine its eligibility. Indiana DOT, proponent of the project, agreed with the methodology and the resulting eligibility determination.

The Indiana SHPO presented the MPDF via an invitation-only workshop for consultants and other interested parties the day before the annual statewide historic preservation conference in April 2018. An educational session at this conference also covered the MPDF and post-World War II housing. A workshop for Indiana DOT consultants, government and environmental staff, and NRHP nomination preparers was held in November 2018.

## **MARYLAND**

In the late-1990s, the Maryland DOT, along with the Maryland Transit Administration, began to study options for improving traffic conditions on a 42-mile stretch of the I-495/I-95 Capital Beltway in the Washington D.C. from the American Legion Bridge to the Woodrow Wilson Bridge. As a large number of resources were located within the project area, a comprehensive historic context and survey was necessary to understand the resources, which dated to both before and after World War II. The Maryland SHPO was involved early in the project because it was subject to the Section 106 process. Several meetings were held with the Maryland SHPO and DOT to discuss how to complete the study for the large project area.

The consultant for the historic context completed an initial draft and submitted it to the SHPO. The context contained a good amount of context and information regarding the architecture of the area up to the 1940s, but it was less complete for post-World War II resources, which were prevalent in the project area. Maryland SHPO staff provided additional information regarding post-World War II resources to the consultant to cover the built environment up to 1960, which was 10 years beyond the 50-year age requirement for eligibility. A key component in the survey was individual community histories, which included a narrative history and bibliography of sources along with a matrix of time periods, property types, and themes relevant to the community. Although these individual histories were very labor-intensive and added to the cost of the project, Maryland DOT immediately understood their utility once the project was complete and began being used for other projects.

The Maryland SHPO also developed the survey methodology for the project, which involved survey of all properties within the APE, regardless of age. All properties were surveyed with a minimum of a photograph, mapping, and listing in a spreadsheet. Potential significance of each area was determined through analysis of the community research, historical maps, and reconnaissance survey. The intensive

selective survey focused on communities, neighborhoods, subdivisions, and other groupings of structures that are consistent with the property types identified in the suburbanization context.

Although the suburbanization historic context and survey established a survey methodology that has been used by Maryland DOT since 1999, the scope of the historic context was limited to properties along the I-495/I-95 corridor study. The study has limited usefulness outside the Capital Beltway, where in-fill and rural post-World War II residences are common. The property types in the 1999 suburbanization study are somewhat similar to resources outside the beltway; however, the historic context is not comparable. So for projects outside the beltway, Maryland DOT needs to complete supplemental historic context and survey to evaluate post-World War II developments. For post-World War II rural residences, Maryland DOT completes short inventory forms with basic information and eligibility recommendations, which the Maryland SHPO accepts.

Maryland DOT currently has plans to expand the historic context to study properties built from 1960 to 1980 and to complete a study for properties along I-495 in Montgomery and Prince George's counties.

## NEVADA

In 1940 Nevada was the least populated state in the country with 110,247 residents. By 1970 the population had swelled to 488,738. Despite the large number of post-World War II housing in Nevada's population centers, Nevada DOT did not have any projects with large numbers of postwar housing resources until recent years. In 2017 Nevada DOT began to look at improvements to U.S. 395/I-80/I-580 in Reno, including the interchange of these three highways, known locally as the Spaghetti Bowl. The network of highways, built between 1969 and 1971, ran through numerous residential areas, almost half of which were postwar subdivisions.

Nevada DOT hired a historic preservation consultant to survey the 1,400 properties that were within the APE for the project. Coincidentally, the consultants were co-authors of NCHRP Report 723; they proposed using the nationwide context, survey methodology, evaluation methodology, and model historic context outline for the project, and the Nevada SHPO welcomed the use of the methodology. Using the nationwide historic context as a framework for investigation of postwar resources in Reno, the consultants found that much of the project area was in former agricultural areas that were quickly developed into dense residential neighborhoods between 1955 and 1965. The survey team applied the selective methodology from NCHRP Report 723 to these neighborhoods, taking representative shots of the most intact example of each house type, noting their significant character-defining features and alterations.

Researchers were able to use the national context from NCHRP Report 723 as a starting point, allowing the research effort to focus on the state and local trends. Use of the selective survey methodology from NCHRP Report 723 resulted in substantial savings of time and effort in completion of the survey and review of the survey by both Nevada DOT and the SHPO. Rather than individual forms for resources, a single inventory form was prepared for an entire subdivision. For the Silverada subdivision, the largest in the APE, that meant one form instead of 244 forms. Nevada DOT estimates that it took less than 50 percent of the time to review the results compared to a traditional survey for a large urban transportation



project. At the time of this writing, Nevada DOT received concurrence from the Nevada SHPO on their determinations of eligibility, and Nevada DOT is currently addressing effects and mitigation.

Given the success of the Reno Spaghetti Bowl project, Nevada DOT intends to continue using the methodology and approaches from NCHRP Report 723 for any future projects and is interested in expanding the program to include commercial properties, which are particularly prevalent in Nevada.

## **OKLAHOMA**

In Oklahoma, interest in addressing mid-century buildings began as early as 2007 when the National Preservation Institute presented a two-day seminar on the identification and evaluation of mid-twentieth-century buildings. Mid-century modern architecture statewide was added to the list of Most Endangered Historic Places in Oklahoma in 2006 and again in 2009. Mid-century modern properties such as the Tulsa Civic Center Plaza were soon nominated for listing in the NRHP. In 2013 mid-century neighborhoods statewide were added to the list of Most Endangered Places, citing unsympathetic renovation and modern in-fill as impacting the integrity of the neighborhoods.

In 2014 the Oklahoma SHPO completed a statewide historic context for post-World War II housing built from 1946 to 1976 (Ozan 2014). The project was financed in part through the NPS HPF, a program that provides matching grants to SHPOs and Tribal Historic Preservation Offices (THPOs) for a variety of preservation projects.

Oklahoma DOT rarely encounters entire mid-century neighborhoods in its project study areas. More often, individual mid-century dwellings in older neighborhoods and rural residences are located in study areas for highway projects and town sidewalk projects. When a mid-century neighborhood is located in a study area, DOT uses standard survey methodology for resources in the study area, surveying all resources over 45 years of age, but takes streetscape photographs and conducts background research on the development as a whole for the resources in the same development that are outside the study area. Both the Oklahoma DOT and SHPO find the statewide methodology is sufficient to evaluate a neighborhood within the context of Section 106 review and do not plan to adopt the selective survey methodology for resources located in a study area. Oklahoma DOT is aware of the selective survey methodology in NCHRP Report 723 and thinks it might be useful in the future. Oklahoma DOT also found the building types to be useful to compare with types in Oklahoma.

## **SOUTH CAROLINA**

As noted above, the South Carolina SHPO developed survey and evaluation guidance, a research guide for mid-century/modern properties, and a guidebook for the general public on postwar resources (South Carolina SHPO 2013). The survey guidance was developed with input from South Carolina DOT, which was increasingly encountering postwar subdivisions in project areas. Many of these subdivisions extended well outside the project areas, which was problematic when evaluating the significance of the subdivision as a whole. South Carolina DOT provided encouragement and input during the development process.

Once the survey methodology was developed, the South Carolina SHPO conducted ride-alongs with South Carolina DOT to review the methodology.

Similar to other states that adopt a selective survey methodology, each subdivision is recorded on one survey or inventory form. The form records one or two examples of each type of house found in the subdivision, the number of each house type, and any community buildings constructed as part of the subdivision. The same methodology is followed for postwar in-fill housing in pre-World War II neighborhoods.

The guidance is provided to South Carolina SHPO staff and consultants/surveyors, who are encouraged to use the survey methodology as well as the evaluation guidance; however, consultants have been slow to adopt these approaches. When evaluating post-World War II resources, surveyors find it easier to evaluate institutional buildings such as churches, hotels, and commercial building from the period, perhaps because more postwar institutional buildings have been identified and evaluated in the state compared to housing from the period. Only a handful of postwar residences are listed in the NRHP: one architect-designed house and one rural Ranch house. No statewide historic context exists for post-World War II housing.

Although the South Carolina SHPO has approved the selective methodology for postwar housing, consultants continue to conduct surveys using traditional methods. As a result the SHPO has not had the opportunity to use or evaluate the NCHRP Report 723 methodology for Section 106 projects. For some agency undertakings that involve single dwellings, the individual dwelling has been evaluated in isolation, with little consideration of the relationship of the dwelling to the subdivision as a whole when evaluating NRHP eligibility.

The South Carolina SHPO would like to expand their postwar methodology through the development of a statewide historic context, but the agency finds it to be a daunting task.

## CONCLUSION

The conclusions outlined below are based on information gathered from states through literature review and screening/in-depth surveys. Because of the relatively low response rate, the information below is by no means comprehensive, although it provides a good window into the standard of practice in dealing with post-World War II housing survey and evaluation and the successes and challenges that state agencies have faced thus far.

Maryland DOT was the first agency to tackle the issue of surveying and evaluating post-World War II housing in 2000 in response to a highway improvement project along a 42-mile stretch of I-95/I-495. After the publication of *Historic Residential Suburbs: Guidelines for Evaluation and Documentation for the National Register of Historic Places* in 2002 by McClelland and Ames, more agencies, both DOTs and SHPOs (including California, Colorado, Georgia, Maine, Montana, New Hampshire, Ohio, Pennsylvania, and South Dakota), began to develop their own historic contexts and methodology for dealing with post-World War II residential housing, prompted mostly by increasing numbers of post-World War II resources needing NRHP evaluation for Section 106 undertakings. Georgia and California SHPOs developed statewide contexts, style guides, survey methodology and NRHP evaluation guidelines. Materials developed by the Georgia SHPO became a model for many agencies in developing their own methodologies.

After the publication of NCHRP Report 723 in 2012, SHPOs in Alaska, Arkansas, Indiana, Oklahoma, South Carolina, and Virginia developed statewide historic contexts and/or other guidance, including style guides and evaluation guidelines for post-World War II housing. Only three of these agencies provided some NRHP eligibility guidance. The statewide historic context developed by the Oklahoma SHPO includes the NRHP eligibility guidance from the *Historic Residential Suburbs in the United States, 1830-1960 Multiple Property Document*, extending the registration requirements from that document to 1976. The Indiana SHPO developed an MPDF that includes specific registration requirements. The South Carolina SHPO developed very specific eligibility requirements and was the only agency to include a selective survey approach, part of which specifically eliminates the need to survey individual post-World War residences in rural areas.

Overall, the state of practice for post-World War II housing resources depends on the resources and needs of the state. Each state appears to have its own reasons for adopting, whether wholly or in part, NCHRP Report 723. Some agencies found the national context useful but not the streamlined survey approach, and others, like Nevada DOT, have used the context and survey approach from NCHRP with little alteration for their projects.

State agencies have had varying success in developing their own methodologies to deal with post-World War II housing. Successful approaches have several things in common: (1) broad participation, (2) development of both historic contexts and evaluation guidance, and (3) funding. The Georgia SHPO's approach has been a particular success and has served as a model for other states. Born through necessity and a moratorium on Section 106 review of post-World War II housing resources, the approach brought together not only the SHPO and DOT but also other state agencies, such as the GTC, a utility company, to

work through important aspects of the project, such as defining character-defining features and eligibility requirements. Public outreach also played an important role in communicating the importance of postwar resources. The involvement of these agencies in the development process fostered buy-in of the resulting approach.

Other successful approaches, such as those in California, Colorado, Indiana, Maryland, Ohio and Oklahoma, have strong statewide historic contexts to provide guidance for evaluation of resources and guidelines for significance and eligibility of resources. The absence of either a historic context or some guidance regarding NRHP eligibility can hamper the efforts of practitioners to understand postwar housing resources and can lead to disputes among agencies.

Funding these studies appears to be the linchpin of success for development of these approaches, which can be very time-consuming. States that have developed historic contexts, survey methodologies, and/or eligibility guidance found resources in-house through dedicated staff time and through a variety of external funding sources, such as Historic Preservation Fund grants, project funding, and one-time sources like the Cultural Resource Fund. Agencies that were interviewed for this report indicated that funding was a significant obstacle to development of strategies.

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## **APPENDIX A: SCREENING SURVEY**

Are you aware of the NCHRP Report 723: A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing?

- ☐ Yes
- ☐ No
- ☐ Maybe
- ☐ Other

Have you used the model from the NCHRP Report 723?

- ☐ Yes
- ☐ No
- ☐ Maybe
- ☐ Other

What post-World War II housing resources is your organization most concerned with?

- ☐ In-fill housing
- ☐ Suburban developments
- ☐ Rural residences
- ☐ Not concerned about post-World War II housing resources
- ☐ Other \_\_\_\_\_

Has your organization developed any of the following for use in connection with post-World War II housing resources? (Check all that apply)

- ☐ Style guides
- ☐ Historic context statements
- ☐ Survey Approaches and/or methodologies
- ☐ NRHP Evaluation Guidelines and/or methodologies
- ☐ GIS screening tools
- ☐ None of the above
- ☐ Other \_\_\_\_\_

Are any of the resources developed by your organization for internal use only and not available to the public?

- ☐ Style guides
- ☐ Historic context statements
- ☐ Survey Approaches and/or Methodologies
- ☐ NRHP Evaluation Guidelines and/or Methodologies
- ☐ GIS screening tools
- ☐ All resources are available to the public
- ☐ Other \_\_\_\_\_

In the space below, tell us about any particular concerns/successes you have had regarding the identification/evaluation of post-World War II housing resources.

## **APPENDIX B. IN-DEPTH INTERVIEW QUESTIONS**

### **NCHRP Report 723 Awareness and Use (All Interviewees)**

- How did you become aware of NCHRP Report 723?
- What aspect of NCHRP Report 723 did you find useful, if any (circle or bold all applicable options):
  - the nationwide historic context,
  - survey methodology,
  - guidelines for developing historic contexts,
  - evaluation methodology, or
  - model context outline?

Elaborate on any of the options above:

- Did you adopt the selective survey methodology for post-World War II housing resources?
  - ☐ Yes
  - ☐ No
    - If not, why? Was there pushback from stakeholders regarding the adoption of the selective survey methodology? Where there any other impediments to adopting the recommendations of NCHRP Report 723?
    - If you have, did it streamline the Section 106 process? Were the consulting parties and SHPO satisfied with the results? How was it beneficial to the project (saved staff time, less survey, etc.)?
    - Were there other preferable approaches/resources instead of the NCHRP Report 723 recommendations?

### **Interviewees with Established Approaches/Methodologies**

- What post-World War II housing approaches were in place (e.g., a statewide context, style guide, or evaluation criteria) when the NCHRP Report 723 was published?
- What funding mechanisms did you use to finance post-World War II housing studies and methodologies? (*We will ask this question to both SHPO and DOT interviewees*)
- Who initiated the development of these approaches? (*in some cases, we will already know the answer to this question and will eliminate it, if need be*).
- What alternative survey and evaluation methods (outside the standard procedures for archaeology and architectural surveys) do you use for post-World War II housing resources?
  - Were they modeled after NCHRP Report 723?
    - If so, is the NCHRP Report 723 methodology used in-house, by consultants, or both?
  - How many projects have you used these alternative methods?
  - Have these methods been successful in (circle or bold all applicable options):
    - saving staff time,
    - streamlining the identification process,
    - creating a smoother consultation process,
    - providing consistency in survey and/or evaluation results,
    - Other areas?

Elaborate on any of the above options below:

- How have these methods worked for in-fill post-World War II housing in older neighborhoods or rural areas?
    - Do you apply the same housing survey and evaluation methodology for small groupings of post-World War II houses in rural areas as you do for suburban areas?
  - Are any of these methods/approaches documented in an agreement between agencies (DOTs/agency and SHPO)?
  - What types of training has the organization used when implementing these methods?
- Did you work with other local or state partners in developing these approaches (other than state DOTs and SHPOs)?

### **Interviewees with Partially Developed Methodologies**

- Do you plan to expand your post-World War II approaches/methodologies? *(This question will change based on what type of approach/methodology is in place at the agency)*
- Does the NCHRP Report 723 provide sufficient guidance for developing a methodology?
  - If not, what is lacking?
- Do you have approaches and methodologies that aren't based on NCHRP Report 723?
  - If so, what are those approaches/methodologies?
- Are there any obstacles to further development of the methodology?
  - Financing?
  - Stakeholder buy-in?
  - Other (elaborate below)

## **APPENDIX C. INTERIM REPORT, SUMMARY OF METHODOLOGY AND GROWTH STATISTICS FOR SAMPLE COMMUNITIES**

This Appendix provides a summary of methodologies that can be used for gathering growth statistics for sample communities. Studying housing growth statistics is one way to ascertain where post-World War II tract housing is likely to occur, effectively ground-truthing the assumptions regarding post-World War II housing trends. The methodologies summarized below may be useful for state department of transportation staff in project planning, long-term transportation planning, and understanding data availability challenges and common data types. The following communities are included in this summary.

- Fort Worth, Texas
- Kansas City, Missouri
- Los Angeles, California
- Miami/Dade County, Florida
- Nassau County (Long Island), New York
- Phoenix, Arizona
- Prince George's County, Maryland
- Raleigh, North Carolina

## QUANTIFY HOUSING GROWTH STATISTICS

### SUMMARY OF TERMS

Most communities for this study had some digital data relating to housing available either in an online parcel viewer or as downloadable parcel or subdivision data. As the digital age advances, cities and counties are expanding their GIS capabilities and providing data to the public. Searching for these data, which can be provided by multiple municipalities, can be confusing, so it is important to understand a few key terms that are used when searching for digital data.

*Open Data/GIS Hub/Data Center:* These terms refer to a central website where digital data on a wide variety of topics can be viewed online and/or downloaded. Online viewing on these sites can be either predefined maps that are not interactive or interactive maps with a limited range of data. Many municipalities, both city and county, are providing Open Data websites, linked to ArcGIS online, that contain downloadable parcel and subdivision data, often as shapefiles. Many of these sites list out the fields that are contained within the data files, which is important as many file names can be quite similar. Digital data can come in a number of forms, including tabular datasets (spreadsheets), geographic data layers (most often shapefiles), and geodatabases. The methodologies outlined below used shapefiles.

*Online Parcel Viewer/Property Information Viewer:* Parcel data can often be viewed online through a GIS platform. These sites, often linked to county assessor's or appraiser's offices, can provide a wealth of information regarding housing statistics and history depending on the depth of data housed on the viewer. Some sites have only basic information (owner, address, legal description, tax and assessment information); others provide photos, building sketches, building dates, and links to subdivision plats and many times deeds. The data on these sites are often not downloadable; so the sites are limited as far as analyzing development trends on a large scale.



## **SAMPLE COMMUNITIES**

The sample communities below represent different regions of the country and different levels of access to digital housing data. Digital data in the form of shapefiles or geodatabases, when available, were used to analyze growth statistics for the sample communities. Data were uploaded to ArcGIS online, a free online version of the widely used GIS program, ArcGIS Desktop. If such data were not available, other sources were obtained, including online parcel viewers, database search engines, and aerial photographs.

### **Fort Worth, Tarrant County, Texas**

The city of Fort Worth started as military fort to mark and protect the west Texas frontier. As a stop on the Chisholm Trail, the town quickly grew as millions of heads of cattle were driven on the trail to market. At the beginning of the twentieth century, Swift and Armour meat packing plants were established in Fort Worth, which resulted in a tripling of the city's population from 26,668 in 1900 to 73,312 in 1910. The oil boom began after World War I with the discovery of oil in nearby Ranger, Texas. The largest spike in post-World War II population came immediately after the war with an increase of almost 57 percent from a population of 177,662 in 1940 to 278,778 in 1950.

#### *Housing Data Available*

Parcel and subdivision data in the form of shapefiles and geodatabases are available for download from the city's GIS Downloadable Data site. However, these datasets have only basic locational/spatial information. The subdivision shapefile does not have a field for the year the plat was established. The parcel data do not have a year built field, or an address field, for that matter.

(<https://mapitwest.fortworthtexas.gov/Html5Viewer/?viewer=fwgisdata> )

Tarrant County does have a public map viewer that is linked to parcel data maintained by the Tarrant County Appraisal District (TAD), which is responsible for local property tax appraisal. The parcel data on the TAD website contain information on property owners, deeds, lot size, subdivision name, and year built. (<https://gisit.tarrantcounty.com/publicmapviewer/#>)

Historical aerial photographs can replace digital data. Aerials are not available for free from any local organization, but the Texas Natural Resources Information System has aerials from 1942, 1952, 1956, 1964, 1970, 1973 and newer that can be purchased. Aerials dating to the postwar period for the Fort Worth area can be viewed online from sources such as HistoricAerials.com. These can be used to date residential areas for a specific area. (<https://tnris.org/data-download/#!/county/Tarrant> )

#### *Summary of Growth Statistics*

The lack of digital parcel and subdivision shapefile data that have date fields for parcels or subdivisions poses a challenge when analyzing postwar housing trends on a large scale. Only through scholarship on postwar development patterns in Fort Worth can we glean that adjacent communities were annexed and significant growth occurred along interstate construction such as I-30 in the 1950s. The available digital data, such as online parcel viewers, parcel data, and historical photographs, are sufficient to analyze postwar trends on a site-specific or regional basis. Although subdivision shapefiles do not have date fields, the files can be uploaded to a GIS platform and compared with online parcel data to understand the

general build dates of the development, which can be confirmed to some degree with historical aerials of the area.

### **Kansas City Metropolitan Area: Jackson County, Missouri/Johnson County, Kansas**

Kansas City, located at the confluence of the Missouri and Kansas rivers, began as a river port in the 1830s. The town was incorporated 20 years later, in 1850. The city grew rapidly with the coming of the railroad after the Civil War and the construction of a key railroad bridge (Hannibal & St. Joseph Railroad Bridge) over the Missouri River. The city's population increased 630 percent, from 4,418 in 1860 to 32,260, in 1870. Soon thereafter, with the establishment of the Kansas City Stockyards, the city became the second busiest train center in the country (after Chicago). With an expanse of relatively cheap land surrounding the city center, rapid postwar growth occurred in surrounding areas of Johnson County, Kansas, rural areas of eastern Jackson County, and areas north of the Missouri River. The construction of I-35 spurred particularly rapid growth in Johnson County. In 1940 Johnson County had a population of just 33,000. By 1960 over 143,000 lived in the county.

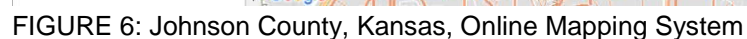
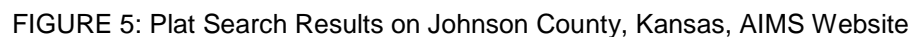
#### *Housing Data Available*

No free parcel or subdivision data are available for downloading online. Both datasets can be purchased for Johnson County by the Automated Information Mapping System. The site also has a free plat search feature that allows searching by year platted, date recorded, and plat name. Search results have a map link to the plat location, section, and quarter section of the plat, and book and page of recorded plat (Figure 5). These data are likely available for purchase from the AIMS site. (<https://aims.jocogov.org/>)

Although there is a lack of downloadable data, both Kansas City and Johnson County, Kansas, have online parcel viewers that provide most of the data needed to understand the development history of a particular area. For Johnson County the parcel viewer (<https://maps.jocogov.org/ims/>) has minimal information beyond address and lot size for an individual parcel but does have subdivision and plat boundaries with the date recorded for plats (Figure 6). Additional information, such as year built, property photographs, owner name, and detailed view of the original plat map, can be obtained for each parcel on the Johnson County location services website. (<https://ims.jocogov.org/locationservices/>)

#### *Summary of Growth Statistics*

Similar to Fort Worth, meaningful housing data are available for free only by way of parcel viewers and online search engines, which can be used together to investigate individual developments or small areas of the county; however, these data are not appropriate for analyzing large scale development trends. The subdivision search engine can provide recorded dates that can be cross referenced with properties on the parcel viewer and location services website. This methodology would be appropriate for understanding particular subdivisions but would be cumbersome for analyzing larger postwar housing trends. Unlike Fort Worth, however, GIS datasets for subdivisions and parcels are available for purchase and do contain data on year recorded and year built, respectively. These datasets, when uploaded to GIS programs such as ArcGIS online, would provide a clear picture of the overall housing trends of the city and greater metropolitan area.



### **Los Angeles, Los Angeles County, California**

The first census of the city was taken in 1841, numbering a population of 141. Nine years later, California became a state, and the city was incorporated that same year. Influences on early population growth included multiple gold rushes and the discovery of oil in 1892. In 1910 nearby Hollywood merged into Los Angeles. The greatest population spike in the city's history occurred between 1920 and 1930, growing from 576,673 to over 1.2 million in 1930. As a seaport the city became a major wartime manufacturing center for ships and aircraft. After the war the city continued to expand rapidly into the San Fernando Valley, made more accessible by the newly constructed interstate system. By 1960 the city's population had increased to almost 2.5 million. Growth slowed in the following decades followed by a resurgence in the 1980s with the tech boom.

#### *Housing Data Available*

Los Angeles County has a wealth of parcel information available online, including downloadable data for parcels and subdivisions as well as a GIS parcel viewer. The subdivision shapefile does not have a year established field. The parcel geodatabase file has a year built field, which is necessary to analyze postwar housing trends; however, the file is quite large (500 MB) and took a considerable amount of time to be uploaded to ArcGIS online (Figure 7). Parcels are depicted on Figure 7 by year built with the light purple representing 1945 and the dark purple representing 1975. Parcels not within that date range are filtered out of the dataset but could be included to show overall housing development history.

The parcel viewer shows basic information about each parcel, including year built, subdivision, building material, and feature information. There are also links to current assessors and index maps but not to original plat maps.

[http://assessormap.co.la.ca.us/GVH\\_2\\_2/Index.html?configBase=http://assessormap.co.la.ca.us/Geocortex/Essentials/REST/sites/PAIS/viewers/PAIS\\_hv/virtualdirectory/Resources/Config/Default&AIN=5267018016](http://assessormap.co.la.ca.us/GVH_2_2/Index.html?configBase=http://assessormap.co.la.ca.us/Geocortex/Essentials/REST/sites/PAIS/viewers/PAIS_hv/virtualdirectory/Resources/Config/Default&AIN=5267018016)

#### *Summary of Growth Statistics*

Overall, the parcel geodatabase reveals areas of 1950s and 1960s postwar development along major thoroughfares in the valley and surrounding areas. A closer view of developments east of Los Angeles shows concentrated developments that date to the 1960s and 1970 east of I-605 along divided Highways 60, 57, and 210 (Figure 8). Further extensive analysis of the data was hampered by the large dataset and its failure to fully load into the ArcGIS system on multiple occasions. Analysis of large datasets such as this would likely function better on ArcGIS desktop rather than the online version.



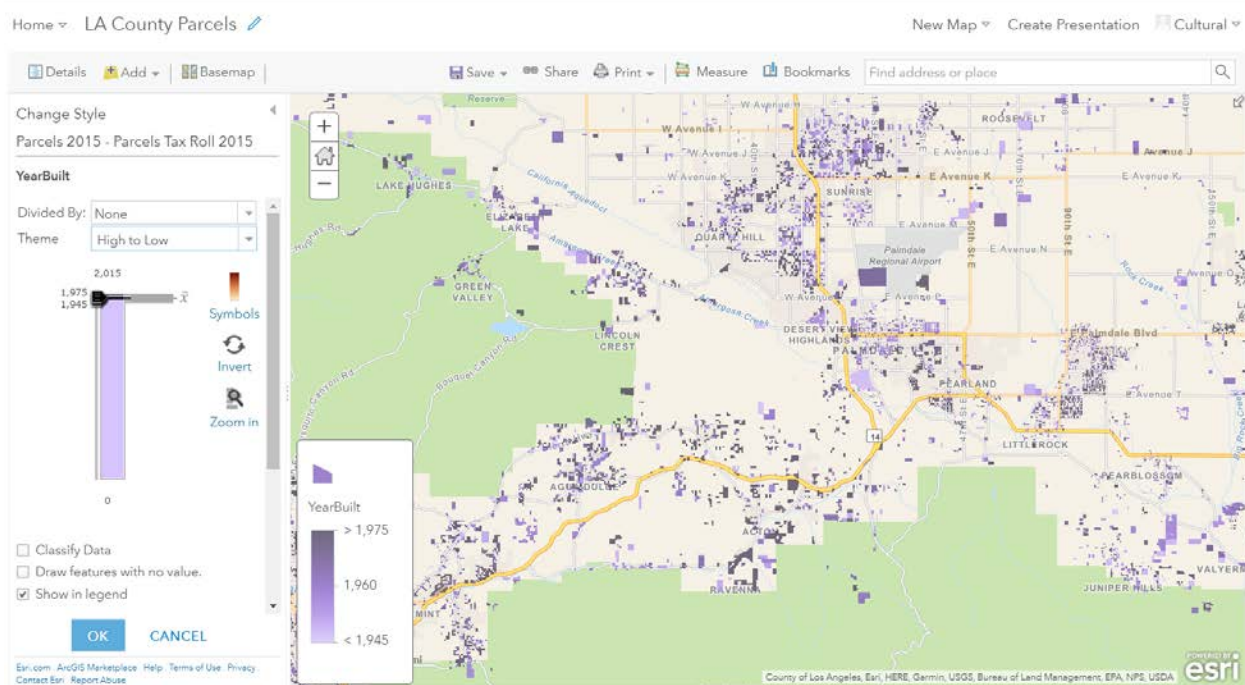


FIGURE 7: Los Angeles County Parcels from 1945 to 1975

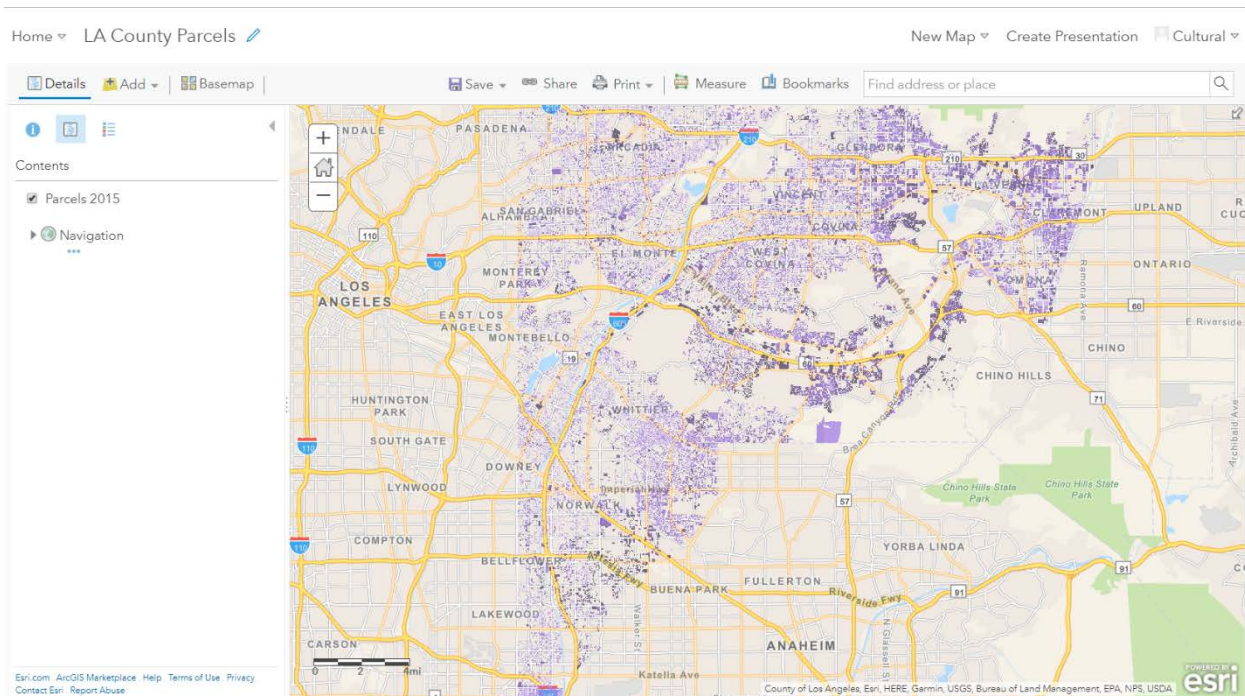


FIGURE 8: View of Suburbs East of Downtown Los Angeles

### **Miami/Dade County, Florida**

In 1896 Miami was incorporated as a city with a population of just over 300. The population grew steadily as the railroad was built to the city around the time of incorporation. During the Prohibition era the city's lax gambling and alcohol regulations led to a spike in population, from 5,471 in 1910 to 29,549 in 1920, a 440 percent increase. The city's strategic location on the Atlantic coast in the southeastern corner of the country made it a center of military development during World War II. After the war the city's population grew by 44 percent, to 249,276, by 1950. Growth slowed in subsequent decades, with only a 17 percent increase in the 1950s from 249,276 to 291,688, and 14.8 percent in the 1960s to 334,859 by 1970.

#### *Housing Data Available*

Digital data for both parcels and subdivisions are available for the Miami/Dade County area. The parcel data include the year built for each parcel, each year depicted by a particular color; however, the format does not allow filtering or sorting of the data. The parcel data are in the form of points rather than polygons, which makes it harder to see housing trends on a larger scale (Figure 9). As the scale becomes smaller, however, details such as small pockets of in-fill and mixed residential neighborhoods can be seen (Figure 10). The subdivision data do not have a field for the year that the plat was recorded, but the data do have the subdivision name and can be used to show boundaries of subdivisions (Figure 11).

(<https://gis-mdc.opendata.arcgis.com/datasets?t=Property>)

The online parcel viewer for the city shows basic information about the parcel, including subdivision name, building size information, and lot features such as patios, fences, pools, etc. The site does not have any information such as deeds or subdivision plat maps. The site does allow searching by subdivision name. The result of the search is a list of all the properties in that subdivision with the owner, address, and parcel number of each property. (<https://www.miamidade.gov/propertysearch/#/?folio=0141090090940>)

#### *Summary of Growth Statistics*

The readily available parcel and subdivision data provide a powerful tool for analyzing post-World War II housing developments in the Miami/Dade County area. Overall, the data show a mix of large single or two-year subdivisions and large areas of mixed-year neighborhoods. Residential subdivisions can be easily seen at scales of less than 0.6 mile per inch. Solid blocks of color show developments built within a single year. Those with two colors show a more lengthy construction period for the development. Lot sizes are also evident with the spacing of the parcel points. For analysis of the development trends of the city as a whole, the parcel point data could be color coded by decade using ArcGIS desktop, which has more tools than ArcGIS online.



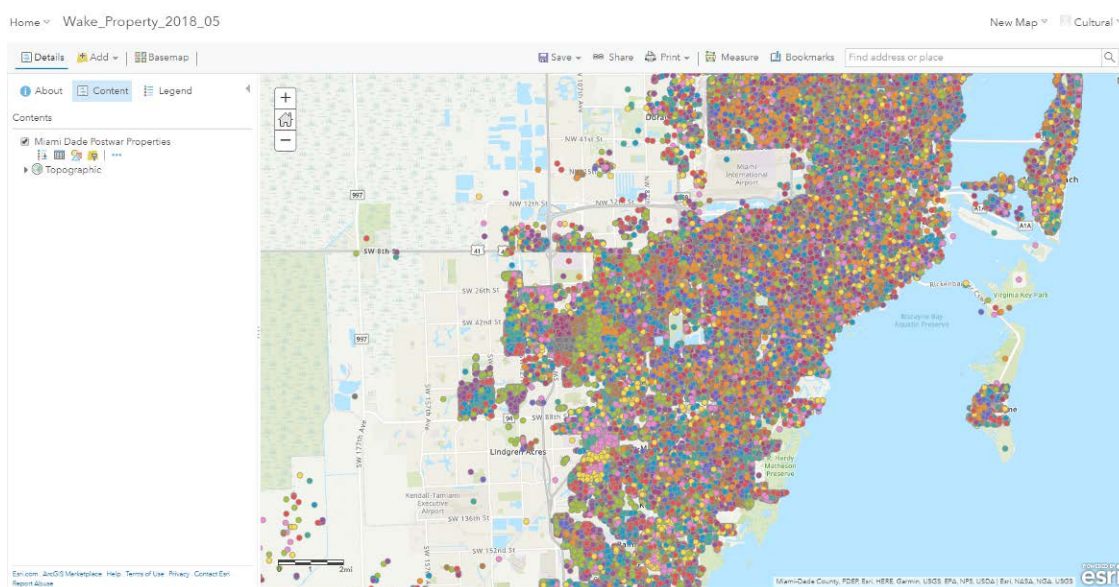


FIGURE 9: Parcel Point Data for Miami/Dade County at 2 Miles/Inch Scale

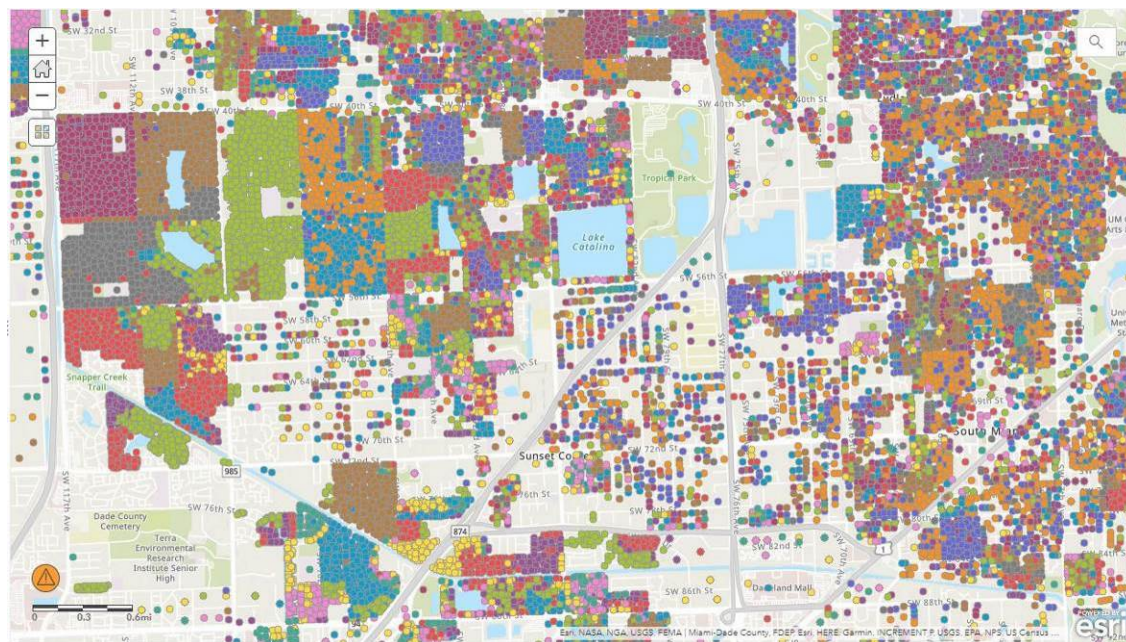


FIGURE 10: Parcel Point Data for Miami/Dade County at 0.6 Mile/Inch Scale



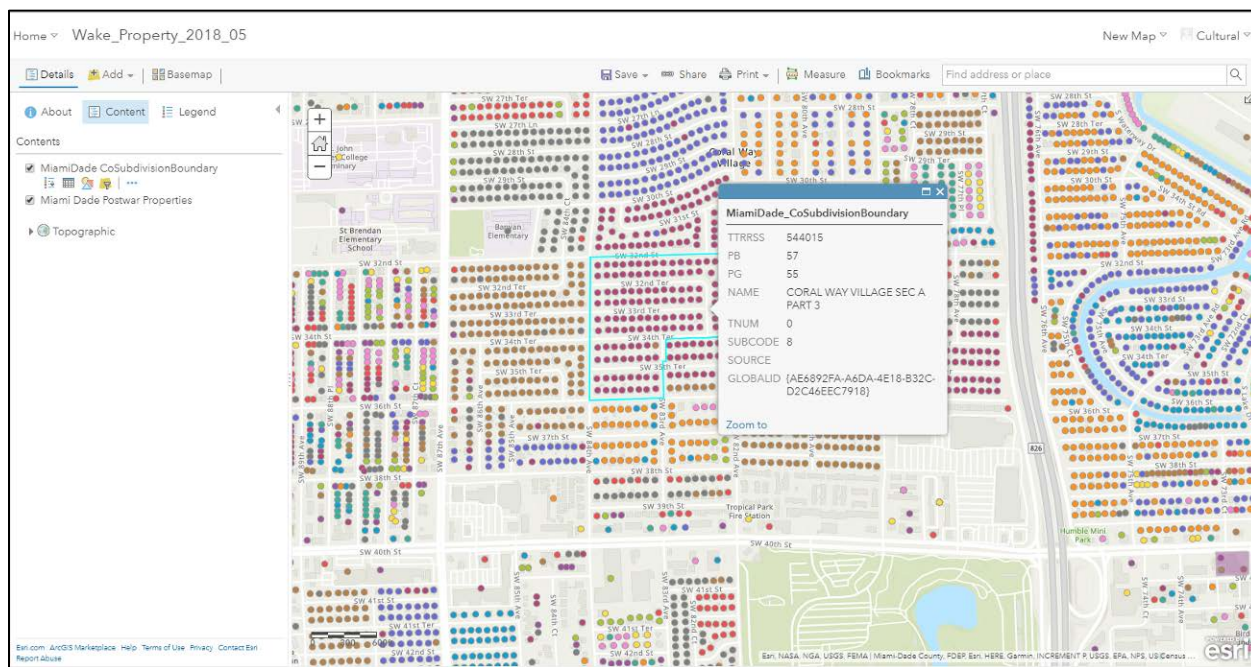


FIGURE 11: Parcel Point Data and Subdivision Boundary Data for Miami/Dade County

### Nassau County, Long Island, New York

Although initially settled in the late seventeenth century, the current boundaries of Nassau County were not formed until 1899. Initial growth of the county as a suburban community to New York City began with the connection of the Long Island Railroad to Pennsylvania Station in midtown Manhattan in 1912. From 1920 to 1930, the county's population grew 140 percent to 303,053. After World War II the county's population spiked tremendously from 406,748 in 1940 to over 1.3 million in 1960. Residents of urban areas of New York City, primarily from Brooklyn and Queens, sought the more suburban setting of Nassau County.

#### *Housing Data Available*

Although a wealth of GIS data is available online for New York State, cities, counties, parcel, and subdivision data for Nassau County are not available for download. The county does maintain a land record viewer that has comprehensive property information, including year built, details on building materials, square footage, and interior features; links to current tax maps and photographs; and links to original property cards. The map-based GIS site also has aerial photographs from 1926 and 1950 that can be used as background maps, allowing quick review of housing developments in the pre- and post-World War II eras (Figure 12). (<https://lrv.nassaucountyny.gov/map/>)

Downloadable GIS data for parcels were not available online, but it is possible to obtain such data from the organizations that host online GIS parcel viewers. For Nassau County access to the parcel data used to populate the online land record viewer was obtained by the host for the site, the Nassau County Department of Assessment. The resulting parcel dataset, which was imported into ArcGIS desktop, allowed detailed analysis, by decade, of housing trends in the county (Figure 13). The use of ArcGIS

desktop allowed a more comprehensive color coding of parcels. The data was then published to ArcGIS online.

### *Summary of Growth Statistics*

Post-World War II development trends can clearly be seen using the GIS parcel data. Post-World War II housing tends to occur along the ends of the many peninsulas and necks of Long Island with later subdivisions along the shore. In-fill housing can easily be seen against the pink color-coded pre-World War II parcels; however, construction dates in the Nassau County data for prewar parcels do not appear to be completely accurate.

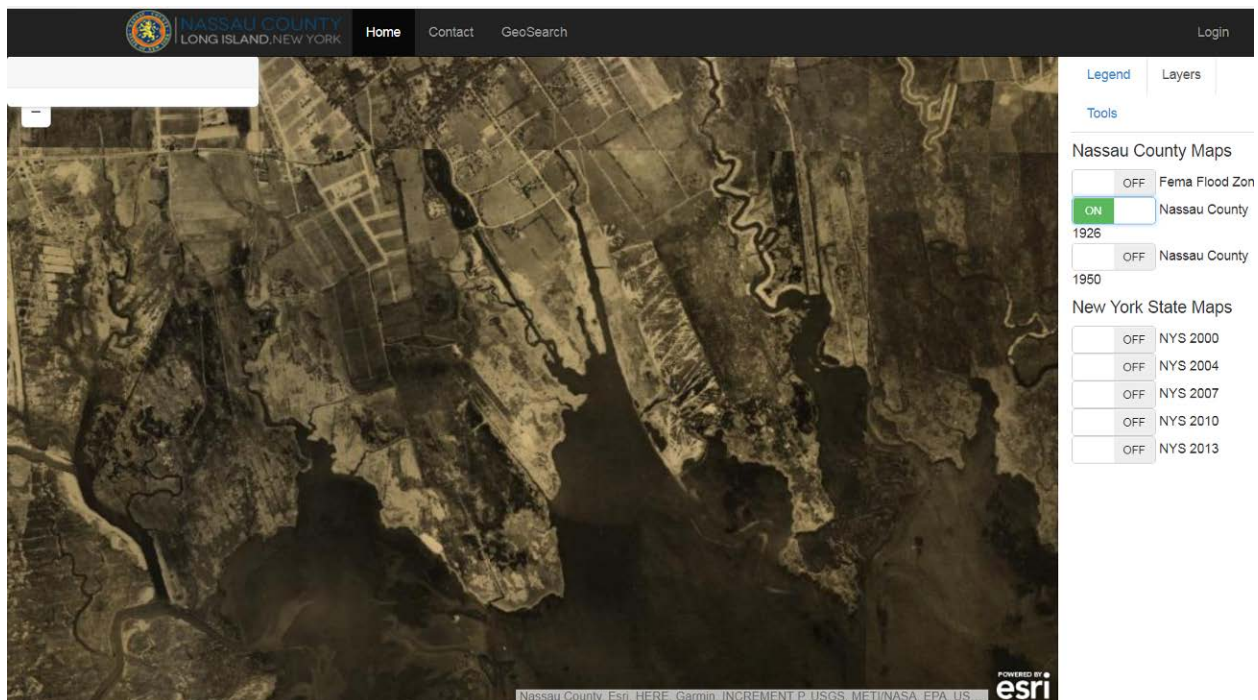


FIGURE 12: Nassau Land Record Viewer with 1926 Aerial of Merrick, Long Island



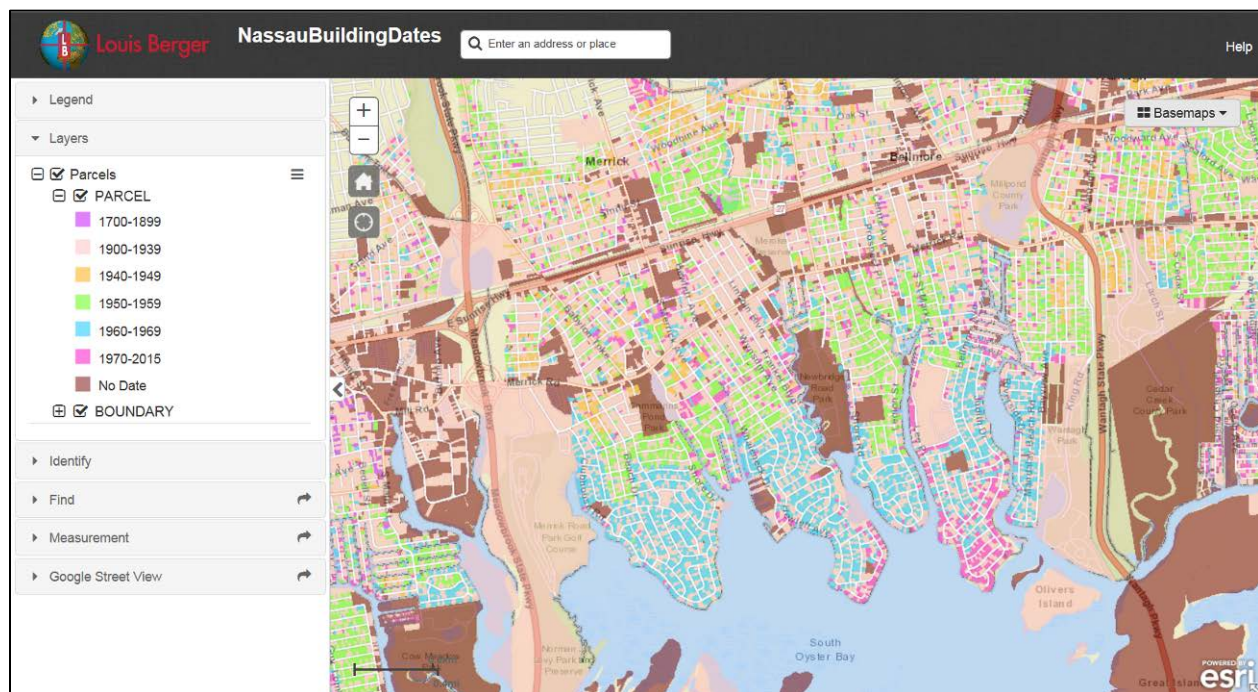


FIGURE 13: Parcel Data for Nassau County by Decade

### Phoenix, Maricopa County, Arizona

Phoenix was incorporated in 1881 with a population of around 2,500. It was not until 1910 that Arizona became a state; Phoenix became its capital two years later. By 1920 the city's population grew to 29,053, with the economy relying principally on cotton, citrus, and cattle. By 1940 the population grew to 65,414. Significant growth began during the war with the establishment of numerous Air Force fields, including Luke Field, Williams Field, and Falcon Field, and two large pilot training camps, Thunderbird Field No. 1 in Glendale and Thunderbird Field No. 2 in Scottsdale. This brought a lot of servicemen to the Valley during the war, many of them returning after the war, lured by the climate and potential for industry. By 1950 the population grew 63 percent from 1940 to 106,818. The real postwar boom came in the 1950s, however, when advances in air conditioning allowed residents and businesses to withstand the summer heat. Between 1950 and 1960, the population increased 311 percent, from 106,818 to 439,170, and local industry, which included large firms such as Motorola, increased by a factor of 15.

#### *Housing Data Available*

Phoenix has some GIS data available for download, but housing was not among the available data. Without these GIS data, it is difficult to see housing trends at a macro scale; however, other sources of data can be used to track the exponential growth in housing in the city on a regional scale and in specific neighborhoods. Maricopa County has developed an extensive collection of historical aerial imagery, which is available online and linked to the county's parcel data. Aerial images range from 1930 to the present day, at intervals of every three to five years from 1949 onward. Several powerful tools on the site can be used to map housing growth. The site has the capability to search and view parcels with historical aeriels as background, allowing the user to quickly see when building in the development started (Figure

Maricopa County also has an online GIS parcel viewer that includes basic parcel data for residential properties, as well as construction dates, subdivision outlines, and the ability to download original subdivision plat maps. Access to original subdivision plat maps is key to obtaining greater detail on what year the neighborhood was platted and the name of the developer.

[\(https://maps.mcassessor.maricopa.gov/\)](https://maps.mcassessor.maricopa.gov/)

Although the housing data available for Phoenix cannot illustrate the housing trends overall, the data provide sufficient information to quickly understand the development of an area of the city or a particular location. As an example the development of the residential neighborhoods at intersection of I-10 and U.S. Highway 60 in nearby Tempe, Arizona, can be traced through a series of aerials (Figure 16). This is invaluable information that can be accessed quickly when planning for interstate improvements.



FIGURE 14: Parcel Tool on the Maricopa County Historical Aerial Photography GIS Website





FIGURE 15: Aerial Comparison on the Maricopa County Historical Aerial Photography GIS Website

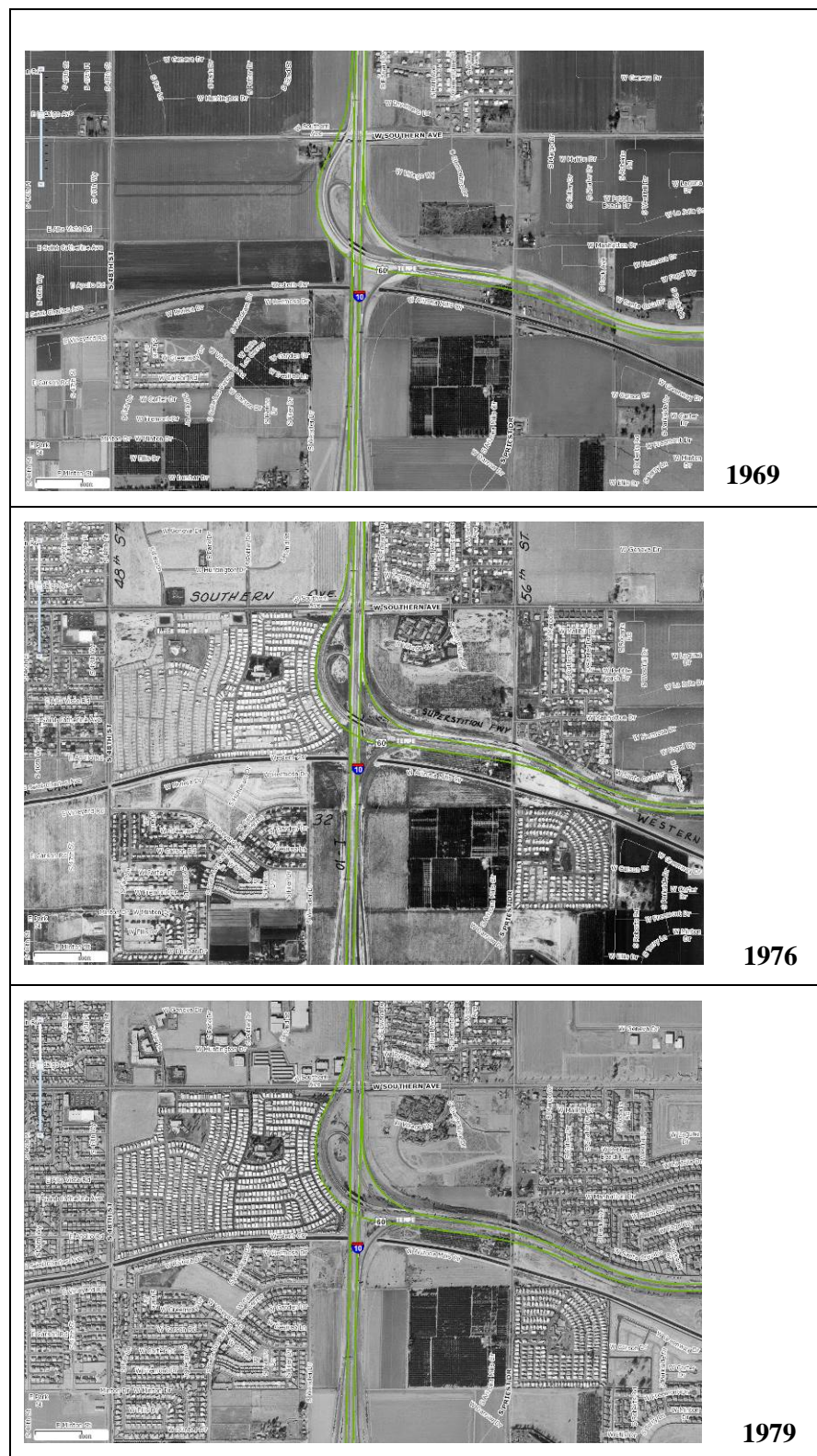


FIGURE 16: Progress of Development in Tempe, Arizona, Using Maricopa County Aerials

## **Prince George's County, Maryland**

The area of Prince George's County was settled in the mid-1650s as part of the Maryland Colony. Over 100 years later, the population reached over 20,000. This primarily agricultural area relied upon tobacco and other crops as well as milling industries in the north and fisheries along the Patuxent and Potomac rivers. Population through the nineteenth century grew slowly, to 29,898 in 1900. As the metropolitan area of the District of Columbia grew, the county became a bedroom community and the postwar population skyrocketed to 194,182 in 1950, a 117 percent increase from 1940. In the next two decades the population would rise by over 80 percent each decade: to 357,395 in 1960 and to 660,567 in 1970.

### *Housing Data Available*

The county has both parcel and subdivision shapefiles available for download from the county planning department's GIS Open Data Portal. Both datasets have data on the year constructed for buildings and year established for subdivision plats. The parcel shapefile has polygons for parcels rather than points. Buildings dates have been grouped by decade to reveal development patterns.

(<http://gisdata.pgplanning.org/opendata/> )

The county also has a GIS parcel viewer that shows basic information about each parcel and links to subdivision plats and the last recorded deed. The viewer has aerial photographs that date back to 1938, as well as the 1861 Martenet map and the 1878 Hopkins atlas. (<http://www.pgatlas.com/>)

### *Summary of Growth Statistics*

The subdivision data reveal very few areas of platted development in the county (Figure 17). Large pockets of platted developments are evident in Rosaryville and east of Kettering along U.S. Route 301. Examination of the parcel data provides a more detailed view of development in the county (Figure 18). Large developments of the 1950s (depicted in pink) and 1960s (depicted in blue) are located east of I-495 and in areas along the other major four-lane highways in the county. The area east of U.S. Route 301 is dominated by large parcels and developments that date to the 1990s and later (Figure 19).



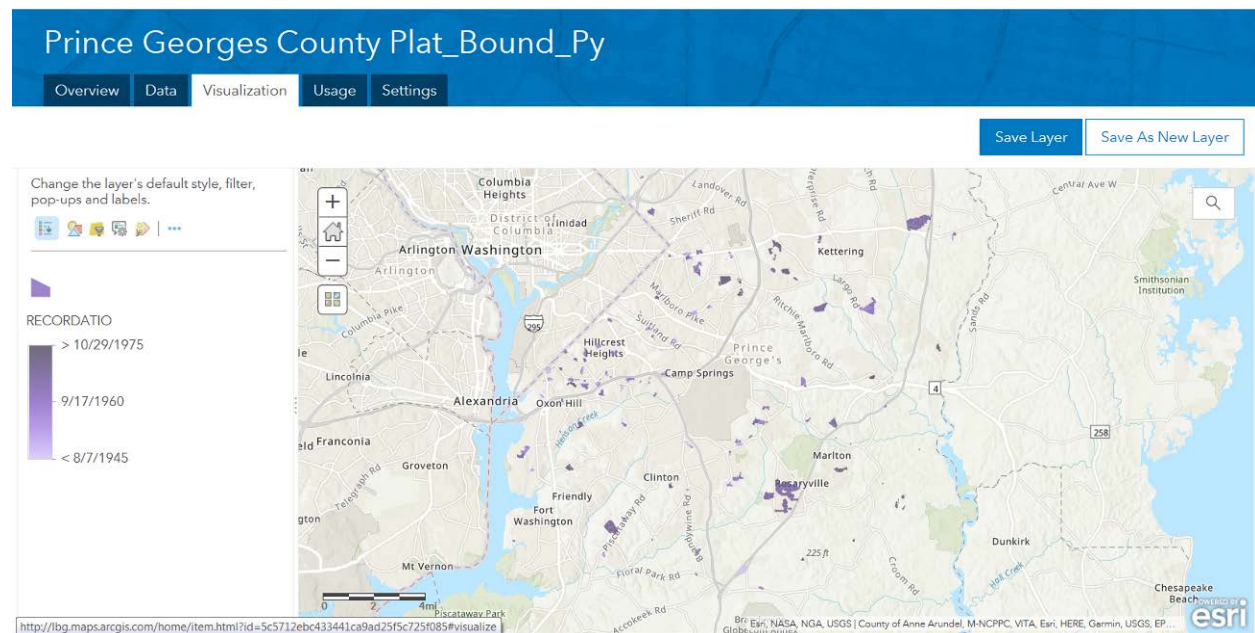


FIGURE 17: Recorded Plats in Prince George's County Between 1945 and 1975

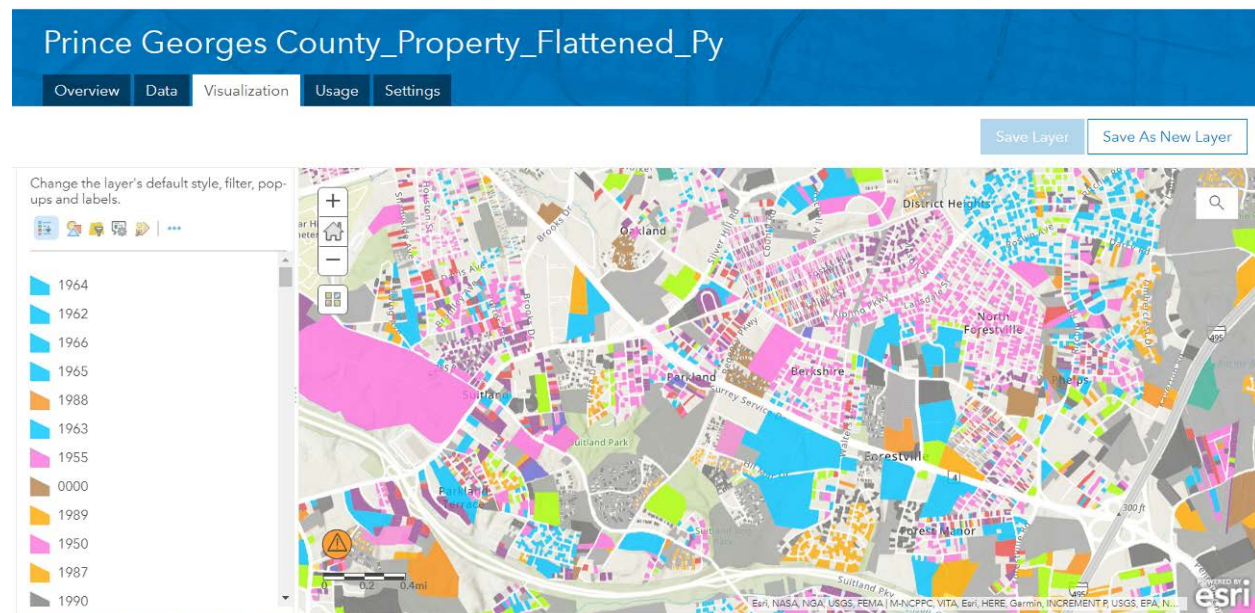


FIGURE 18: Parcel Data in Prince George's County

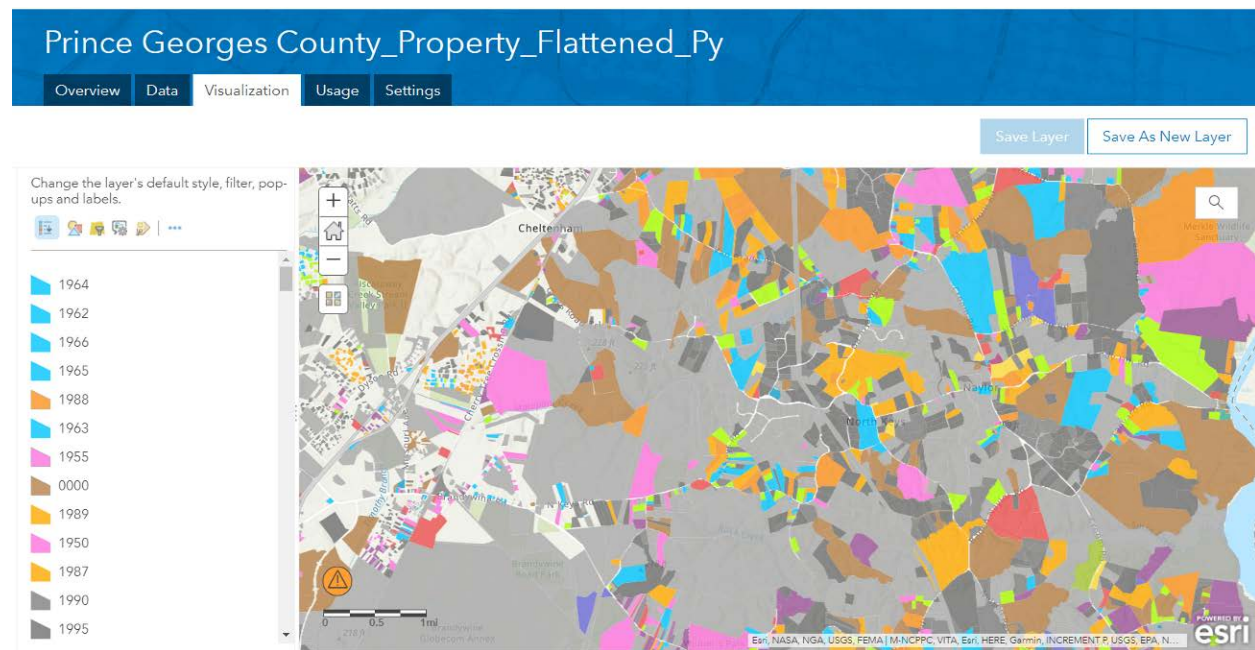


FIGURE 19: Parcels Located East of U.S. Route 301 in Prince George's County

### **Raleigh, Wake County, North Carolina**

Raleigh is an old city, chosen as the state capital in 1788 and platted in 1792. It is one of the few cities that was planned and built specifically to serve as a state capital. The population of the city was 699 in 1800. The population of the city grew steadily throughout the eighteenth and nineteenth centuries. From 1940 to 1970, the city's population almost tripled from 46,879 to 122,830, but the size of the city grew by a factor of six.

#### *Housing Data Available*

As with many of the aforementioned sample communities, Raleigh has an abundance of GIS data online. The online parcel viewer is perhaps one of the most robust, with extensive parcel data; subdivision outlines and data; property photographs; links to property deeds, maps, and plats; and data on historic landmarks in the city. This data provides a clear picture of the history of individual developments and the buildings within them. (<https://maps.raleighnc.gov/iMAPS/>)

To gain a wider view of postwar development in the city, both parcel and subdivision shapefiles are available for download on Wake County's GIS Map Services website (see hyperlink at the end of the paragraph). The subdivision shapefile has a plat approval date field, which when sorted provides a quick overview of the metropolitan area and the progress of development activity (Figure 20). Lighter colors represent immediate post-World War II construction activity (the darker the color, the later the development). However, the date that an area was platted does not necessarily correspond with the date that buildings were constructed. The data for parcels also have a year built field, which can be combined with the subdivision data to get a clear picture of construction activity in the decades after World War II. The data file for parcels is quite large, over 500 MB, and should be used in ArcGIS desktop, if possible. (<http://www.wakegov.com/gis/services/pages/data.aspx>)

#### *Summary of Growth Statistics*

Subdivision data for the decades after World War II shows a clear pattern of development around the historic city center along major transportation routes. Development seems to follow a general concentric pattern around the city, with immediate postwar neighborhoods closer to the city and newer subdivisions along the interstates. The parcel data for same area of the city do not lend any additional information when viewed at the same scale (Figure 21); however, when viewed at a smaller scale, development patterns emerge (Figure 22). Residential subdivisions can clearly be seen between major secondary roads, such as Wake Forest Road and Glenwood Avenue, lined with larger lots constructed after the surrounding developments.



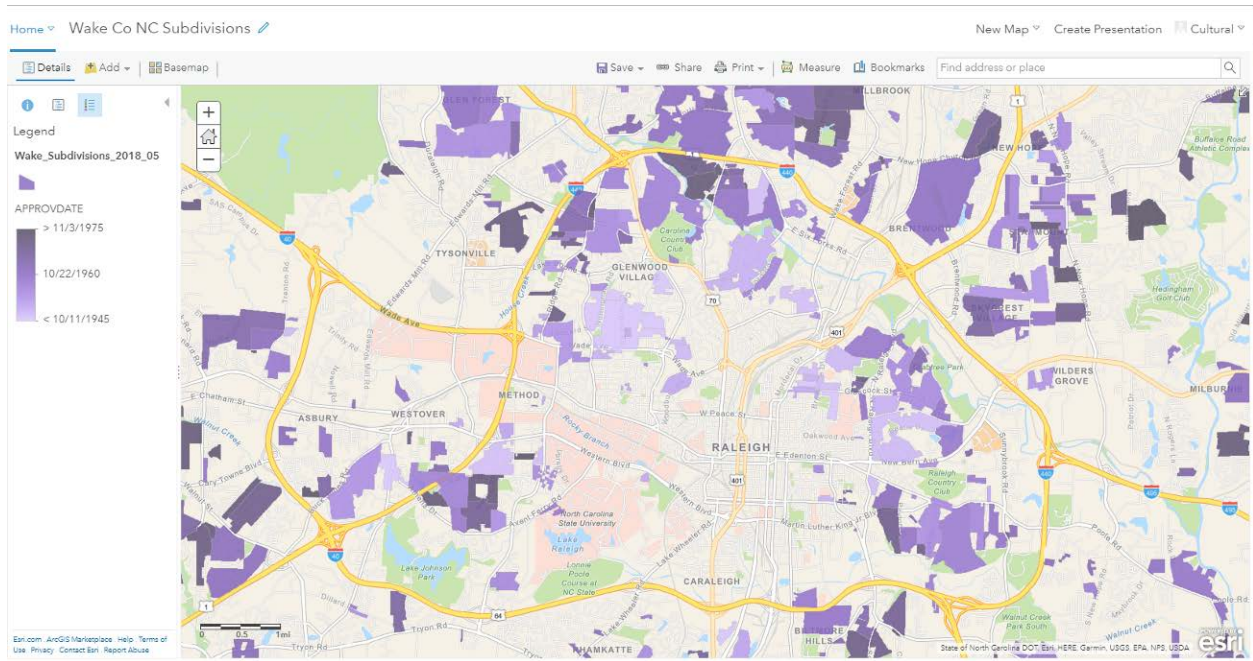


FIGURE 20: Subdivision Construction Statistics from 1945 to 1975 for Wake County, North Carolina

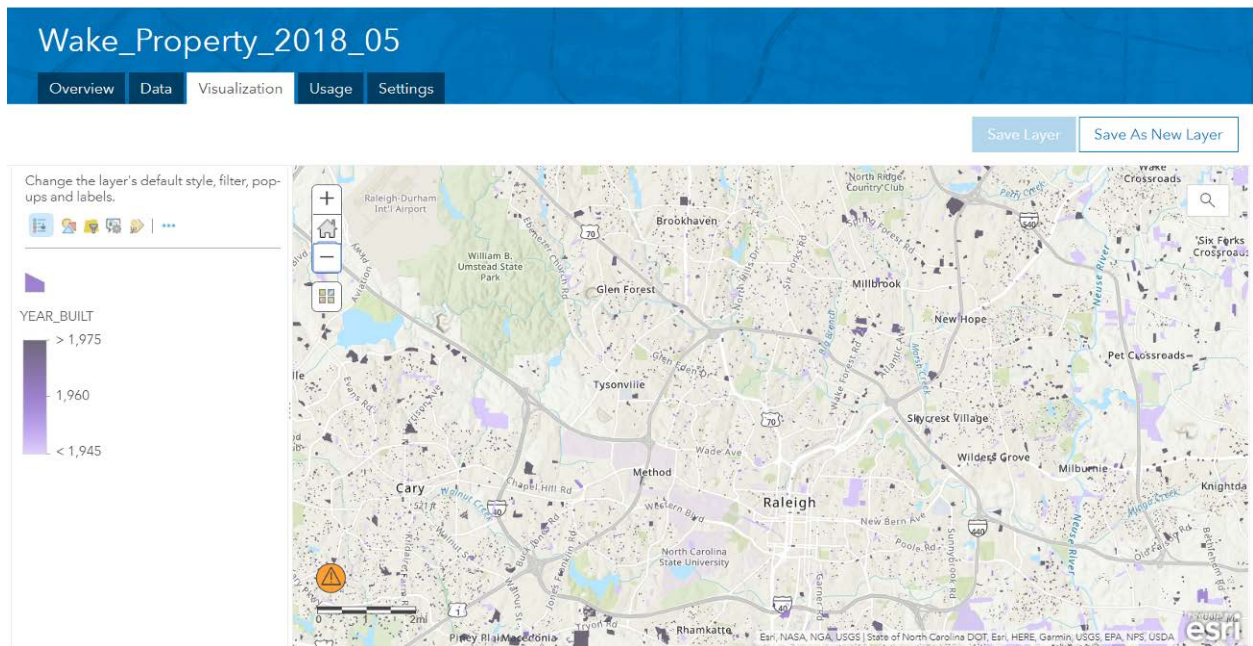


FIGURE 21: Parcel Data from 1945 to 1975 for Wake County, North Carolina

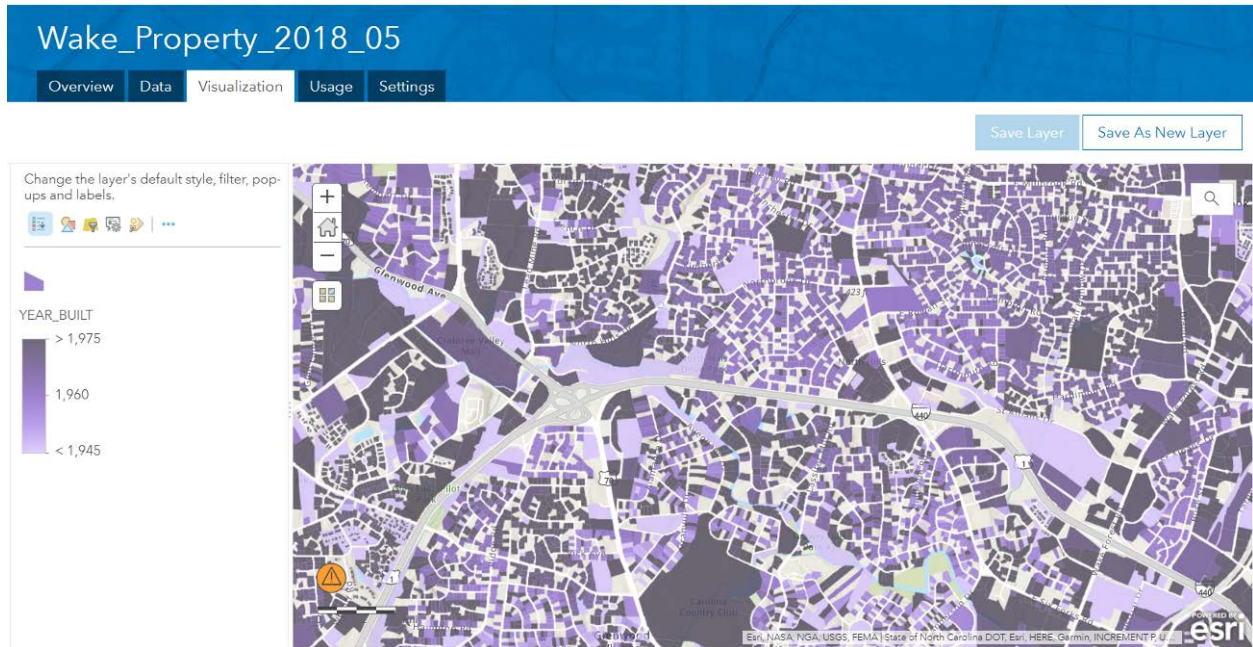


FIGURE 22: Area North of Downtown Raleigh at 1 Inch Equals 0.4 Mile Scale

## SUMMARY

Nearly all of the sample communities had digital data available online that would be useful in ground-truthing post-World War II housing growth statistics. The main types of data available include the following.

- Online GIS parcel viewers
- Downloadable datasets for subdivisions and/or parcels
- Database search engines
- Historical aerial photography

The cities of Fort Worth, Kansas City, and Phoenix had the least amount of digital data available online, and Miami/Dade County had the most data available. State DOTs will likely use these methodologies to work on upcoming projects in their five-year plans as well as long-range planning for transportation improvements. Post-World War II growth statistics through various forms of GIS data reveal that certain types of data are appropriate for different scales of analysis (Table 2). For long-range planning and analysis of large geographic areas, subdivision GIS data files are the most useful data source. Areas with high concentrations of post-World War II housing can be easily identified with these data and taken in account when doing long-range planning for projects. Parcel data files are less visible at a large scale but could still be used for analysis of large areas in conjunction with subdivision data files. Parcel data files, whether in polygon or point format, reveal housing trends better at a moderate scale. The downside to parcel data files is that they can be quite large and time-consuming to process in ArcGIS. Online GIS parcel viewers, database search engines, and aerial photography are best suited for analysis of post-World War II housing trends in smaller geographic areas. One caveat with online parcel viewers is that construction dates are sometimes not accurate. The most accurate analysis will combine data from parcel viewers, search engines, and aerial photographs. Although these sources of data could be used to build a more comprehensive data file in ArcGIS, the time and effort to do so would outweigh the benefit. As GIS systems are expanded and developed rapidly by cities and counties across the country, it is likely that the data would be available online by the time the data are built from other sources. Data used to create parcel viewer and search engines may also be available upon request to the host organization.

TABLE 2. Summary of GIS Data Sources and Appropriate Types of Analysis

DATA SOURCE	ANALYSIS	ISSUES/NEEDS
Subdivision data files	<ul style="list-style-type: none"> <li>• Long-range planning</li> <li>• Large scale projects</li> <li>• Large geographic regions.</li> </ul>	<ul style="list-style-type: none"> <li>• Recorded Date field required</li> <li>• Complete data set</li> </ul>
Parcel data files	<ul style="list-style-type: none"> <li>• Long-range planning</li> <li>• Large- to small-scale projects</li> </ul>	<ul style="list-style-type: none"> <li>• Year Built field required</li> <li>• Files can be quite large</li> </ul>
Online GIS parcel viewers	<ul style="list-style-type: none"> <li>• Smaller geographic areas</li> </ul>	<ul style="list-style-type: none"> <li>• Construction dates sometimes inaccurate</li> </ul>
Database search engines	<ul style="list-style-type: none"> <li>• Medium- to small-scale projects</li> </ul>	
Aerial photography		



### **Methodology for Communities Lacking Digital Data**

For those communities that lack the digital data described in the sections above, the process of analyzing post-World War II growth statistics and development trends is much more involved, but not impossible. The first task would be to understand where, in general, postwar development occurred. This can be gleaned through local history and community planning documents and aerial photographs, which can be obtained at the local or state library. There are online aerial photographs for the post-World War II period at the U.S. Geological Survey's website, EarthExplorer (<https://earthexplorer.usgs.gov/>). Once areas of post-World War II development have been determined, specific information on subdivisions can be found through plat maps, most often through the county assessor's office. Information on individual parcels should also be available at the assessor's office through property assessment reports, which may or may not have the construction date of the dwelling included.

### **Issues Encountered**

Several issues were encountered in gathering and processing the GIS data from the sample communities that affected the results.

*Formatting of Date Fields:* To generate GIS maps that illustrated only parcels from the postwar period, date or year built fields were filtered in ArcGIS to include parcels dated between 1945 and 1975. GIS shapefiles for Prince George's County and Los Angeles County could not be filtered in this manner because of how the date field had been formatted. In these instances the parcels that fell outside the desired date range were coded with neutral colors, such as gray. Some date fields were formatted as integers, causing them to display incorrectly, such as "1,965" versus "1965."

*Large Data Files:* Many of the parcel data files were quite large, over 500 MB. These files took considerable time to import into ArcGIS online. It was also difficult for the parcel data to fully load on the map, often freezing before the entire dataset was loaded. These issues can be alleviated by importing the datasets, which often have a large number of fields that are not relevant to postwar housing analysis, into ArcGIS and deleting unnecessary fields. Filtering the data to the desired date range would also improve processing time.



## **APPENDIX D: POST-WORLD WAR II HOUSING SURVEY AND NRHP EVALUATION RESOURCES**

## POST-WORLD WAR II HOUSING SURVEY AND NRHP EVALUATION RESOURCES

The following table is based largely on information compiled by Marty Perry of the Kentucky Heritage Council in December 2012. This list was revised and supplemented to include all the resources found as a result of this study.

Title	Author	Link	Format	Date
<b>Nationwide</b>				
NCHRP Report 723: A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing	Mead & Hunt and Louis Berger, U.S.	<a href="http://www.trb.org/main/blurbs/167790.aspx">http://www.trb.org/main/blurbs/167790.aspx</a>	Report	2012
Historic Residential Suburbs in the United States, 1830-1960	McClelland et al. 2004	<a href="https://www.nps.gov/nr/publications/bulletins/pdfs/suburbs.pdf">https://www.nps.gov/nr/publications/bulletins/pdfs/suburbs.pdf</a>	NR Bulletin	2002
Growth, Efficiency, and Modernism: GSA Buildings of the 50s, 60s and 1970s	Robinson & Associates, Inc. Judith H. Robinson Stephanie S. Foell	<a href="http://www.gsa.gov/graphics/pbs/GEMbook.pdf">http://www.gsa.gov/graphics/pbs/GEMbook.pdf</a>	Historic Context	2003
DOCOMOMO, How to evaluate modern buildings and sites	DOCOMOMO US	<a href="http://www.docomomo-us.org/register/how_to_evaluate_modern_buildings_and_sites">http://www.docomomo-us.org/register/how_to_evaluate_modern_buildings_and_sites</a>	Guidelines	2018
National Trust recent past resource guide	Jeanne Lambin	<a href="http://ohp.parks.ca.gov/pages/1054/files/RecentPastResourceGuide2007.pdf">http://ohp.parks.ca.gov/pages/1054/files/RecentPastResourceGuide2007.pdf</a>	Bibliography	2007
The Shifting Signposts of Preservation, NPS article	Deborah Edge Abele and Grady Gammage, Jr	<a href="#">Not currently available online</a> In Preserving the Recent Past 2 newsletter, Historic Preservation Education Foundation, NPS	Article	2000
<b>Alaska</b>				
Mid-Twentieth Century Architecture In Alaska Historic Context (1945 – 1968)	Amy Ramirez Jeanne Lambin Robert L. Meinhardt and Casey Woster	<a href="http://dnr.alaska.gov/parks/oha/publications/MID20thCArchitectureinAK3.12.2018.pdf">http://dnr.alaska.gov/parks/oha/publications/MID20thCArchitectureinAK3.12.2018.pdf</a>	Historic Context	2016
Alaska Architectural Style Guide	Alaska SHPO	<a href="http://dnr.alaska.gov/parks/oha/StyleGuide.pdf">http://dnr.alaska.gov/parks/oha/StyleGuide.pdf</a>	Style Guide	n.d.
<b>Arizona</b>				
Introduction to Postwar Modern Housing Architectural Styles, Scottsdale, AZ	City of Scottsdale	<a href="http://www.scottsdaleaz.gov/Asset7432.aspx">http://www.scottsdaleaz.gov/Asset7432.aspx</a>	Style Guide	n.d.
Residential Subdivisions and Architecture in Central Phoenix, 1912-1950 MPS	Deborah E. Abele, et.al.	Not yet digitized in National Register Information System Database	National Register MPDF	1994

Title	Author	Link	Format	Date
Architectural Styles For Postwar Single Family Attached Housing In Scottsdale, AZ 1960-1974	Don Meserve	<a href="https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/MidMod+Townhouse+Architectural+Styles.pdf">https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/MidMod+Townhouse+Architectural+Styles.pdf</a>	Style Guide	2009
Scottsdale Postwar Multifamily Housing Survey	Debbie Abele and Liz Wilson	<a href="https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/FINAL_MF_CONTEXT.pdf">https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/FINAL_MF_CONTEXT.pdf</a>	Historic Context	n.d.
Post World War II Subdivisions Tempe, Arizona: 1945-1960	Scott Solliday	Not yet available online.	Historic Context	2001
Postwar Modern Housing and a Geographic Information System Study of Scottsdale Subdivisions	Elizabeth S. Wilson	<a href="https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/MidMod+Neighborhoods+Development+Patterns.pdf">https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Historic+Preservation/MidMod+Neighborhoods+Development+Patterns.pdf</a>	Historic Context Style Guide GIS Analysis	2002
Tucson Post World War II Residential Subdivision Development: 1945-1973	Akros, Inc., Wilson Preservation, Coffman Studios, LLC; and HDR	<a href="https://www.tucsonaz.gov/files/preservation/Text_-_Tucson_Post_WWII_Residential_Subdivision_Development.pdf">https://www.tucsonaz.gov/files/preservation/Text_-_Tucson_Post_WWII_Residential_Subdivision_Development.pdf</a>	Historic Context Style Guide Landscape Design	2007
Arkansas				
Low Light and Livable—From Modern to Ranch, 1945-1970	Holly Hope	<a href="https://www.arkansaspreservation.com/LiteratureRetrieve.aspx?ID=133223">https://www.arkansaspreservation.com/LiteratureRetrieve.aspx?ID=133223</a>	Historic Context	2014
California				
Cultural Resources of the Recent Past, City of Pasadena, CA	Barbara Lamprecht and Daniel Paul	<a href="http://ohp.parks.ca.gov/pages/1067/files/mps%20pasadena%20recent%20past%20final.pdf">http://ohp.parks.ca.gov/pages/1067/files/mps%20pasadena%20recent%20past%20final.pdf</a>	National Register MPDF	2008
Tract Housing in California, 1945-1873: A Context for National Register Evaluation	Caltrans	<a href="http://www.dot.ca.gov/ser/downloads/cultural/tract_housing_in_ca_1945-1973.pdf">http://www.dot.ca.gov/ser/downloads/cultural/tract_housing_in_ca_1945-1973.pdf</a>	Historic Context, Style Guide, Survey Methodology	2011
San Diego Modernism Historic Context Statement	City of San Diego	<a href="http://ohp.parks.ca.gov/pages/1054/files/san%20diego%20modernism%20context.pdf">http://ohp.parks.ca.gov/pages/1054/files/san%20diego%20modernism%20context.pdf</a>	Historic Context Style Guide	2007
Colorado				
Selected Post-World War II Residential Architectural Styles and Building Types	Colorado Historical Society	<a href="http://legacy.historycolorado.org/sites/default/files/files/OAHP/Programs/SI_post_WWII_StylesandTypes.pdf">http://legacy.historycolorado.org/sites/default/files/files/OAHP/Programs/SI_post_WWII_StylesandTypes.pdf</a>	Style Guide	2006
Historic Residential Subdivisions of Metropolitan Denver, 1940-1965	Simmons, Thomas H. and Simmons, R. Laurie	<a href="http://www.nps.gov/nr/publications/sample_nominations/DenverSuburbsMPS.pdf">http://www.nps.gov/nr/publications/sample_nominations/DenverSuburbsMPS.pdf</a>	National Register MPDF	October 2010
Historic Context and Survey of Post-World War II Residential Architecture Boulder, Colorado	Bryant, Jenifer and Schomig, Carrie TEC, Inc.	<a href="http://www.bouldercolorado.gov/files/FINAL_Report_Sections_1-3.pdf">http://www.bouldercolorado.gov/files/FINAL_Report_Sections_1-3.pdf</a>	Report	April 2010
Connecticut				
Modern Homes Survey, New Canaan, Connecticut	NTHP and the Glass House	<a href="http://theglasshouse.org/learn/modern-homes-survey/">http://theglasshouse.org/learn/modern-homes-survey/</a>	Survey	2019

Title	Author	Link	Format	Date
Mid-20th Century Modern Residences in CT, 1930-79 MPS		Not yet digitized in National Register Information System Database	National Register MPS	n.d.
Georgia				
Guidelines for Evaluating Ranch Houses in Georgia	New South Associates	<a href="https://issuu.com/georgiashpo/docs/ranch_house_guidelines?backgroundColor=%2523222222">https://issuu.com/georgiashpo/docs/ranch_house_guidelines?backgroundColor=%2523222222</a>	Evaluation Guidelines	2012
Atlanta Housing 1944 To 1965	Leigh Burns, Staci Catron-Sullivan, Jennifer Holcombe Amie Spinks, Scott Thompson Amy Waite, Matt Watts-Edwards Diana Welling	<a href="https://gadnr.org/sites/default/files/hpd/pdf/AtlantaHousing1944-65.pdf">https://gadnr.org/sites/default/files/hpd/pdf/AtlantaHousing1944-65.pdf</a>	Historic Context	2001
Ordinary Iconic Ranch House, Mid- 20th-Century Ranch Houses in Georgia	Richard Cloues	<a href="https://gadnr.org/sites/default/files/hpd/pdf/The%20Ordinary%20Iconic%20Ranch%20House%20Part%20I.pdf">https://gadnr.org/sites/default/files/hpd/pdf/The%20Ordinary%20Iconic%20Ranch%20House%20Part%20I.pdf</a>	Style Guide	2011
Ranch Houses in Georgia: A Guide to Architectural Styles	Richard Cloues	<a href="https://gadnr.org/sites/default/files/hpd/pdf/RanchHousesinGeorgia.pdf">https://gadnr.org/sites/default/files/hpd/pdf/RanchHousesinGeorgia.pdf</a>	Style Guide	2010
Illinois				
Landmarks Illinois Recent Past Survey of Suburban Cook County	Not Residential	<a href="http://landmarksil.org/saic_search.php">http://landmarksil.org/saic_search.php</a>	Searchable database	2010
Indiana				
Modernism in Architecture, Landscape Architecture, Design, and Art in Bartholomew County, 1942-1965 MPS	Storow Kinsella Partnership Inc.	<a href="https://npgallery.nps.gov/NRHP/GetAsset/NRHP/64500214_text">https://npgallery.nps.gov/NRHP/GetAsset/NRHP/64500214_text</a>	National Register MPDF	1999
Residential Planning and Development in Indiana 1940-1973	S. Alan Higgins	<a href="https://secure.in.gov/apps/dnr/shaard/r/c3e7d/N/IN_AllCounties_ResidentialPlanningandDevelopmentinIndiana_1940-1973.pdf">https://secure.in.gov/apps/dnr/shaard/r/c3e7d/N/IN_AllCounties_ResidentialPlanningandDevelopmentinIndiana_1940-1973.pdf</a>	National Register MPDF	2017
Kentucky				
House in a Box: Prefabricated Housing in the Jackson Purchase Cultural Landscape Region, 1900-1960	Kentucky Heritage Council	<a href="https://heritage.ky.gov/Documents/HouseinaBox.pdf">https://heritage.ky.gov/Documents/HouseinaBox.pdf</a>	Historic Context, Property Types	2006
Louisiana				
Louisiana SHPO: the past as inspiration	Jonathan and Donna Fricker	<a href="http://www.crt.state.la.us/hp/nationalregister/historic_contexts/historicismfinal.pdf">http://www.crt.state.la.us/hp/nationalregister/historic_contexts/historicismfinal.pdf</a>	Historic Context	February 2010
Louisiana SHPO: Post-war Subdivisions and the Ranch House	Jonathan and Donna Fricker	<a href="http://www.crt.state.la.us/hp/nationalregister/historic_contexts/ranchhousefinalrevised.pdf">http://www.crt.state.la.us/hp/nationalregister/historic_contexts/ranchhousefinalrevised.pdf</a>	Historic Context	February 2010

Title	Author	Link	Format	Date
Louisiana SHPO: The Contemporary House	Jonathan and Donna Fricker	<a href="http://www.crt.state.la.us/hp/nationalregister/historic_contexts/contemporaryhousefeb2010.pdf">http://www.crt.state.la.us/hp/nationalregister/historic_contexts/contemporaryhousefeb2010.pdf</a>	Historic Context	February 2010
Louisiana SHPO: Modernism Triumphant: Commercial and Institutional Buildings	Jonathan and Donna Fricker	<a href="http://www.crt.state.la.us/hp/nationalregister/historic_contexts/modernismtriumphantfinalrevised.pdf">http://www.crt.state.la.us/hp/nationalregister/historic_contexts/modernismtriumphantfinalrevised.pdf</a>	Historic Context	February 2010
Maine				
Post-World War II Residential Architecture in Maine: A Guide for Surveyors	Margaret Gaertner	<a href="http://www.maine.gov/mhpc/architectural_survey/docs/20100630FINALFINALlower-1.pdf">http://www.maine.gov/mhpc/architectural_survey/docs/20100630FINALFINALlower-1.pdf</a>	Style Guide	n.d.
Maryland				
Suburbanization Historic Context and Survey Methodology	Maryland State Highway Administration	<a href="http://www.roads.maryland.gov/Index.aspx?PageId=213">http://www.roads.maryland.gov/Index.aspx?PageId=213</a>	Historic context Survey methodology	n.d.
Montana				
Montana Post- World War II Architectural Survey & Inventory	Diana J. Painter	<a href="https://mhs.mt.gov/Portals/11/shpo/docs/Montana%20Mid-Century%20Survey%20Report.pdf">https://mhs.mt.gov/Portals/11/shpo/docs/Montana%20Mid-Century%20Survey%20Report.pdf</a>	Commercial historic context and survey	2010
New Hampshire				
Mid 20th Century Architecture in New Hampshire Context: 1945-1975	Lisa Mausolf	<a href="https://www.nh.gov/nhdhr/publications/documents/mid_20th_century_architecture_nh.pdf">https://www.nh.gov/nhdhr/publications/documents/mid_20th_century_architecture_nh.pdf</a>	Commercial Historic Context Style Guide	2012
New Mexico				
Twentieth Century Suburban Growth of Albuquerque	David Kammer	<a href="https://npgallery.nps.gov/GetAsset/08ced123-bfaa-4ecc-8f5d-67862b603c35">https://npgallery.nps.gov/GetAsset/08ced123-bfaa-4ecc-8f5d-67862b603c35</a>	National Register MPDF	2000
A Survey of Albuquerque's Mid-Century Modernist Architectural Resources	William A. Dodge	<a href="http://documents.cabq.gov/planning/historic-preservation/Albuq.%20Mid-century%20resource%20survey%202013.pdf">http://documents.cabq.gov/planning/historic-preservation/Albuq.%20Mid-century%20resource%20survey%202013.pdf</a>	Historic Context	2013
North Carolina				
Final Report: Post World War Two Survey (Charlotte, NC)	Sherry Joines Wyatt and Sarah Woodard	<a href="http://landmarkscommission.org/wp-content/uploads/2016/02/Post-World-War-II-Survey-Study.pdf">http://landmarkscommission.org/wp-content/uploads/2016/02/Post-World-War-II-Survey-Study.pdf</a>	Historic context and survey	n.d.
Fayetteville (NC) Modern Architecture Survey	MdM Historical Consultants, Inc.	<a href="http://trianglemodernisthouses.com/FINAL%20Fayetteville%20Modern%20Architectural%20Survey%20Report.pdf">http://trianglemodernisthouses.com/FINAL%20Fayetteville%20Modern%20Architectural%20Survey%20Report.pdf</a>	Report	August 2009
Post-World War II and Modern Architecture in Raleigh, North Carolina, 1945-1965	M. Ruth Little	<a href="http://www.ncmodernist.org/2018ModernRaleighSurveyCommercial.pdf">http://www.ncmodernist.org/2018ModernRaleighSurveyCommercial.pdf</a>	National Register MPDF for Commercial properties	2018

Ohio				
Ohio Modern: Preserving Our Recent Past Statewide Historic Context	Gray & Pape, Inc.	<a href="https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpsurvey/ohio-modern-preserving-our-recent-past/statewide-historic-context">https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpsurvey/ohio-modern-preserving-our-recent-past/statewide-historic-context</a>	Historic Context	2010
Dayton Area Survey Report	Steven Avdakov, Deborah Griffin, Kathy Mast Kane, and Nathalie Wright	<a href="https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpsurvey/ohio-modern-preserving-our-recent-past/dayton-area-survey-report">https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpsurvey/ohio-modern-preserving-our-recent-past/dayton-area-survey-report</a>	Survey	2010
Oklahoma				
Bruce Goff Designed Resources in OK MPS	Arn Henderson	<a href="https://npgallery.nps.gov/pdfhost/docs/nrhp/text/64500490.pdf">https://npgallery.nps.gov/pdfhost/docs/nrhp/text/64500490.pdf</a>	National Register MPDF	2000
The Historic Context for Modern Architecture in Oklahoma: Housing From 1946-1976	Lynda S. Ozan	<a href="http://www.okhistory.org/shpo/thematic/modernarchitecture.pdf">http://www.okhistory.org/shpo/thematic/modernarchitecture.pdf</a>	Historic Context	2014
Oregon				
Eugene (OR) Modernism 1935-65	Historic Preservation Northwest	<a href="https://www.eugene-or.gov/DocumentCenter/View/24803/Eugene-Modernism-1935-65">https://www.eugene-or.gov/DocumentCenter/View/24803/Eugene-Modernism-1935-65</a>	Historic Context, Style Guide (not just residential)	2003
Pennsylvania				
A Complicated Modernity: Philadelphia Architectural Design 1945-1980	Malcolm Clendenin	<a href="http://www.preservationalliance.com/wp-content/uploads/2014/09/HCSModernism.pdf">http://www.preservationalliance.com/wp-content/uploads/2014/09/HCSModernism.pdf</a>	Historic Context	2009
Pennsylvania's Historic Suburbs	Pennsylvania SHPO	<a href="http://www.phmc.state.pa.us/portal/communities/pa-suburbs/">http://www.phmc.state.pa.us/portal/communities/pa-suburbs/</a>	Website (links to contexts, guides and more)	2010
Researchers Guide for Developing a Context for Evaluating Post World War II Suburbs for National Register Eligibility	Pennsylvania SHPO	<a href="http://www.phmc.state.pa.us/portal/communities/pa-suburbs/research-tools/researchers-guide.html">http://www.phmc.state.pa.us/portal/communities/pa-suburbs/research-tools/researchers-guide.html</a>	Research Guide, NRHP Evaluation Guidance	n.d.
Suburbs Field Guide	Pennsylvania SHPO	<a href="http://www.phmc.state.pa.us/portal/communities/pa-suburbs/field-guide/index.html">http://www.phmc.state.pa.us/portal/communities/pa-suburbs/field-guide/index.html</a>	Style Guide	n.d.
South Carolina				
Guidelines for Surveying Post- World War II Neighborhoods and Ranch Houses (Appendix F in Survey Manual)	SC SHPO	<a href="https://scdah.sc.gov/sites/default/files/Documents/Historic%20Preservation%20(SHPO)/Survey/Survey%20Manual_Dec2018.pdf">https://scdah.sc.gov/sites/default/files/Documents/Historic%20Preservation%20(SHPO)/Survey/Survey%20Manual_Dec2018.pdf</a>	Survey Guidance	2018
Preservation Hotline #13; Researching a Mid-Century/Modern Property	SC SHPO	<a href="https://scdah.sc.gov/sites/default/files/Documents/Historic%20Preservation%20(SHPO)/Publications/SHPO%20Hotlines/13.pdf">https://scdah.sc.gov/sites/default/files/Documents/Historic%20Preservation%20(SHPO)/Publications/SHPO%20Hotlines/13.pdf</a>	Research Guide	n.d.
Guidebook on Mid-Century and Modern Architecture in South Carolina	Eric Emerson and Elizabeth M. Johnson (SC SHPO)	<a href="http://shpo.sc.gov/research/Documents/WhyThat.pdf">http://shpo.sc.gov/research/Documents/WhyThat.pdf</a>	Style Guide	n.d.

Tennessee				
POST WAR MODERN Minimal Traditional, Split Levels, & Ranch Homes: 1940-1960	Metropolitan Historical Commission [Nashville]	<a href="https://www.nashville.gov/Portals/0/Content/HistoricalCommission/docs/Publications/OHS-Post%20War%20Homes.pdf">https://www.nashville.gov/Portals/0/Content/HistoricalCommission/docs/Publications/OHS-Post%20War%20Homes.pdf</a>	Style and Rehabilitation Guide	N.D.
Texas				
Houston Modern website	Houston Mod	<a href="http://houstonmod.net/">http://houstonmod.net/</a>	Website	2019
Utah				
World War II/Post-War Building Styles	Utah SHPO	<a href="https://heritage.utah.gov/history/world-war-ii-post-war-building-styles">https://heritage.utah.gov/history/world-war-ii-post-war-building-styles</a>	Style Guide	2016
Vermont				
International Style in Vermont MPS	Unknown	Not yet digitized in National Register Information System Database	MPDF	2007
Virginia				
Holmes Run Acres Design Guidelines	Keith Gardiner, editor	<a href="https://www.holmesrunacres.com/uploads/3/0/5/5/30555577/hra_architectural_guidelines.pdf">https://www.holmesrunacres.com/uploads/3/0/5/5/30555577/hra_architectural_guidelines.pdf</a>	Booklet	n.d.
New Dominion Virginia Architectural Style Guide	Virginia SHPO	<a href="https://www.dhr.virginia.gov/NewDominion/NewDominionVAStyleGuide_MBversion.pdf">https://www.dhr.virginia.gov/NewDominion/NewDominionVAStyleGuide_MBversion.pdf</a>	Style Guide	2014
Washington				
Documentation and Conservation of the Modern Movement in Western Washington	DOCOMOMO- WEWA	<a href="http://www.docomomo-wewa.org/">http://www.docomomo-wewa.org/</a>	Website	2019
Washington SHPO Architectural Style Guide	WA SHPO	<a href="https://dahp.wa.gov/historic-preservation/historic-buildings/architectural-style-guide">https://dahp.wa.gov/historic-preservation/historic-buildings/architectural-style-guide</a>	Style Guide	2019
Mid-Twentieth Century Olympia: A Context Statement on Local History and Modern Architecture, 1945-1975	City of Olympia Heritage Commission	<a href="http://olympiawa.gov/~media/Files/CPD/Hist-Preservation/MACContextStatementAPRIL2008reformatted.ashx">http://olympiawa.gov/~media/Files/CPD/Hist-Preservation/MACContextStatementAPRIL2008reformatted.ashx</a>	Historic Context, Style Guide	2008

## **APPENDIX E: STATE OF PRACTICE MATRIX**



Agency	Have you used the model from the NCHRP Report 723?	What post-World War II housing resources is your organization most concerned with?				Has your organization developed any of the following for use in connection with post-World War II housing resources?						In the space below, tell us about any particular concerns/successes you have had regarding the identification/evaluation of post-World War II housing resources.		
		In-fill Housing	Suburban Developments	Rural Residences	Not Concerned	Other	Style Guides	Historic Context Statements	Survey Approaches and/or Methodologies	NRHP Evaluation Guidelines and/or Methodology	GIS Screening Tools	None of the Above	Other	
Alaska DOT	Yes	X										X		Mobile home parks, residential buildings, small businesses that don't fit into specific categories, e.g., block structures with jet age or Google add-ons, neo-mansard façades and upgrades, FHA minimums vs. minimal traditional. Municipality has recently put out neighborhood contexts and style guides in cooperation with SHPO that should help going forward.
Alaska SHPO	No		X				X		X					
Anonymous	Yes		X									X		
California DOT	Yes	X	X	X				X	X	X				Level of research and justification needed to demonstrate that resources are not associated with a tract development that may be eligible under Criterion A is often not sufficient.
Georgia SHPO	No		X	X			X	X						While most contexts identify post WWII housing in subdivision settings, it's the individual ones that concern us, do they rise to that level of significance to be eligible or no?
Hawaii SHPO	No	X	X	X				X	X		X			
Indiana SHPO	No		X					X		X			We hired a consultant and guided the development of the Residential Planning and Development in Indiana 1940-1973 MPDF available athttps://secure.in.gov/apps/dnr/shaard/r/c3e7d/N/IN_AllCounties_ResidentialPlanningandDevelopmentinIndiana 1940-1973.pdf	Too much emphasis is placed on stylish post-war housing and high-style residential developments; these are not difficult to assess. We've stressed looking at the average, middle-class housing instead. Evaluating these average subdivisions requires development of contexts and knowledge of the community's resources. We would be better served getting professionals to be familiar with communities and these more basic resources.
Kansas SHPO	No		X						X					
Kansas SHPO	No		X	X								X		
Maryland DOT	Other: Although we look at it and advise our consultants to incorporate the information, we already had a Historic Context and Methodology for Suburbanization that covers everything from the late 19th C through 1960. Our SHPO (Maryland Historical Trust) is satisfied with the methodology. We are extending the period of significance through 1975 as part of a new study for the Capital Beltway (I-95/I-495) in Montgomery and Prince George's Counties.	X	X	X		Federal Government buildings in the suburbs (we have agencies like the Social Security Administration and the Atomic Energy Commission Building as well as Army and Navy bases). Also religious buildings (Buddhist temples, mosques, the Mormon Temple)		X	X	X				We try to keep it simple! Twenty years ago, we came to an agreement with our SHPO that a suburban development would be treated as a single district and that we would identify the original models and take photos of those buildings along with a couple of street scenes to convey the development. We consider the “extras” such as recreational facilities (pools, tennis and basketball courts, playing fields and playgrounds), schools, churches and shopping centers if they are part of the planned development. Since we have notable Modern architects working in the Maryland suburbs, most of the listed and eligible subdivisions and buildings have been by architects such as Charles Goodman, Keyes, Lethbridge & Condon, and ambitious developers like Edmund Bennett and Carl Freedman, and the SHPO has been quite firm about that eligibility. As we go into the new post-1960 study one of the challenges for us will be evaluating African American suburban developments, which in the past have not made the eligibility cut. But as we have come to understand more about the impacts of segregation and the different programs from the 1960s our thinking has been changing (which is a good thing).

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Maryland SHPO	No	X	X	X				X	X	X			The Maryland Historical Trust/MD SHPO worked with the Maryland State Highway Administration (MDOT SHA) to develop Maryland's 'Suburbanization Historic Context and Survey Methodology' in 1999. This often utilized document includes a history of suburbanization in Maryland and tools for the survey and evaluation of suburban resources constructed between 1948 and 1960. A publicly accessible digital version of the report is hosted on MDOT SHA's website.	The Maryland Historical Trust is currently working with MDOT SHA to expand the existing suburbanization historic context to provide guidance for evaluating resources constructed between 1960 and 1978.
Massachusetts SHPO	No	X	X	X				X	X					
Michigan DOT	Utilize the general principles		X									X		
Mississippi SHPO	No		X	X								X		
Missouri DOT	No	X	X	X			X		X					The biggest issue with post-war housing is its ubiquity and determining what of it may be NRHP eligible without expending unnecessary effort in research.
Nebraska SHPO	No		X						X	X			We didn't develop it, but a consultant did in writing a HD nomination. We keep using it.	
Nevada DOT	No	X	X	X								X		Most of Nevada's housing resources are of this age. Due to its repetitive nature, I have concern about significant resources due to the sheer volume of sameness.
Nevada DOT	Yes		X					X	X	X				
Nevada SHPO	Yes	X	X	X					X					What appears to be the best strategy in survey of these resources, especially where neighborhoods are concerned, is to take a top-down approach that focuses on the history of the neighborhood as a whole, and whether it is eligible as a district. It seems best to assume that individual resources are not eligible, until further research suggests otherwise (i.e., association with a specific event or person, or perhaps a stand-out model of architecture). What is still elusive, is the best strategies to evaluate stand-alone post-war residential resources, such as a rural farmhouse that was added (or replaced an existing house) in the 1940s-1960s. While Criterion A provides an already functional framework, I'd certainly be curious about best practices to address rural post-war resources and their architectural significance.

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New Hampshire SHPO	No					Public Housing	X						Thus far, New Hampshire has viewed them similarly to other resource types, evaluating them using the same methodologies. We have generally been looking at one house, here and there, or a few developments. So far we have not encountered the volume of this property type as might be in other states, although we recognize the post-war development of the southern part of the state and our approach may change.	New Hampshire has been developing contexts for a variety of MCM property types, beginning with public and institutional buildings, and soon to include commercial strips, state parks, and housing. We are also starting to recognize areas of post-WWII urban renewal and public housing.
North Carolina SHPO	No	X	X	X				X	X					
North Dakota DOT	No		X									X		We consider post WWII housing on a case-by-case basis
North Dakota SHPO	Yes		X									X		
Ohio SHPO	No		X				X	X	X		X		conducting large-scale surveys in selected urban centers and surrounding suburbs	We have funded two large scale surveys for urban centers and surrounding suburbs (Dayton/selected suburbs, Cuyahoga County) the survey information (Ohio Historic Inventory forms and survey reports) have been widely used by local communities where surveys took place, SHPO staff, and others. We have created a statewide historic context for Ohio's recent past. We are routinely receiving National Register nominations for mid-century properties. Currently we are working on a project to prepare a National Register Multiple Property Documentation form for African-American 20th Century Civil Rights Movement which identifies post-WWII era properties.
Oklahoma DOT	No	X	X	X		Residential cellars/fallout shelters						X		The Oklahoma SHPO has developed a context for Modern Architecture in Oklahoma, focused on housing, see <a href="http://www.okhistory.org/shpo/thematic/modernarchitecture.pdf">http://www.okhistory.org/shpo/thematic/modernarchitecture.pdf</a>
Oklahoma SHPO	Yes		X				X	X						We have a state-wide context for modern architecture in Oklahoma from 1946-1976 as well as a reconnaissance level survey of modern housing in Payne County from 1946-1976. Both have been useful to federal agencies for 106 purposes as well as to local communities.
Pennsylvania DOT	No	X	X									X		Our State Historic Preservation Office has developed a "Researchers Guide" for Post World War II suburbs. It provides documentation standards, associated property types and subtypes (mostly commonly single-family dwelling subdivisions) and associated components (such as schools and shopping centers). It also provides some guidance as to the types of resources the SHPO would consider significant according to National Register Criteria and the types of resources that they would not consider significant. It provides guidance on integrity requirements as well. While a broadly written document it does contain guidance, which has helped our agency in evaluating common resource types. This document can be found here: <a href="http://www.phmc.state.pa.us/portal/communities/pa-suburbs/files/PWS_Researchers_Guide.pdf">http://www.phmc.state.pa.us/portal/communities/pa-suburbs/files/PWS_Researchers_Guide.pdf</a>

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Rhode Island DOT	No	X	X	X								X		
South Carolina SHPO	Yes		X	X					X				A brief publication for the general public on mid-century modern and recent past resources.	We developed survey guidance for evaluating post war residential resources, a brief picture guidebook for the general public and have addressed these resources in recent countywide and citywide surveys. Being able to identify which among the currently numerous examples are significant is still a challenge and requires more research into local contexts and developmental histories.
Tennessee SHPO	Yes		X	X		Post-WWII resources being considered important/NR eligible in earlier districts							working on this, use the NCHRP sometimes	ongoing, nothing especially successful or not-successful
Texas SHPO	No		X	X					X		X			The need to evaluate post-war housing in Houston before and during FEMA-sponsored disaster recovery.
Utah DOT	No	X	X									X		The majority of the resources are considered eligible based on integrity, and therefore many very similar properties are documented and evaluated as eligible for the NRHP. We are looking for ways to simplify documentation and have better guidance to identify truly unique elements that warrant further investigation.
Utah SHPO	No	X	X	X			X	X	X	X				Our survey of post-WWII resources is driven mostly by Section 106 highway projects and community wide RLS projects. We've also had a couple of communities nominate Post-War neighborhoods to the NRHP.
Vermont SHPO	No	X	X	X								X		Guidance on how to evaluate the "one-offs" - houses that are in rural areas, on their own, but are good examples of a particular post-WWII style/form. This also applies to random post-WWII houses built as in-fill in 19th century neighborhoods.
Washington DOT	No		X	X								X		We need to develop a policy or follow national guidelines-- this is starting to become an issue for us, and we are wasting taxpayer money and our time documenting houses that should not be eligible for the NRHP.
West Virginia SHPO	No	X	X	X		Industrial complexes that would have been the impetus for construction of post-War housing.						X		Our main concern is how to strategically manage the identification of post-World War II resources in the state.
Wisconsin DOT	Yes				X							X		
Wyoming DOT	No	X										X		
Wyoming SHPO	No	X		X								X		