DESIGN MORPHOLOGY IN PUBLIC HOUSING
THE INTERSECTION OF DESIGN AND POLICY

A Thesis in
Architecture
by
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ABSTRACT

The latent success or failure of a public housing project may be the product of dozens of factors. With myriad socio-economic forces at play, the role of design is often marginalized. However, when looking back at the history of public housing it is clear that architecture and planning have had a strong influence on the outcomes of public housing. “To suggest, as some have, that ‘in reality, the architect faces only marginal aesthetic choices’ is to be lacking in the most fundamental knowledge of available choices” (Newman, 1975). Isolation and social stigmatization are significant factors that contribute to the failure of metropolitan housing projects. As public opinion towards residents and social programs shift, isolating design features of projects become physical manifestations of stigmatization, leaving socio-economic and cultural scars not only on the residents of projects, but of entire neighborhoods and cities. How does the spatial design of housing projects ameliorate or exacerbate the social stigma and physical isolation endemic to urban poverty in America? This paper analyzes the connections between public housing design standards, housing policy, and architectural ideologies that contributed to the predominant design typologies found in public housing. In order to determine how the design of past housing projects has contributed to success or failure, case studies are analyzed by using past literature to create a framework of factors essential to successful urban and housing design. This framework consists of four main physical characteristics of successful urban design: urban density, security, legibility, and diversity. Applied to multiple case studies, this framework allows for comparison across different iterations of public housing design. The goal of this research is to explore correlations between public housing design and socio-cultural and economic outcomes, examining the intrinsic value in design and policy choices made for public housing.
# TABLE OF CONTENTS

List of Figures ........................................................................................................................ v
List of Tables ........................................................................................................................ vi
Acknowledgements .............................................................................................................. vii

CHAPTER 1 Introduction ................................................................................................... 1
  1.1 The Right to Housing .............................................................................................. 2
  1.2 Defining Affordability .............................................................................................. 3
  1.3 A Need for Subsidized Housing in American Cities ................................................ 5
  1.4 Research Statement & Purpose ............................................................................. 6

CHAPTER 2 Literature Review ........................................................................................... 7
  2.1 Design and Policy Relationships ............................................................................. 7
  2.2 Stigmatization of Public Housing ............................................................................ 9
  2.3 Public Housing Stigma: Is Design a Cause or Symptom? ....................................... 12
    2.3.1 Socioeconomic Outcomes as Result of Architecture .................................... 13

CHAPTER 3 Creating a Framework .................................................................................... 15
  3.1 Framework for Defining Successful Urban Design ................................................. 15
    3.1.1 Urban Density ............................................................................................... 15
    3.1.2 Security through Architecture ...................................................................... 15
    3.1.3 Urban Legibility ............................................................................................ 16
    3.1.4 Diversity ........................................................................................................ 17
  3.2 Data Organization ................................................................................................... 19
    3.2.1 Density .......................................................................................................... 19
    3.2.2 Security through Architecture ...................................................................... 19
    3.2.3 Urban Legibility ............................................................................................ 20
    3.2.4 Diversity ........................................................................................................ 21
    3.2.5 Data Analysis ................................................................................................ 21

CHAPTER 4 Policy and Case Studies ................................................................................. 22
  4.1 Case Studies ............................................................................................................ 22
  4.2 Communitarian Housing and Progressive Ideals ................................................... 26
    4.2.1 Williamsburg Houses .................................................................................... 31
    4.2.2 Lennox Street ................................................................................................ 36
    4.2.3 Richard Allen Homes .................................................................................... 41
  4.3 Urban Crisis and Concentrated Poverty ................................................................. 46
LIST OF FIGURES

Figure 1-1. Advertisement by Natl. Assoc. of Real Estate Brokers ........................................... 3
Figure 1-2. Federal Expenditures for Rental and Homeowner Assistance Programs ............... 3
Figure 1-3. Shelter poor households compared to housing costs as an income-percentage ... 4
Figure 2-1. Stage 1, Walk-ups ...................................................................................................... 8
Figure 2-2. Stage 2, High-rise ...................................................................................................... 8
Figure 2-3. Stage 3, Rowhomes ................................................................................................... 8
Figure 2-4. Poverty by County Population .................................................................................. 10
Figure 2-5. Aerial of Pruitt Igoe ................................................................................................. 13
Figure 3-1. Case Study Density Graphics ................................................................................... 19
Figure 3-2. Case Study Public/Private Graphics ........................................................................ 20
Figure 3-3. Case Study Legibility Graphics ................................................................................ 20
Figure 3-4. Diversity Graphics ................................................................................................... 21
Figure 3-5. Case Study Data Analysis Graphics ........................................................................ 21
Figure 4-1. Timeline of Public Housing Ideologies and Relevant Policy Initiatives .................. 24
Figure 4-2. Social and Cultural Influences on Architectural Ideologies .................................. 25
Figure 4-3. Timeline ................................................................................................................... 26
Figure 4-4. PWA Design Guide .................................................................................................. 28
Figure 4-5. Williamsburg Houses ............................................................................................... 31
Figure 4-6. Mural from Williamsburg Common Room ............................................................. 31
Figure 4-7. Williamsburg Houses Urban Plans .......................................................................... 32
Figure 4-8. Williamsburg Density Calculations .......................................................................... 33
Figure 4-9. Williamsburg 3D Site ............................................................................................... 33
Figure 4-10. Williamsburg Private/Public Calculations ............................................................. 34
Figure 4-11. Typical Williamsburg Building with Entries ........................................................... 34
Figure 4-12. Williamsburg Legibility Calculations .................................................................... 34
Figure 4-13. Street Morphology ................................................................................................ 35
Figure 4-14. Street Sections ...................................................................................................... 35
Figure 4-15. Racial Make-up by Percentage (1940's) ............................................................... 35
Figure 4-16. Lenox Street .......................................................................................................... 36
Figure 4-17. Lenox Street Site, Before and After ........................................................................ 36
Figure 4-18. Lenox Street Urban Plans ...................................................................................... 37
Figure 4-19. Lenox St. Density Calculations .............................................................................. 38
Figure 4-20. Lenox St. 3D Site ................................................................................................... 38
Figure 4-21. Lenox St. Private/Public Calculations ................................................................... 39
Figure 4-22. Typical Lenox St. Building with Entries ................................................................. 39
Figure 4-23. Lenox St. Legibility Calculations .......................................................................... 39
Figure 4-24. Street Morphology ................................................................................................ 40
Figure 4-25. Street Sections ...................................................................................................... 40
Figure 4-26. Racial Make-up by Percentage (1940's) ............................................................... 40
Figure 4-27. Richard Allen Homes, 1951 .................................................................................. 41
Figure 4-28. Artist’s Sketch ....................................................................................................... 41
Figure 4-29. Richard Allen Community Center ....................................................................... 41
Figure 4-30. Richard Allen Homes Urban Plans ................................................................. 42
Figure 4-31. Richard Allen Density Calculations ............................................................... 43
Figure 4-32. Richard Allen 3D Site .................................................................................... 43
Figure 4-33. Richard Allen Private/Public Calculations .................................................... 44
Figure 4-34. Typical Richard Allen Building with Entries ................................................ 44
Figure 4-35. Richard Allen Legibility Calculations ............................................................ 44
Figure 4-36. Street Morphology ......................................................................................... 45
Figure 4-37. Street Sections ............................................................................................... 45
Figure 4-38. Racial Make-up by Percentage (1940’s) ........................................................ 45
Figure 4-39. Timeline ....................................................................................................... 46
Figure 4-40. Plan Voisin .................................................................................................... 47
Figure 4-41. Clean Up Day at Henry Horner, 1970 ............................................................ 48
Figure 4-42. Inside Cabrini Green ...................................................................................... 48
Figure 4-43. Times “Notorious Housing Projects” Mentioned in Major Newspapers ....... 48
Figure 4-44. Henry Horner, Soon After Construction ....................................................... 49
Figure 4-45. 1952 Drawing of Henry Horner Homes Site ................................................ 49
Figure 4-46. Henry Horner Homes 1957 ........................................................................... 49
Figure 4-47. Henry Horner Homes Urban Plans ............................................................... 50
Figure 4-48. Henry Horner Density Calculations ............................................................... 51
Figure 4-49. Henry Horner 3D Site .................................................................................... 51
Figure 4-50. Henry Horner Private/Public Calculations .................................................... 52
Figure 4-51. Typical Henry Horner Building with Entries ............................................... 52
Figure 4-52. Henry Horner Legibility Calculations ............................................................ 53
Figure 4-53. Street Morphology ....................................................................................... 53
Figure 4-54. Street Section ............................................................................................... 53
Figure 4-55. Racial Make-up by Percentage (1960’s) ........................................................ 54
Figure 4-56. Lexington Terrace High-Rise Building ......................................................... 55
Figure 4-57. Artist’s Sketch of Lexington Terrace and Proposed Expressways ............... 55
Figure 4-58. Lexington Terrace Urban Plans .................................................................... 56
Figure 4-59. Lexington Terrace Density Calculations ....................................................... 57
Figure 4-60. Lexington Terrace 3D Site ......................................................................... 57
Figure 4-61. Lexington Terrace Private/Public Calculations .......................................... 58
Figure 4-62. Typical Lexington Terrace Building with Entry ........................................ 58
Figure 4-63. Lexington Terrace Legibility Calculations ..................................................... 59
Figure 4-64. Street Morphology ....................................................................................... 59
Figure 4-65. Street Sections ............................................................................................. 59
Figure 4-66. Racial Make-up by Percentage (1960’s) ........................................................ 60
Figure 4-67. MLK Plaza ...................................................................................................... 61
Figure 4-68. Hawthorne Square Housing Project 1972 .................................................... 61
Figure 4-69. MLK Plaza Urban Plans .............................................................................. 62
Figure 4-70. MLK Plaza 3D Site ....................................................................................... 63
Figure 4-71. MLK Plaza Density Calculations ................................................................. 63
Figure 4-72. MLK Plaza Private/Public Calculations ....................................................... 64
Figure 4-73. Typical MLK Plaza Building with Entries ..................................................... 64
Figure 4-74. MLK Plaza Legibility Calculations ................................................................. 65
Figure 4-75. Street Morphology ......................................................................................... 65
Figure 4-76. Street Section ................................................................................................. 65
Figure 4-77. Racial Make-up by Percentage (1960’s) ......................................................... 66
Figure 4-78. Timeline ......................................................................................................... 67
Figure 4-79. Public Housing Tenants' Income as a ............................................................. 67
Figure 4-80. Timeline ......................................................................................................... 68
Figure 4-81. New Urbanist Infill ....................................................................................... 69
Figure 4-82. West Haven Apartments .............................................................................. 71
Figure 4-83. Architect's Drawings ................................................................................... 71
Figure 4-84. West Haven Urban Plans .............................................................................. 72
Figure 4-85. West Haven Density Calculations ................................................................. 73
Figure 4-86. West Haven 3D Site ..................................................................................... 73
Figure 4-87. West Haven Private/Public Calculations ...................................................... 74
Figure 4-88. Typical West Haven Building with Entries .................................................. 74
Figure 4-89. West Haven Legibility Calculations ............................................................. 75
Figure 4-90. Street Sections ............................................................................................... 75
Figure 4-91. Street Morphology ....................................................................................... 75
Figure 4-92. Income Mix ................................................................................................. 76
Figure 4-93. Racial Make-up by Percentage (2010) .......................................................... 76
Figure 4-94. Townes at the Terrace ................................................................................. 77
Figure 4-95. Townes at the Terrace Alleys ..................................................................... 77
Figure 4-96. Townes at the Terrace Urban Plans ............................................................. 78
Figure 4-97. Townes at the Terrace Density Calculations ................................................ 79
Figure 4-98. Townes at the Terrace 3D Site .................................................................... 79
Figure 4-99. Townes at the Terrace Private/Public Calculations ..................................... 80
Figure 4-100. Typical Townes at the Terrace Rowhomes with Entries ............................ 80
Figure 4-101. Townes at the Terrace Legibility Calculations ........................................... 81
Figure 4-102. Street Morphology ..................................................................................... 81
Figure 4-103. Street Sections ........................................................................................... 81
Figure 4-104. Income Mix ............................................................................................... 82
Figure 4-105. Racial Make-up by Percentage (2010) ........................................................ 82
Figure 4-106. Richard Allen Homes II ............................................................................ 83
Figure 4-107. HOPE VI Duplex (left) Compared to Typical Area Urban Fabric (right) .... 83
Figure 4-108. Richard Allen Homes II Urban Plans ......................................................... 84
Figure 4-109. Richard Allen II Density Calculations ......................................................... 85
Figure 4-110. Richard Allen 3D Site .............................................................................. 85
Figure 4-111. Richard Allen II Public/Private Calculations ............................................ 86
Figure 4-112. Typical Richard Allen Duplex with Entries ................................................. 86
Figure 4-113. Richard Allen II Legibility Calculations ..................................................... 87
Figure 4-114. Street Morphology ..................................................................................... 87
Figure 4-115. Street Sections ........................................................................................... 87
Figure 4-116. Racial Make-up by Percentage (2010) ........................................................ 88
Figure 4-117. Timeline .................................................................................................... 89
LIST OF TABLES

Table 3-1. Evaluation Framework .............................................................................................18
Table 4-1. Case Study City Selection ........................................................................................22
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If doctors have, as their fundamental task, the provision of health, and lawyers, the provision of justice, architects and urban designers surely have as our essential duty the provision of shelter, of a home for every person.

Thomas Fisher

I want to understand mistakes in the past, but also to take heart from a legacy of ingenuity and innovations that sought to improve America’s housing.

Gwendolyn Wright
CHAPTER 1
Introduction

Although the stock of publicly owned affordable housing in America is diminishing and deteriorating due to increasing inequality, the demand for affordable housing is currently at its peak, creating a major shortage. “For every 100 extremely low income (ELI) renter households, there are just 31 affordable and available units” (PAHRC 2014). Housing is essential to quality of life, affecting health, security, and education. Low and extremely low income families face substandard, overcrowded, and unsanitary living conditions, and have no security, moving twice as often as families with higher incomes (PAHRC 2014) living in a “permanent temporariness” (Aalbers 2014, 211). This research begins with the belief that architects can make a significant contribution “toward ensuring that funds provided for the housing needs of society be spent so as to have maximum impact” (Newman 1975, 54).

Throughout the history of public housing design there is a cyclical practice among planners, architects and policy makers “of adopting a very few models and applying them to every context and circumstance, only to later reject them as fully as they were once embraced” (Franck and Mostoller 1995, 216). These radical changes in design ideology led to many project demolitions and rebuilds, resulting in multiple housing projects located on “twice-cleared” lots (Ryan 2013; Vale 2013), that is, lots that have been cleared of their original urban fabric for a public housing development, which has since been demolished and redeveloped. Catherine Bauer did not view the changing and experimental design practices as a mistake, but “the mistake, again, was to jell both policy and practice in rigid formulas that prevented further experimentation to adapt and humanize these principles in suitable terms for the American scene” (1957, 487).

At its inception U.S. housing policy was meant to raise those lucky enough to live in public housing out of the slums and tenements, and set them on a path of upward-mobility. Through the years this lofty goal has failed spectacularly, and public housing residents are instead likely to be trapped in their current downward economic and social spiral. This is intensified by the physical isolation constructed by many projects, and the social stigma of living in poverty that is materially manifested by housing projects. Previous iterations of public housing has thus far only exacerbated this spatial inequality, aiding in the divisive nature of urban renewal by either concentrating or displacing the poorest and most vulnerable residents. To date, the troubled tale of public housing in many cities has followed a recurrent practice of displacement and neighborhood renewal, all too often directed at “purging the poorest” (Vale 2013). In order to move forward, designers’ goals should be to join with low-income residents to challenge conventional perceptions and work towards more equitable solutions (Vale 2011).
1.1 The Right to Housing

‘Nobody starves’ in this country any more, but, like every social statistic, this is a tricky business. Nobody starves, but who can measure the starvation, not to be calculated by daily intake of proteins and calories, that reduces life for many of our poor to a long vestibule to death? Nobody starves, but every fourth citizen rubs along on a standard of living that is below... the minimal levels of health, housing, food, and education that our present stage of scientific knowledge specifics as necessary for life as it is now lived in the United States. Nobody starves, but a fourth of us are excluded from the common social existence (Macdonald 1963).

Macdonald penned this essay on American poverty over fifty years ago, yet his point remains remarkably salient today. Even though the official poverty rates have drastically dropped since its publication in 1963 (census.gov), these rates depend on fixed statistics that only measure absolute poverty, and do not account for the fact that the continuous increase in America’s “stage of scientific knowledge” makes it impossible for millions of Americans to fully participate in society. “The reality of poverty in America is about not having enough to participate fully in society, about families and their children not being able to live decent lives alongside neighbors and friends” (Deaton 2014, 184). Many economists and sociologists view poverty and need not by absolute comparisons, but by measuring the relative deprivation certain Americans face within their immediate communities. Social programs such as food stamps, welfare, and Medicaid attempt to provide American citizens with a minimum standard of living, and public schools provide free education; but in the United States housing is more likely to be treated as a commodity, something that is earned through merit, not a universal right for all citizens.

In 1948 the United States lead in the creation of the Universal Declaration of Human Rights, “which provides, among other things, that ‘everyone has the right to an adequate standard of living... including the right to housing.’ However, the following year, the 1949 federal Housing Act stated a goal of ‘a decent home and suitable living arrangement for every American family,’ but that goal was never enshrined as a right for every American” (Tars 2011, 6). In 1977 the U.S. renewed dedication to this right, by signing the International Covenant on Economic, Social and Cultural Rights, which states that “[t]he States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right” (Tars 2011, 16). Through these declarations and covenants we see that America is truly invested in providing housing to all U.S. citizens as part of a minimum standard of living, yet for some reason this has never translated into an enforceable right.

Unfortunately the American ethos of individuality and free market capitalism are impediments to the goal of readily available affordable housing. Throughout American history owning a home is seen as the height of morality, and those not able to procure decent housing for
themselves and their families are looked down upon and viewed as lesser citizens (Figure 1-1). “Housing, under the logic of privatization, is afforded to those low-income individuals who, through their own enterprise, demonstrate a willingness to enter into the workforce under conditions not of their own making. In other words, a right to housing, like citizenship, becomes conditional on social and economic ‘conduct’” (Fraser, Oakley, and Bazuin 2012, 398). This logic overlooks that fact that it is not only, or even mainly, low income families that receive housing subsidies (Sard 2012). Most Americans receive some forms of government subsidy or assistance through tax expenditures, and in the case of housing, more of this assistance actually benefits the top income brackets rather than those who cannot afford to house themselves. Figure 1-2 shows that through homeowner assistance, over half of federal spending on housing goes to households with incomes over 100,000 a year. Although “direct” subsidies are focused towards public housing needs, “indirect” subsidies, or “tax expenditures for housing, particularly those benefiting higher-income groups, far outweigh direct expenditures for housing” (Dreier 2006, 113).

1.2 Defining Affordability

HUD defines “affordable” housing as a maximum of 30 percent of a family’s income. Naming a standard figure such as this is problematic for multiple reasons. First, the percentage of
income a family can afford to dedicate to housing costs varies depending on the income. Families in the top income brackets can afford to spend more than 30 percent of their income on housing, while low-income families may not be able to afford 30 percent, or even 20 percent of their incomes on housing and still be able to afford other necessities, such as transportation, food and healthcare. These families have to make extremely difficult choices, as documented in the article, “A Growing Choice: Housing or Food” (DeParle 1991). Using this percentage as a measure also brings to light that for wealthy families, the cost of most housing does not exceed 30 percent of their income, and in terms of “affordability” there are myriad choices. Low-income families do not enjoy these choices, and housing that falls into their range of “affordability” (however realistic the measure) is often low in stock and difficult to find. Along with this their choices are more likely to be substandard, and prove a detrimental to the overall health of their family. “Housing affordability looms so large in the lives of low-income Americans that analysts have devised a term to describe the condition of people whose housing costs leave them unable to afford other necessities: shelter poverty” (DeParle 1991).

Michael Stone defines a shelter poor household as one that “cannot meet its non-housing needs at some minimum level of adequacy after paying for housing” (Stone 2006, 44). This renders the income-percentage model of affordability inaccurate, since not all shelter-poor households pay more than 30 percent of their income for housing, and not all households paying over 30 percent of their incomes for housing are shelter poor (Figure 1-3). Due to this discrepancy as well as the numerous variables affecting cost of living such as location, household size, and subjective definitions of minimum standards, affordability is extremely hard to define. The ambiguous nature of affordable housing contributes to the overall ambivalence towards poverty in America, despite the fact that according to Stone, one-third of the nation faces some mount of shelter-poverty, creating a 170 billion dollar affordability gap (2006, 57). However Stone cautions the answer to this is not pouring money into the private housing market, “rather than idealizing the market and providing endless subsidies and bailouts to private capital, public policy must transcend the limits of the market and serve truly social purposes” (Stone 2006, 58).

Figure 1-3. Shelter poor households compared to housing costs as an income-percentage
(source: data from Stone 2006)
1.3 A Need for Subsidized Housing in American Cities

One main argument against the government providing housing for low-income individuals is that if left alone, a free market will provide housing for every income level. However, housing is different from other consumer products in that there is a relative inelasticity in the market. “Because providing housing is only profit-able to developers at certain expected sale or rental prices, the development of low-priced housing will not occur even if there is consumer demand for it” (Quercia 1997, 8). Low income housing is simply not built in the private market because there is no money in it. Housing below certain sale or rental prices is not built because it is a product with a fixed cost, which can only be minimized to a certain level. “In addition, costs incurred due to administrative rules and requirements may make it less profitable to build lower-priced housing, especially in large cities” (Quercia 1997, 41). This can be seen in the eternal and debilitating shortage of affordable housing available to the lowest socio-economic groups in America. The dilemma of the provision of low-cost housing in America has a simple solution; affordable housing must be provided outside of the free-market.

Opponents of government subsidized affordable housing claim that a trickle-down process called “filtering” will make housing available to all income groups (Christians 1999). This theory states that as homes age and the desirability of living in certain areas shift, housing is constantly becoming available to lower income groups, through depreciation of home values. In reality, many researchers have found this process to be a failure, due to, among many factors, abandonment, gentrification, and demolition or deterioration of housing before it filters to lower income groups. In cases when aging homes do filter down to lower-income groups, the outdated systems and deteriorating materials usually mean higher than average utility bills and maintenance costs, adding to the struggle of low-income residents. Critics of this theory were prevalent throughout the 20th century, with Catherine Bauer railing against it in 1957, asking:

[H]ow can filtration possibly be expected to solve the slum problem, now or in a thousand years! Even a slight stepping-up of the process, if it is not merely to produce a lot of new slums by stuffing several families into a dwelling intended for one, would mean a rate of devaluing decent older property that would disrupt the real estate market more than any amount of public housing. FHA financing, also, is geared to steady or rising values for the life of the house, not a reduction in monthly payments that would permit it to ‘filter down’ (1957, 485).

In fact, recent evidence from HUD shows that housing units in cities are “as likely to filter up as they are to filter down over time” (Quercia 1997, 41). John Bauman summarizes the issue, “In a capitalist economy the private sector has not and will not build decent housing for low-income families. It is a premise articulated fifty years ago by Catherine Bauer and Edith Elmer Wood, and one that I share” (1994, 358).

This introduction is meant to illustrate the importance of fair and affordable housing, and the social and cultural weight placed on procuring decent housing. America is currently facing a
massive affordability gap that will not, now or in the future, be solved by the free market. Housing filtration rarely works as promised, and when it does, provides only substandard housing, further burdening low-income families. It seems evident that affordable housing must be produced off of the free market. Unfortunately due to past mistakes made in the implementation of federally funded housing, the government is unwilling to fully commit and participate in the provision of affordable housing. This deadlock necessitates research in order to comprehensively examine mistakes made in past housing policy in order to avoid repeating them, while also learning from past achievements and successful collaborations.

1.4 Research Statement & Purpose

Isolation and social stigmatization are significant factors that contribute to the failure of metropolitan housing projects. As public opinion towards residents and social programs shift, isolating design features of projects become physical manifestations of stigmatization, leaving socio-economic and cultural scars not only on the residents of projects, but of entire neighborhoods and cities. How does the design of housing projects ameliorate or exacerbate the social stigma and physical isolation endemic to urban poverty in America? This question is researched by the analysis of urban design characteristics of public housing projects, the architectural ideologies that steer this design, and the legislation that produce and fund housing projects. A framework of quantifiable urban design decisions is created and applied to multiple case studies from each iteration of public housing design.

In this research, the connections between housing policy and the architectural ideologies that contribute to the predominant design typologies found in public housing are explored. The goal of this research is to discover correlations between public housing design and socio-cultural and economic outcomes, examining the intrinsic value in design and policy choices made for public housing. This research will be relevant to architects, urban designers and planners, policy-makers, developers, and community development corporations (CDCs). Research on this topic is currently a necessity, as public housing enters a new phase of design ideology and implementation, federal funding is drastically cut, and economic and racial segregation are increasingly dividing cities both spatially and culturally.
CHAPTER 2
Literature Review

2.1 Design and Policy Relationships

There were, extending over a period of many years, quite clear ideas and design directives that made good sense to architects and planners at that time... We may still see the earlier choices as mistakes, but we should also see that they did not occur by mistake. Today, similarly clear ideas and directives frame our evaluation of the past and shape present design choices. Both past and present values deserve our attention and reflection (Franck and Mostoller 1995, 188).

Originally, public housing was not meant for the poorest citizens in America, but the blue collar poor, the working class temporarily unemployed by the Great Depression (Vale 2013; Marcuse 1993; Newman 1996). In line with the inherent expectation of upward mobility bestowed by the “American Dream”, public housing was seen as transitory, not permanent. The Housing Act of 1937, the first of its kind, aimed to “alleviate... unemployment and to remedy the unsafe and insanitary housing conditions and the acute shortage of decent, safe and sanitary dwellings for families of low income” (United States 1937). While this act allowed for slum clearance, it was not the main goal, and there was a provision that any slums cleared would be replaced with low-rent housing.

Many researchers (Marcuse 1995; Vale 2002; Franck and Mostoller 1995; Ryan 2003; Stoloff 2004; Stone 2006) recognize distinctive stages of public housing design and eras of reform. The first stage (~1930-40s) is represented by semi-enclosed courts and walk-up buildings (Franck and Mostoller 1995). At this stage, planners attempted to follow the ideology of the “Garden City”, first created as European social housing projects (Bauman 1994). Catherine Bauer, a “houser” of this time was one proponent of this typology, believing that it solved “fundamental deficiencies in light, sun, [and] ventilation” (Bauer 1934, 149), as well as creating community self-sufficiency (Figure 2-1).

By the second stage (~1950-1970s), Modern Architecture was reaching its zenith, and larger projects with expanses of open spaces were seen as favorable (Franck and Mostoller 1995). Many planners felt high-rises could provide a unique living environment that would contrast favorably with surrounding slums (National Housing Agency 1946). While high-rise buildings were desirable for their space efficiency, they were not necessarily the cheapest forms of housing development (Stoloff 2004) (Figure 2-2).
Stage three (~1990’s - 2005) is typified by private yards and enclosed row homes, low rise buildings and walk-ups. By this time projects built in the previous stages were failing, resulting in their demolition. For this reason most projects built in this stage of public housing are either renovations or rebuilds of housing built in previous eras. These projects (frequently funded by HOPE VI) are meant to reintegrate the project into the urban fabric, often adhering to New Urbanist ideals (Figure 2-3).

The first two stages valued light and openness as paramount and intrinsically good. In the service of creating more openness, through streets were abandoned, creating superblocks which had previously been multiple city blocks. To form as much open public space as possible, building orientation did not adhere to existing urban fabric. Instead, these projects turned their backs to the streets and cities, creating private enclaves. Unfortunately isolation was a poor choice, seeing as the projects were far from self-sufficient and contained no necessary amenities (Franck and Mostoller 1995). “Size, absence of through streets, (and) a distinctively different design of outdoor space were all to ensure separation, and a kind of immunity to the surrounding areas, but no function provisions were made to support a community... instead of protecting residents from the “slum” conditions of adjacent neighborhoods, large superblocks are seen to have exacerbated those very conditions” (Franck and Mostoller 1995, 212).

By 1949 a new Housing Act was legislated, this time focusing on urban
renewal and slum clearance rather than creating housing for workers. Title I of this act allowed for large-scale slum clearance with no provision for cleared housing to be replaced with low and moderate income housing (Stoloff 2004; Teaford 2000). “Moreover, the 1954, 1959, and 1961 housing acts permitted an ever-increasing amount of urban renewal money to be spent for commercial projects” (Teaford 2004, 445). While many of these efforts had seemingly positive urban renewal effects, “soon the comfortable and well-to-do were supplanting the neighborhood’s less affluent residents” (Teaford 2000, 452). Jane Jacobs was a fervent detractor of government generated urban renewal efforts, believing that those displaced by the regeneration were “helpless site victims” (Jacobs 1961) of the public tax subsidies, instead of beneficiaries (Jacobs 1961, 5). Many academics agree with this perspective, and “view such policies as merely an excuse for a land grab by urban elites... the opinion that the demolition of public housing and dispersal of low income people was merely a pretext for gentrification” (Crump 2002, 586).

Urban renewal also served to propagate the segregation that was becoming more and more endemic to inter-cities. “The racial dimension of public housing has been central to the program’s history. Projects were systematically placed in racially segregated neighborhoods, and in many cities public housing became dominated by African-American families as whites moved out.”(Goetz 2011, 275). Instead of addressing the problem of hyper-segregation, policymakers designated this “concentrated poverty”, “which provides a basis for demolition ostensibly intended to facilitate the deconcentration of poverty” (Crump 2002, 584). This demolition of public housing would accomplish two goals of many city planners; erasing the “highly stigmatized structures” and opening up land that could be redeveloped in an attempt to “bring the middle and upper classes back to the inner city” (Crump 2002, 582).

Hope VI was enacted by Congress in 1992, and aimed to redevelop severely distressed housing projects. The demolition and redesign of projects “relies on the design principles and theoretical orientations of New Urbanism, which assumes that particular aspects of the built environment can support social objectives associated with diversity and community” (Chaskin and Mark 2015, 2). This ideology has varied reactions, with “many architects castigat(ing) New Urbanism’s suburban mythology as excessively nostalgic, insisting on the need for shared public spaces and higher densities in cities” (Wright, 2014). The rebuilt communities are often mixed-income, in order to “deconcentrate poverty” and many ELI residents are displaced. “Federally sponsored deconcentration attempts to disperse poverty...through the demolition of public housing” (Crump 2002, 586). This demolition and disinvestment in public housing frame the structures themselves as the problem, and their dismantling as the answer, which often results in gentrification and less opportunity to house the most disadvantaged.

2.2 Stigmatization of Public Housing

In the mid-20th century, many large cities experienced a sharp decline due to de-industrialization. A mass exodus of the wealthy and middle class left only the poorest, residents, working mainly in service occupations, in the city. For this reason the housing
affordability problem in America has remained fairly well-hidden; while the poor remain trapped in declining cities, wealthy citizens decamp to suburbs where they can take refuge in gated communities and secluded neighborhoods. Economic segregation has only grown since then (Florida and Mellander 2015), with wealthy residents isolating themselves in order to preserve access to the best communal resources while excluding those who cannot afford the proximity. Most well-off Americans avoid areas of concentrated poverty, and therefore avoid understanding how “the other-half live”. This avoidance breeds ambivalence towards the true state of those in poverty. Ultimately, public housing devolved into a refuge or receptacle for the poor, mostly black families uprooted by renewal activity. “Harnessed to renewal, public housing in Chicago, Philadelphia and elsewhere increasingly occupied either slum or equally remote and undesirable peripheral sites” (Bauman 1994, 352). This isolation and inequality must be mitigated in order for the city to flourish, or the sharp spatial division of wealth and poverty will continue to erode the cultural and historical values of neighborhoods.

Although rural and suburban poverty are major problems, the largest growing population of those living in poverty is located in central cities, along with the greatest amount of public housing (Figure 2-4). To intensify this growing poverty, the urban poor face extreme levels of poverty concentration and segregation not found in suburbs or rural areas. These challenges can be directly traced back to failed American policies and housing initiatives (Fraser 2012; Crump 2002). Originally the government was pressured to build housing projects in cities, due to the ‘one-for-one’ unit replacement stipulation that went hand in hand with slum clearance (Fraser 2012). Real estate board lobbied hard so that housing projects would remain in depressed urban ‘slum’ areas, so that no building took place on open or desirable land they may want to develop in the future (Bauman 1994; Hoffman 2000). As a result, large numbers of housing projects were built in urban areas that now, due to the growth of cities, lie in downtown areas, facing gentrification pressure and a large disparity between housing project residents and surrounding neighborhoods. This pressure on urban public housing led to a large scale demolition of public housing stock, creating a massive need for successful urban affordable housing.

Since the massive urban (white) flight due to suburbanization, deindustrialization, and Civil Rights, the fairly recent “back to the city” movement has slowly replaced wealthy and young professional urban dwellers. However the middle class is hollowed out, leading to increasing marginalization and segregation of the poor. Gentrification and urban renewal seemingly

![Figure 2-4. Poverty by County Population](source: data from Krogstad 2015)
improve the quality of cities, yet do not improve the plight of those displaced and outpriced by neighborhood improvement (Teaford 2000). These residents are often forced into even worse housing and further concentrate poverty in already distressed areas. Urban public housing, located in once undesirable areas now facing gentrification, become suddenly visible as the surroundings improve. This increased visibility forces non-poor residents to recognize the poverty in their midst, and demand a solution. This solution often comes in the form of rehabilitation into mixed-income housing (which displaces most previous residents), or rehabilitation into market-rate housing (which displaces all previous residents) (Goetz 2011, Crump 2002, Vale 2013). If no solution is available, the project remains, and becomes an island of poverty in the gentrifying neighborhood. “Public housing projects stand out precisely because they are located in central cities – places that are otherwise characterized by the ever changing diversity of building forms” (Vale 2002, 7).

Regardless of the fact that both wealthy and poor families receive subsidies, American rhetoric hold fast to an ideology of self-sufficiency. Subsidies given to the wealthy are indirect, and viewed as a “reward” for their success, whereas direct subsidies that aid the poor are looked down upon as a sign that a person is unsuccessful, and not living up to American ideals. For this reason public opinion on programs such as unemployment, food stamps, Medicaid, and public housing are extremely divided (Pew Research Center 2012, Wright 2014). By many, they are viewed as socialist and not in line with American exceptionalism. Public housing is the most visible of these programs, a form of welfare that is highlighted for all to see, and allowing its residents to be easily identified. “America resents ‘handouts’ as special benefits for poor citizens. It condemns public housing in particular as a path to a welfare state and the worst of modern design”(Wright 2014, 71). This automatically attaches a negative connotation to the housing, regardless of the merits of its physical form. The close connection that existed between certain design ideologies and public housing “made it nearly impossible to look at public housing as a form of urban shelter or as a kind of regular government service: rather, it has taken on a deeper meaning as an expression of an ideological movement of planning and design” (Bloom, Umbach and Vale 2005, 7).

Since federally subsidized housing projects are so easily identifiable, taxpayers that procure their housing through the private market want to feel as if they are living in better conditions that those taking advantage of government assisted housing. This is established through, although not limited to, physical appearance, amount of amenities, and desirability of site. Even though, as previously discussed, this resentment is completely unfounded due to the fact that those in higher SES groups are receiving more than their fair share of subsidy, this attitude of free-market superiority may be one reason that public housing is often designed with an institutional and bare aesthetic; to show the public “their” tax dollars are not paying for extravagance in design. Even Lyndon Johnson, as a Texas congressman, made this clear in a radio speech in which he assured his tax-paying constituents; “There won’t be Persian rugs on the floors. There won’t be Venetian blinds at the windows. But there will be light, and water, and air: and windows to let in the sunshine and strong walls to hold back the chill of winter” (Johnson 1938).
Public housing communities turn “their backs to the surrounding neighborhood - which looks entirely different - only adding to this institutional quality. Any charity stigma that attaches to subsidized housing is thus reinforced. Each project proclaims, visually, that it serves the "lowest income group” (Bauer 1957). Despite the goal of aiding those in need, public housing more often brands its residents as substandard, by “spatially and visually isolated both the project and its residents from the larger urban neighborhood. Projects locked in the inner city and advertised as receptacles for its ‘lowest-income’ families were easily recognized as alien territory (and) fostered the very alienation they were originally designed to overcome” (Bauman 1977, 128). Architectural isolation occurs for multiple reasons, although it is frequently attributed to the fact that construction fees for these projects are insufficient. Oscar Newman understood the budget restrictions of public design, but also believed that architects shared in the blame, due to irresponsible design.

*The most uninhabitable of residential environments are being built by the architectural profession for their lowest-income clientele...It is on the poor that we conduct our experiments; no other income group would allow us such license... when government provides funds for housing low income families, architects should not use these opportunities to take off on some ego trip or compositional high. We need to understand more systematically what people want in housing and how to satisfy their desires (Newman 1975).*

**2.3 Public Housing Stigma: Is Design a Cause or Symptom?**

A major focus of this paper is the attachment of stigma to the design of public housing projects. This leads to the question; is public housing stigmatized due to failures in architectural design, or do design typologies become inextricably linked to public housing, and share in the stigma that is inherent to poverty in America? There are arguments to make for each point, with most critics agreeing that although design does not fully account for the stigma ascribed to public housing, it can be a cause. “In the case of American public housing, the visible scars include not just the psychically injured humans but also the disfigured landscapes of the projects; the stigma of the person and the stigma of the place have become linked in the most dispiriting of ways. No place in the contemporary United States, with the possible exception of prisons and certain hospitals, stigmatizes people in as many debilitating ways as a distressed inner-city public housing project” (Vale 2002, 14). Even for an organization (HUD) dependent on public funding, it is usually too difficult to take the less expensive path of rehabilitation because even when projects can be rehabilitated physically, their social perception is often damaged to a point that prohibits further use.

Many underestimate the true cultural power that lies in the American ideal of a ‘home’. Low-income renters and public housing residents that are not lucky enough to live in a typical American home are discounted and looked down upon because of it. “The problems of these residents have been exacerbated by the disjunction of public housing’s physical forms from any reference to preferred modes of domestic dwelling” (Vale 2002, 14). Design is not only an
aesthetic feature, but a social one, which may influence not only physical factors, but human behavior and interactions as well. Although, due to funding shortages and policy stipulations, it is unlikely, “many argue that there should nevertheless be no difference in the design and quality of housing for different income categories” (Talen 2006, 245).

2.3.1 Socioeconomic Outcomes as Result of Architecture

After the demolition of St. Louis’s Pruitt-Igoe in 1977 Charles Jencks declared the death of modern architecture, an attitude that has gained acceptance by many architects and non-architects alike. Blaming the demise of Modernism on a building that twenty-five years earlier won praise from the AIA and Architectural Forum, shows either an extreme short-sightedness of architects of the time, or begs the question: was architecture style alone responsible for this failure? (Figure 2-5). By solely attributing the demolition to architectural ideology, this theory looks at the failure of Pruitt-Igoe and public housing projects through an extremely narrow lens. Perhaps one reason this myth has gained widespread acceptance is that blaming Modernist architecture is much easier than solving the underlying socio-economic issues of public housing failure.

Although design is not the sole reason behind past failures, it is nevertheless a factor, but a factor that cannot be looked at in isolation. Architects of public housing gravitated towards modern design in order to create open area, provide sunlight and ventilation, and allow views for and amenities for each resident. Housing authorities, on the other hand, ”(were) probably attracted to Modern architecture for the same reason that many commercial developers were
partial to the designs of Mies van der Rohe - their cost. The truth is that standardized, stripped-down, and undecorated tall buildings can be erected quickly and inexpensively" (Rybczynski 1993, 85). This attention to cost changed most of the "amenities" architects felt they were providing (common interior lobbies, open outdoor space), into detrimental characteristics. Even so, many critics "report that the problem lies not in the Corbusian architecture of these housing towers, but in their location in the poorest, most isolated, and deteriorated areas of the city" (Bauman 1994, 352).

"From the outset, policymakers have freighted public housing with extraordinary ideological baggage, including job creation, health and welfare improvement, crime prevention, slum clearance, urban renewal, and most significantly, the moral rehabilitation of the benighted poor" (Bauman 1994, 347). The architecture of public housing is inextricably linked to these expectations, but how much power does it truly have to achieve any of these objectives? "At every turn, design decisions in particular places have made each of these outcomes somewhat more likely or—all too often—somewhat less so... We should not overlook the power of design decisions. They may not be determinative of behavioral choices, but neither are they irrelevant. Some design decisions do make certain behavioral options more—or less—likely" (Vale & Gray 2014, 27).

The general conclusion shared by many researchers asserts that although architecture does not have direct control over socio-economic outcomes, and "hopes of "salvation by bricks" are illusory... our rejection of this extreme should not lead us to the opposite extreme view, which holds that physical settings are irrelevant to human beliefs and action. Architecture influences behavior; it does not determine it" (Katyal 2009, 190). True, architecture and design were never the leading problem with American public housing, so they can never be the primary solution; yet "we should not underestimate the expressive power of architecture... (it) is, by contrast, a ubiquitous part of life (and) it operates in nuanced and subtle ways" (Katyal 2009, 190). Lawrence Vale suggests that the main failure in public housing occurred because "shifting policies forced ill-equipped housing authorities to admit and retain the nation’s public neighbors, without providing a ... social service infrastructure required to support such a needy clientele". However, he acknowledges that that "at the same time public neighborhoods failed because their design did so little to support basic human needs for privacy, security, and community (Vale 2002, 409). By focusing on and attempting to isolate the role design plays in the success or failure of subsidized housing, architects may begin to aid in the solution to this social issue.
CHAPTER 3
Creating a Framework

3.1 Framework for Defining Successful Urban Design

Although the troubled history of public housing and housing affordability is by and large a socio-economic issue, the literature shows that architecture and planning do have a part to play in the solution. In many cases buildings are not demolished due purely to structural and physical dilapidation, but because societal perception renders them unusable. Design that adds to this stigmatization is the main architectural failure that can and should be ameliorated by architects. In order to determine how the design of past housing projects has or has not contributed to overall failure, case studies are analyzed by using past literature to create a framework of factors essential to successful urban and housing design. This framework will consist of four main physical characteristics of successful urban design: urban density, security, legibility, and diversity. This method of analysis will be applied to each case study.

3.1.1 Urban Density

After what was perceived as the mistake of building high rise public housing, much of the blame was placed on extreme levels of density. Later, demolition and rebuilding was seen as the solution to deconcentrating high density housing projects, in order to dilute the concentration of poverty within them. However, in many cases this may have been an overcorrection, not only diluting poor residents, but diluting the cohesiveness of the urban fabric; “densities of this kind ringing a city are a bad long-term bet, destined to become gray area. As the city continues to grow, the character that makes these semisuburbs reasonably attractive and functional is lost” (Jacobs 1961, 209). In *The Death and Life of Great American Cities* Jacobs’ dedicates a chapter to the need for urban concentration, (200) an issue she found to be of paramount importance for vibrant cities. “What are proper densities for city dwellings?... Proper city dwelling densities are a matter of performance....Densities are too low, or too high, when the frustrate city diversity instead of abetting it” (1961, 209). She makes sure to differentiate between high density of dwellings, and overcrowding, the former found to be beneficial, and the latter a problem (209). Oscar Newman goes on to explore the different forms of urban density, taking into account not only DUA, but floor area ratio and site coverage as well (1996, 16). For this study, density is measured as dwelling units per acre, building site coverage, and floor area ratio. These measurements are compared to the original urban fabric of the site (Table 3-2).

3.1.2 Security through Architecture

Jane Jacobs and Oscar Newman wrote extensively on urban design and crime prevention. Both planners agreed that one fatal flaw in previous iterations of urban design was the lack of demarcation between private and public space (Jacobs, 1961; Newman, 1975; 1995). The open spaces and large public expanses between buildings was detrimental, resulting in space
that was “too anonymous”, a place where residents felt no ownership (Newman, 1996). Many studies have proven that the physical environment is an extremely important factor of crime control, “so much so that the expressive power of the environment may even supplant the expressive force of law. After all, architecture is immediately apparent and speaks to those who view it in ‘an invisible language’” (Katyalt 2009, 1083). The physical environment is an expression of social objectives, and design, through numerous methods, is one element able to influence behavior and social outcomes such as crime prevention. A second main flaw was the disconnect between the buildings and the existing urban fabric, which created unsafe conditions due to the lack of informal surveillance, or “eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. The buildings... must be oriented to the street. They cannot turn their backs or blank sides on it and leave it blind” (Jacobs, 1961).

“Architecture empowers ordinary residents through techniques such as natural surveillance, territoriality, and the reduction of social alienation. Such techniques draw people outdoors and make members of a community visible to each other, thus increasing both social pressure against crime and the probability of detection” (Katyalt 2009, 1039). This framework will quantify the physical aspects of security through an analysis of public, semi-public/private, and private area on each site, site circulation and entry, and on-site sightlines. (Table 3-2).

### 3.1.3 Urban Legibility

An important aspect of urban design is the “legibility” of the city, a visual quality Kevin Lynch write about extensively in “The Image of the City”. Urban legibility is seen as a positive quality that allows residents to easily recognize and understand their location, a clarity formed by areas with common characteristics. “It is the total environment made visible” (Lynch). Legibility causes observers to mentally place themselves “inside of” a certain area or neighborhood, and breeds easy familiarity. Areas may gain legibility by a continuity of space, form, detail, or building. “The basis of argument is that the provision of an identifiable neighborhood structure—which may include edges, a center, or appropriately located facilities—allows the mix of people and functions to be seen in interrelationship, as part of a larger whole” (Talen 2006, 243). Jane Jacobs discussed a similar quality, the “fine grain” of urban fabric, measured by small block sizes and interesting urban texture. Unfortunately, this quality of recognition, which is positive in many respects, is a detriment to public housing projects, which are far too legible in most cases. Instead of sharing characteristics with the surrounding neighborhoods, projects form their own, creating areas which city dwellers can immediately recognize, and in most cases, avoid. In their report on distressed public housing, the National Commission on Severely Distressed Public Housing determined that poor site design was similar factor in many distressed housing projects, where “particular addresses are difficult to find because of the lack of uniformity in project layout and road design” (1992). Clearly legibility was not paramount in these housing projects. For this study legibility is simplified and measured as block size, street frontage, and frequency of intersections. (Table 3-2).
3.1.4 Diversity

Segregation, isolation, sprawl and inequity are allowed to thrive in urban settings due to a lack of diversity. Emily Talen, a prominent researcher in the field of urban design finds it “almost unbelievable” that designers are overlooked and not called upon to mitigate this dearth of diversity (2006, 233). Yes, these problems have their roots in sociology and politics, but design can contribute to the resolution. This research will accept Talen’s view of place diversity, “a broader definition that includes all forms of social and economic mixing... in addition, nonresidential activities comprising different uses and functions of land” (2006, 234). This definition views diversity as a quality that facilitates urban equality by providing necessary resources for all residents. Realistically, the social and non-physical aspects of many of these “resources” are outside of a designer’s control, “they also have a definite physical and locational aspect” that may not be within the designer’s control, but is within the designer’s scope of consideration. Considering the spatial distribution and allocation of a neighborhood’s resources while designing is the first step towards creating what John Powell calls “opportunity-based housing,” housing, which is housing that considers “resources and services that contribute to individual and family stability and advancement,” (2003, 183) as paramount.

So, “[h]ow, then, should planners use design... to enable diversity? What kinds of design strategies should planners be concerned about?” (Talen 2006, 243). Using this literature, this analysis will measure on-site diversity by race, income mix, and mix of uses on site (Table 3-2).
<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td><em>Sources: Jacobs, Newman, Goetz</em></td>
</tr>
<tr>
<td>Dwelling units</td>
<td>The standard measure of density, dwelling units per acres, compared to the original site.</td>
</tr>
<tr>
<td>Building Coverage</td>
<td>A measure of the ratio of unbuilt to built area, in comparison to the original site.</td>
</tr>
<tr>
<td>Floor Area Ratio</td>
<td>The measure of floor area to total site area, compared to the original site.</td>
</tr>
<tr>
<td>Security</td>
<td><em>Sources: Newman, Jacobs, Vale, Katyalt</em></td>
</tr>
<tr>
<td>Private/Public area</td>
<td>Private, public and semi-private/public areas are calculated and compared to the surrounding site.</td>
</tr>
<tr>
<td>Site and Building Entry</td>
<td>Locations, accessibility, and use of site and building entries are analyzed</td>
</tr>
<tr>
<td>Legibility</td>
<td><em>Sources: Lynch, Talen, Jacobs</em></td>
</tr>
<tr>
<td>Block Size</td>
<td>The block sizes of projects are compared to the block sizes of typical surrounding urban fabric.</td>
</tr>
<tr>
<td>Street Frontage</td>
<td>The percentage of built street frontage (within 25ft of property line) is compared.</td>
</tr>
<tr>
<td>Intersections</td>
<td>The frequency of intersections on the project site are compared to the typical surrounding urban fabric</td>
</tr>
<tr>
<td>Diversity</td>
<td><em>Sources: Talen, Powell, Jacobs, Goetz, USGBC</em></td>
</tr>
<tr>
<td>Non-Residential Uses</td>
<td>A measure of the mix of uses on the project site</td>
</tr>
<tr>
<td>Racial Diversity</td>
<td>A demographic measure of the project’s residents, compared to both the surrounding neighborhood and city.</td>
</tr>
<tr>
<td>Income Diversity</td>
<td>A consideration of the income limits imposed on the project’s units.</td>
</tr>
</tbody>
</table>
3.2 Data Organization

3.2.1 Density

Dwelling units per acre, building coverage, and floor area ratio are three metrics that show different aspects of site density. As part of this framework for analyzing case study projects, this data is presented together in a line graph (Figure 3-2), in order to easily compare and contrast each measurement at once.

Dwelling units/acre is an important metric, often used to determine the overall viability of an area. In urban settings, this is extremely important for multiple reasons. While over-high densities in projects is considered poor planning due to a concentration of poverty, low densities can be just as detrimental, resulting in dead zones, areas that do not support the overall vibrancy of the city, and interrupt the existing densities of the surrounding urban fabric. Looking back at the controversy between high and low-rise design for housing projects, floor area ratio is an important measure of comparative site density, especially when combined with measures of DU/acre and building coverage. Allowable FARs for each site are often regulated by zoning laws, proving the effect of policy on the urban design. Like the other density measures, building coverage is important when viewed in context; a high-rise site with little building coverage may have the same FAR as a low-rise site with little un-built space. Viewing these three metrics together allows for a complete comparative view of the density of sites.

3.2.2 Security through Architecture

The public, private, and semi-private/public areas of each site are calculated as percentages of overall site. Private areas are defined as areas that only residents have access to, through physical barriers. Semi-private and semi-public areas are combined into one category, and defined as areas that have either physical or symbolic barriers preventing general access. These areas are connected to the private areas of the project, and there is a suggestion that use is limited to residents. Public areas are easily accessible by the general public, and there is no real or physical connections to the private areas. This data is displayed as pie graphs, in order to easily compare the division of area within the sites (Figure 3-3). The amount of units sharing each entry also contributes to site security, when multiple units are utilizing the same entry, security is exponentially diminished. Oscar Newman posits that any more than fifteen families using the same entry weakens the natural control of the residents to regulate access.
to their buildings (1976). Units per entry are noted and diagramed in each case study analyzed using this framework.

3.2.3 Urban Legibility

Although site legibility is due to myriad factors, this research measures three characteristics: block sizes, street frontage, and intersection. Block sizes are included because they are important to the continuity of the urban fabric. In this study the average block sizes of projects are compared to the average block size of the original urban fabric. Blocks are shown as squares representing their area, in order to fully compare the original block sizes to the project block sizes (Figure 3-4). Built street frontage is an extremely important factor in urban legibility, in this research it is defined as built area within 25 feet of the property line. Here, as a percentage, it is compared to the street frontage percentage of the original urban fabric. Site adjoining intersections allow overall connectivity to be compared. Again, this measure is compared to the amount of intersections connecting the original urban fabric to the overall urban area. Both street frontage and intersections are shown as a bar graph, in order to simply compare the project data to the original site fabric (Figure 3-4).
3.2.4 Diversity

Diversity is measured by both income, race and usage on-site. The amount of mixed used square footage on site is measured and compared as a percentage of the amount of total on-site floor area. Racial diversity is measured by calculating the percentage of residents by race, and comparing this percentage to the demographics of both the surrounding neighborhood and the city at large. (Figure 3-5). Only two projects contain mixed-income units, the HOPE VI projects West Haven, and Townes at the Terrace. For this analytical framework, the mix of income is measured by calculating the percentage units that are considered public, affordable, or market-rate (Figure 3-5).

![Figure 3-4. Diversity Graphics](image)

3.2.5 Data Analysis

In Chapter 5, the measurements for each of these characteristics are separately compared across all nine case studies as line graphs (Figure 3-5). These data are used to compare the case studies across the periods in which they were constructed.

![Figure 3-5. Case Study Data Analysis Graphics](image)
CHAPTER 4  
Policy and Case Studies

4.1 Case Studies

“Public housing exists in communities of all types. The bulk of it, however, is located in large cities” (Goetz). Although poverty is not limited to urban areas, 60 percent of public housing is found in central cities. This analysis is confined to large cities, and projects located in the top twenty-five most populous cities in America. Projects chosen are located in neighborhoods within one mile of the downtown area. The stock of public housing in each city is considered, as well as the percentage of public housing compared to all city housing units, choosing only projects in cities containing no fewer than 10,000 units of public housing, and a total public housing percentage over 1 percent. Of these, only projects in “rust belt” industrial cities located in the mid-Atlantic and central region are considered, in order to provide some measure of control in terms of social-economic periods of growth and decline affecting the city. Major rust-belt cities felt the aftermath of deindustrialization in the 1950’s and decades following, a period that led to a large decline in central city population. New York, Philadelphia, Chicago, Baltimore, and Boston (Table 4-1). From these cities, housing projects selected are similar in their proximity to downtown areas, and socially historical importance locally and nationally. Housing projects selected built previous to 1949 are on the National Register of Historic Places.

Table 4-1. Case Study City Selection
(sources: census.gov/2010census/popmap, 2009-2013 American Community Survey)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cities</th>
<th>Public Housing Units</th>
<th>% of Public Housing</th>
<th>Pop. Density/mile2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NYC (Brooklyn)</td>
<td>58,000</td>
<td>5.8</td>
<td>10,012.40</td>
</tr>
<tr>
<td>3</td>
<td>Chicago</td>
<td>21,000</td>
<td>1.75</td>
<td>11,841.80</td>
</tr>
<tr>
<td>5</td>
<td>Philadelphia</td>
<td>14,000</td>
<td>2.12</td>
<td>11,379.50</td>
</tr>
<tr>
<td>12</td>
<td>Indianapolis</td>
<td>1,900</td>
<td>0.50</td>
<td>2,270.00</td>
</tr>
<tr>
<td>15</td>
<td>Columbus</td>
<td>2,200</td>
<td>0.59</td>
<td>3,624.10</td>
</tr>
<tr>
<td>18</td>
<td>Detroit</td>
<td>3,700</td>
<td>1.03</td>
<td>5,144.30</td>
</tr>
<tr>
<td>21</td>
<td>Baltimore</td>
<td>11,000</td>
<td>4.03</td>
<td>7,671.50</td>
</tr>
<tr>
<td>22</td>
<td>Boston</td>
<td>12,600</td>
<td>4.26</td>
<td>12,792.70</td>
</tr>
</tbody>
</table>
In order to evaluate different case studies, the context in which they were conceived and constructed must first be understood. This research considers the context of the case studies by separating periods of public housing design into distinctive temporal, political and ideological phases (Figure 4-1). Beginning around 1930 with the “New Deal” and United States’ initial foray into federally funded housing through World War II and its aftermath, the first phase is “Communitarian Housing and Progressive Ideals”. Next, stemming from the US Housing Act of 1949, is a time of “Urban Crisis and Concentrated Poverty”, typified by an experimentation with high-rise projects and urban renewal during a period of extreme inner-city volatility, due to uneven growth of urban demographics, deindustrialization, and civil rights. The perceived failure by policymakers, architects and planners alike in the creation of the “urban ghetto” led to a period beginning in the 1970’s of “Moratorium and Privatization”, in which all funds towards public housing were halted, and attempts at the privatization of affordable housing production began. By the next period of federally funded public housing creation, reflection on past failures led policy-makers to a belief that “Deconcentration and Disinvestment” in federally subsidized housing projects was the best path forward. This period was marked by widespread urban public housing demolition and sale. These previous phases have led the United States’ urban public housing policies and design to the present-day era of “Current Innovations” in subsidized and affordable housing design and delivery, in which both government and private entities attempt to learn from both the mistakes and successes of past public housing. Case studies are chosen from each period in order to represent different typologies in order to discern if there are correlations between certain design characteristics, the policies driving each project, and socio-cultural outcomes. Multiple cases from each period are explored in order to draw comparison both within, and across periods of public housing design and implementation.

The remainder of this chapter is dedicated to in-depth explorations of the housing policies driving each period, followed by housing project case studies which illustrate the effects of the housing policies examined. Each case study is viewed within the political and architectural ideologies guiding both design and policy of the time. Contemporaneous socio-political and cultural movements are further explored in order to define connections between social input and physical design (Figure 4-2). The urban analysis framework created in chapter 3 is applied to each case study in order to study the quantifiable urban design decisions, and compare the findings across case studies and periods.
Figure 4-1. Timeline of Public Housing Ideologies and Relevant Policy Initiatives
Figure 4.2. Social and Cultural Influences on Architectural Ideologies
By 1900 the urbanization of America was well underway, Northeastern and most Midwestern states had reached an urban majority with the rest of the country not far behind. In major port and industrial cities such as New York, Philadelphia and Chicago, slums were growing quickly and overcrowding and lack of sanitation was becoming a severe health hazard. The growth of these slum areas was seen as a danger to the entire city. Despite this, it was commonly believed that the government had no place in providing housing for its residents and that the private market was fully capable of producing enough affordable housing for all, minus a small percentage taken care of through charitable organizations.

After the initial impacts of the Great Depression exacerbated and exposed the problem of sub-par housing in cities the views of progressive housing reformers such as Edith Wood, Lewis Mumford, Clarence Stein and Catherine Bauer and more began to gain credence. A 1935 report by Edith Wood describes some of the detriments of the slums that she, along with her fellow reformers, wished to solve through government housing; “lack of outdoor play space for children in proximity to their homes is...fraught with exceedingly serious social consequences. Lack of light, and especially sunlight...lessens resistance to disease...lack of cross ventilation, is an aspect of bad housing. It has a well-known depressing effect on well-being and vitality”. Wood goes on to also describe the ill-effects of overcrowding, and proper plumbing and sanitation. As evident in this report, many reformers of this time subscribed to a belief in environmental determinism, “class hatred, social unrest, and revolutionary propaganda are the natural products of slums and slum conditions. All human beings man be explained as the result of the sum total of their environment acting on the sum total of their heredity” (Wood 1935, 16). Planning efforts adhered to the notion that well-planned communities and housing produced better families, workers, and citizens. This view aligned with that of social housing programs in Europe, which American reformers had been inspired by. This style of planning also inspired Catherine Bauer’s book Modern Housing, which was extremely influential during this time, earning Bauer a prominent position of political influence, even co-authoring the first U.S. Housing Act.

The creation of the PWA Housing Division was strongly influenced by the Regional Planning Association of America, a group whose members included many prominent “ housers” of the times (including the aforementioned reformers). This group of planners and architects was greatly influenced by contemporary European movements, including the English Garden City, German Block planning, and large scale affordable housing estates and planned communities, along with modern and international style design. This ideology was employed in the design of a planned community in Radburn, NJ, one of the RPAA’s first experiment in this type of residential planning. Considered a success, the Radburn “Garden City” planning typology was incorporated into the PWA design ideology, neglecting to account for the fact that the
Radburn’s success may not be transferable to an urban environment. Large blocks of buildings were favored, and streets dividing projects were discouraged, to be replaced by walking paths. A reduced amount of building coverage with clearly delineated open spaces was seen as preferable as a way to increase the light and ventilation available to each unit. “Avoid: Excessive land coverage – buildings should not occupy over 25 percent of land are except in special cases. Traffic streets running through development wherever possible. Placing of buildings on true north and south line thereby limiting possibilities of better exposure and sunlight” (Housing Division 1935).

Although a guide to unit design and planning was created by the Housing Division (Figure 4-4), “this book was used by architects as a guide in the designing of projects although a latitude of interpretation and improvement was encouraged. In no cases were these plans forced on an architect against his better judgement... each project had its own solution” (United States Housing Authority 1936, 41). Projects built under the PWA were well funded (relative to projects built under other Housing Acts), and creative and careful consideration of the architecture of PWA housing was encouraged, in hopes that by allowing the urban poor to live in a well-designed environment, “a feeling of local responsibility in housing (would be) awakened” (United States Housing Authority 1936, 16). The PWA embraced cutting edge building technologies and forms, as well as new planning theories, scientific in nature. In terms of attention to design, PWA Housing set a strong example that subsequent housing policy iterations would find it hard to surpass.

With the apparent success of the PWA Housing Division from 1933-1936, along with support from a democratic president and congress, the U.S. Housing Act of 1937 was passed, although it met with a large amount of resistance from the National Association of Real Estate Brokers (NAREB) along with other private organizations. For the first time, a permanent federal housing authority was established within the Department of the Interior. Slum clearance was an important aspect of this act, but with the stipulation that new affordable housing would continue to be the priority. New USHA housing projects were either built on inner-city slum clearance land, or sites located on the city outskirts, inexpensive open land. USHA 1937 projects ranged from tiny 30 units development to gargantuan 3000 unit projects.

Unfortunately many of the aspects of the PWA that allowed for vigorous and tailored design did not carry over to the new Housing Act. As such a small program, the PWA had centralized and federal control and interest in every aspect of the housing project, from land procurement to on-site artwork. The USHA moved most of this control to local PHA’s, with the federal government only truly controlling the budget allocations, ostensibly changing the national government’s role in public housing from “builder to banker” (National Register of Historic Places 2004). The elevated design of PWA projects had an unintended side effect, rent prices were often higher than what could be afforded by those who needed housing subsidy most, and middle class family were occupying many projects, drawing the wrath of NAREB, who then insisted that the USHA house only families who could not reasonably find housing through the private market. Therefore rents were set lower for USHA housing, and construction budgets were also slashed. This attitude led to a design approach that would clearly show housing projects were meant to be temporary waystations, so that families would not want to stay
Figure 4-4. PWA Design Guide - Site Design Recommendations for Urban PWA Housing Projects
(source: Housing Division 1935)
there once they had the means to procure better (free market) housing. This new strict budget led to a diminished attention to detail and increased standardization in design. All “frills” or “unnecessary or questionable extravagances that will tend to defeat the fundamental purposes and aims of low-rent housing work” were carefully omitted (Housing Division 1935). Section 15 of the housing act states: “that such projects will not be of elaborate or expensive design or materials, and economy will be promoted both in construction and administration” (HUD 1937). The USHA found that the International Style of design easily lent itself to this variety of design, and encouraged its use. Under this act projects became more monotonous, with flat roofs, uniform windows, and less attention to amenities that projects funded by PWA enjoyed. Although the Federal government no longer had direct control over design, a joint effort with the National Association of Housing and Redevelopment Officials (NAHO) produced a pamphlet guiding local PHA’s in the design for new projects, with design decisions dictated by, “[w]hat housing units are best suited to the type of families to be housed, to the rentals they can afford to pay, and to the physical characteristics and cost of the various sites that are available?” (NAHO 1938, 31). Even with this concern for costs, unique characteristics of the site and surroundings were considered in the design, the guide asks among other things; “[w]hat land coverages and population densities are appropriate to the various sites, in view of the city plan, surrounding housing conditions, (and) the general trend in housing standards...?” (NAHO 1938, 32).

Although providing low cost housing to urban residents in need was a worthy cause, the USHA was at the same time creating a legacy of institutionalized segregation. Projects built at this time before civil rights or the Fair Housing Act were usually intended for either entirely white or black residents, with few allowing a mix of both. Although segregation was the norm of the time, this separation, even when no longer mandated, would endure and worsen in the future. Even though in hindsight mistakes in policy and design are evident, at the time these projects were celebrated as being at the vanguard of building technology and considered a success as a social program. In order to maintain this view, the intense efforts that the federal and local governments put into these communities were celebrated, and the positive aspects of communitarian living was heavily marketed by the USHA and PHA’s alike, in order to prove to the Authorities’ worth to the public.

WWII quickly approached after during this initial boom of USHA funded projects, and the need for war housing soon became evident. Many planned and in-construction projects in favorable industrial locations (Philadelphia, Chicago) were co-opted by the National Defense Act for war-worker housing, while any other planned USHA projects were abandoned. New Defense housing was built as cheaply and quickly as possible, with whichever architects and builders were available. The carefully angled and clustered buildings that typical in earlier projects were abandoned for linear barracks-style planning. Projects originally planned through USHA funding were a step above Defense housing, and retained some of the design integrity that characterized USHA 1937 housing projects.

The following case studies in New York City, Boston, and Philadelphia were implemented through these policies, and to certain extents, represent the design ideologies of the progressive reformers instrumental in creating these housing policies. The Williamsburg
Houses in Brooklyn were one of the first federally funded projects, under the Public Works Administration’s Housing Division. Lenox Street in Boston followed shortly after, funded by the U.S. Housing Act of 1937, the policy which also funded the Richard Allen Homes in Philadelphia, before it was appropriated by the Defense Act during WWII. While it is easy to see similarities between these three projects due to the prevalent design ideologies and policy recommendations, many differences are also apparent, not only because of contextual and cultural disparities, but also due to the subtle differences in the policies responsible for each.
4.2.1 Williamsburg Houses

**Location:** Brooklyn, NYC
**Funding:** PWA Housing
**Built:** 1936-37
**Demolished:** N/A
**Architect:** Richard Shreve
**Site Area:** 21.3 Acres
**Units:** 1622
**Building Sizes:** 20 Buildings, 4 Stories each
**Cost:** 13 million (1936) ($120,000 per unit – 2016 dollars)

**Overview:**
The Williamsburg Houses (Figure 4-5), are one of the first federally subsidized housing projects funded by the PWA, as well as one of the longest continuously functioning subsidized housing projects in America. The head architect, Richard Shreve, belonged to the architecture firm that designed the Empire State Building, with William Lescaze also involved, a Swiss architect known for his International and Modern designs. The buildings were designed in the international style, with blue tiles and metal overhangs demarcating entries. Artists of the time were engaged to create sculptures and paint murals for the common areas in the buildings (Figure 4-6). After completion this project earned widespread commendation, even Walter Gropius praised it in a New York Times interview claiming it “seems to have solved the problem of space and light very successfully and economically, and it has the great advantage of being spread over enough land to make it worthwhile as a sample of planned development” (Landmark Preservation Commission 2003, 8). This project is recognized by the NYC Landmark Preservation Commission as well as the National Register of Historic Places.

**Figure 4-5. Williamsburg Houses**
(source: LOC.gov, Gottscho-Schleisner Collection)

**Figure 4-6. Mural from Williamsburg Common Room**
(source: Brooklyn Museum of Art)
Figure 4-7. Williamsburg Houses Urban Plans
(source: data from NYC open data & Sanborn Fire Insurance Maps)
Density:
As seen in figure 4-8 building coverage on-site is reduced from 52 percent to 32 percent, a bit higher than the 25 percent maximum the PWA design guides suggested, mostly likely in response to the extremely high building coverage of NYC in general. By replacing four and five story homes with four story buildings, the on-site floor area ratio is also reduced. The on-site unit density is nearly doubled, from 39 to 76 units per acre, however this does not account for internal density, that is, how many residents live in each unit, which was most likely much higher in the original site due to over-crowding (Figure 4-8, 4-9).

Security:
In the center of the project’s super-blocks are designated parks and play areas for the residents, but the spaces are easily accessible and usable by non-residents as well (Figure 4-7) increasing on-site public space from 32 percent to 49 percent (Figure 4-10). Although yards surrounding the projects are fenced-off, they are classified as “semi-public” because they are not apportioned to any specific dwelling units. The majority of the apartment buildings’ entries are accessed from the site-interior instead of the street, and each entry and stairwell serve about 12 apartments (Figure 4-11).
Legibility:
The 12 original city blocks used for the project are combined into 4 superblocks (Figure 4-12, 4-13). Diagonal H and T shape buildings are oriented on site at 15 degrees of north in order to maximize views and solar gain. The design and positioning of the buildings reduces the street frontage from 84 percent to 56 percent (Figure 4-12, 4-14), creating somewhat porous blocks, open to through foot-traffic. The project reduces on-site vehicular intersection by cutting off two streets, separating the project from the existing urban fabric.
Diversity:
Most of one super-block was leased to the city for a public school and recreation center, which served the development along with the rest of the neighborhood. These amenities along with the extensive amount of store-front spaces incorporated into corner apartment buildings leave the Williamsburg houses with nearly 20 percent non-residential space on-site. Williamsburg Houses, like most pre-war projects were segregated and open to only white tenants. A highly Jewish area with few black residents, this did not create much racial dissimilarity between the project and the neighborhood, or even Brooklyn as a whole, with a black population of only 5 percent at the time (Figure 4-15). This project consisted solely of public units, although with average monthly rents of roughly $30 for a three or four room unit ($510 in 2016 dollars), very and extremely low income residents most likely could not afford to live here at the time.

Figure 4-15. Racial Make-up by Percentage (1940’s)
4.2.2 Lennox Street

<table>
<thead>
<tr>
<th>Location:</th>
<th>Boston, MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>South End</td>
<td></td>
</tr>
<tr>
<td>Funding:</td>
<td>USHA 1937</td>
</tr>
<tr>
<td>Built:</td>
<td>1939</td>
</tr>
<tr>
<td>Demolished:</td>
<td>N/A</td>
</tr>
<tr>
<td>Architect:</td>
<td>Maginnis &amp; Walsh</td>
</tr>
<tr>
<td>Site Area:</td>
<td>7.5 Acres</td>
</tr>
<tr>
<td>Units:</td>
<td>306</td>
</tr>
<tr>
<td>Building Sizes:</td>
<td>12 Buildings,</td>
</tr>
<tr>
<td></td>
<td>3 Stories each</td>
</tr>
<tr>
<td>Cost:</td>
<td>1.7 million (1937)</td>
</tr>
<tr>
<td></td>
<td>($95,000 per unit – 2016 dollars)</td>
</tr>
</tbody>
</table>

Figure 4-16. Lenox Street
(source: Boston Housing Authority)

Overview:

Lenox Street (Figure 4-16) housing was one of eight pre-war housing projects built in Boston, all of which were constructed on slum-clearance sites. Located in Boston’s South End, the site was chosen to prevent slum conditions from spreading to downtown areas of Boston. However, much of the slum clearing by the BHA was highly contested. In the area cleared for this project, many of the properties were not found to be unsound, but were razed nevertheless (Vale 2009). Over 40 percent of the households displaced were considered to be self-sufficient, meaning many residents left homeless through the slum-clearance would not be eligible to apply for new housing in the project (Vale 2009). Although the BHA wanted to provide housing for the lowest income groups, residents were carefully selected from those applicants “of inherent dignity and character”. The project is made up of three-story walk-up apartments, which replaced three, four and five story rowhomes (Figure 4-17). Built in a primarily black area, Lenox Street housing was initially intended for black residents only, and Lenox Street has remained a primarily non-white development to this day (Vale 2009, 302).

Figure 4-17. Lenox Street Site, Before and After
(source: Vale 2009)
LENOX STREET HOUSING, 1939 (U.S. Housing Act 1937)

Figure 4-18. Lenox Street Urban Plans
(source: data from Boston Open Data & Sanborn Fire Insurance Maps)
Density:
Adhering to the one-for-one clearance requirement, the Boston Housing Authority made sure to either meet or exceed the existing density on slum-clearance sites (Figure 4-19). The project replaced two-five story rowhomes and buildings with 12 serpentine three-story apartment buildings, resulting in a 9 percent decrease in building cover, and a .5 decrease in floor area ratio (Figures 4-19, 4-20). Even so, the dwelling unit density on site increase from 31 to 49 DU/acres, an increase that does not account for the change in internal density.

Security:
Open space is created by the rows of buildings, alternating between recreation areas and parking. Due to the orientation of the buildings, the entire site is opened as a north-south thoroughfare for anyone to walk through, eliminating almost any semi-private space created by typical residential blocks (Figure 4-21). The buildings on site have point-loaded entries, with each entry and stairwell serving 11 apartments on average (Figure 4-22).
Figure 4-21. Lenox St. Private/Public Calculations

Figure 4-22. Typical Lenox St. Building with Entries

Legibility:
The project at Lenox St. creates one urban super-block (Figures 4-23, 4-24). The 12 buildings face each other and site interior, instead of engaging the street, reducing the built street frontage of the site in half (Figure 4-25).

Figure 4-23. Lenox St. Legibility Calculations
Diversity:
The Lenox St. development is almost completely residential, with only a maintenance building on-site, resulting in only 2.7 percent non-residential space on-site. This project began as the city’s first housing project for exclusively black tenants, built in a somewhat segregated area. However Boston at time had an extremely low black population, under 5 percent so completely segregated projects supported a highly uneven racial distribution (Figure 4-26). The BHA made its goal to serve extremely low-income households, and did not accept anyone into the project with incomes over five time the rent. Careful screening took place upon application, with accepted Lenox Street residents most likely making 30 percent-80 percent of the area median income (AMI).
4.2.3 Richard Allen Homes

Location: Philadelphia, PA  
West Poplar

Funding: USHA/Defense Act

Built: 1941
Demolished: 2001

Architect: George I. Lovatt

Site Area: 26.7 Acres
Units: 1324

Building Sizes: (42) 3 Story Buildings, (9) 4 Story Buildings

Cost: 7.5 million (1941)  
($99,000 per unit – 2016 dollars)

Overview:
The Richard Allen Homes (Figure 4-27) were one of the first three large-scale housing projects built in Philadelphia. Richard Allen was built for black residents, and even though in 1942 it was co-opted for defense workers, it remained primarily black. As the first slum-clearance project in Philadelphia, residents of the cleared area were given priority to live in the new development. George I. Lovatt, a prominent Philadelphia architect was the designer of this project, which adhered to a Bauhaus aesthetic, showing an attention to architectural detail impressive even among the earliest public housing (Figure 4-28, 4-29). Early Philadelphia projects made sure to follow the USHA’s stipulation of a community building, maintenance building, and recreation space on-site (Natl. Reg. of Historic Places 1995, 8). In its first few decades of existence, the Richard Allen Homes were viewed extremely positively, and residents were proud to live there. Even though the Richard Allen units were built to the minimum dimension standards recommended by the USHA, compared to its surrounding slums it appeared a pristine place to live. In a 1999 Philadelphia Inquirer article, one of the first residents of Richard Allen was quoted; “It was the place to live. People were dying to get in”.

Figure 4-27. Richard Allen Homes, 1951  
(source: LOC.gov, Historic American Buildings Survey Collect.)

Figure 4-28. Artist’s Sketch  
(source: Temple University Digital Archives)

Figure 4-29. Richard Allen Community Center  
(source: LOC.gov, Historic American Buildings Survey Collect.)
RICHARD ALLEN HOMES, 1941 (Defense Act & U.S. Housing Act)

Figure 4-30. Richard Allen Homes Urban Plans
(source: data from PASDA & G.W. Bromley Philadelphia Atlas)
Density:
Like other pre-war projects, the Richard Allen Homes remained faithful to one-for-one replacement of units, only marginally increasing the unit density from the original urban fabric, from 32 to 49 DU/acre (Figure 4-31). Again, this does not account for the original internal density on the site, which was likely high due to slum conditions. By replacing the three and four story rowhomes with three and four story block-style apartments, the site’s floor area ratio is reduced by over .5, and the building cover is reduced nearly in half, almost exactly the 25 percent originally recommended by policy.

Figure 4-31. Richard Allen Density Calculations

Security:
Much like the previous projects, the designed open spaces in the site’s interiors increases the on-site public area, but the arrangement of the buildings surrounding interior courtyards creates some amount of privacy, even though it is very easily publicly accessible (Figure 4-33). On average 7 units shared each entry on site (Figure 4-34).
Legibility:
The design of Richard Allen closely followed the USHA requirements, and is comprised of three and four story linear buildings lining the streets, facing inward towards central open courts, observing the principles. Although the project focused inward, the buildings surrounding the perimeter keep the built block frontage similar to the existing surrounding urban fabric (Figure 4-35, 4-37). The city targeted a large “slum” area north of Center City and wiped out eight city blocks, to be replaced by three super-blocks (Figure 4-35, 4-36). Two through streets are eliminated as well as multiple smaller streets and alleys, eliminating the majority of on-site intersections.
Diversity:
The development included a community and maintenance building, the minimum requirements set by the PHA for projects of the time. Adding this to an on-site public school (Spring Garden School) results in 2.5 percent non-residential space on-site. Built in a neighborhood of mainly black residents, this segregated project did not differ too drastically from its surroundings, however the distribution is uneven compared to the city which had a black population of less than 20 percent at the time (Figure 4-38). Although originally intended for low-income residents, Richard Allen became war-worker housing for WWII, and was mostly likely occupied by lower-income working class residents.

Figure 4-36. Street Morphology

Figure 4-37. Street Sections

Figure 4-38. Racial Make-up by Percentage (1940’s)
4.3 Urban Crisis and Concentrated Poverty

After the war, support for public housing programs had reached a lull. Again, private organizations such as NAREB made a strong push against any new publicly funded housing. Slums were still an issue in major cities, but without a new housing act funding slum clearance and rehabilitation, governments were forced to use code reinforcement and zoning laws in attempts to curb their spread. This method was encouraged by organizations such as NAREB, the National Association of Home Builders (NAHB), and the Mortgage Bankers’ Association, because it did not result in the creation of any subsidized housing that would remove homebuyers from the private market. In 1948, when the US had a democratic congress and president, a new housing act, USHA 1949 became a reality under Truman’s “Fair Deal”. In a last-ditch effort to have the bill voted down, conservative senators included an amendment in the bill that would require all projects funded by the act to be racially integrated, knowing that a majority of senators would never support it. Even though many liberals agreed with civil rights, they felt it was more important to create more public housing than stand on their principals, and rejected the amendment, but passed the act.

With the USHA 1949 came the now infamous Title I, which allotted funding to clear slums and allowed cities to use distressed neighborhoods, acquired through eminent domain, for the “public interest”, a term which has had a wide interpretation over the years (Marcuse 1993). In NYC Robert Moses capitalized on this new act, using it to clear swaths of housing in Manhattan for highways, and public projects, including the Lincoln Center (Marcuse 1995). Although Title I alone did nothing to help the under-housed, the act also continued the work of USHA 1937, specifying that it would fund over 810,000 new units of public housing (81st Congress 1949, 3640). This act tied new units to slum clearance, with a one-to-one provision, so that for every new unit built, one slum unit would have to be cleared, straining the already tight budget (81st Congress 1949, 3638). Construction costs now carried federally enforced caps, and while design was still a focus, the main concern was building as cheaply as possible.

Projects associated with this period of public housing are often high-rise buildings, following the “tower-in-the-park” ideal. However, many housing projects in smaller cities in the south and west continued to build the modest garden-apartment style housing similar to pre-war designs. High-rise housing projects are most often found in larger north-eastern and mid-western cities. The inspiration behind this design ideology is frequently attributed to Le Corbusier’s utopian vision (Figure 4-40), which he laid out in the Congress Internationaux d’Architecture Moderne’s (CIAM) Athens Charter of 1933. Le Corbusier recommended that high-rise buildings with major setbacks offered “the choice of the most agreeable view, the
search for the purest air and the most complete exposure to sunshine... The traditional alignment of habitations on the edges of streets ensures sunlight only for a minimum number of dwellings. The resources offered by modern techniques for the erection of high structures must be taken into account” (CIAM 1933). Le Corbusier believed that open space in cities was a luxury typically afforded only to the wealthy, and should be made available to all city-dwellers. Architects and planners subscribing to this ideology believed it stayed true to the USHA’s original promise of maximizing light, ventilation, and open space, and promoting the health of residents. Cities approved the high-rise designs in order to distinguish themselves and project an image of modernity. Housing Authorities approved these building types for the reasons above, but also because the utilitarian designs seemed cost-efficient and could be built rapidly. While HUD continued funding construction, it was expected that rent income would pay for most maintenance and operational costs. This exposed a lack of consideration to the fact that high-rise living costs more in upkeep and necessary amenities, such as doormen, childcare, cleaning, landscaping, and mechanical maintenance. With rents as low as they were, the maintenance required could not be afforded. Grass quickly turned into dirt or was paved over, elevators broke down, lobbies were vandalized, and trash piled up in public spaces (Figure 4-41, 4-42). The perceived vacuum of respectability and security in housing projects was quickly filled by crime, perpetrated by both residents and outsiders alike. Research shows that around this period, the amount of times housing projects were referred to as “notorious” in major newspapers spiked (Figure 4-43).

During this period race issues in cities reached a boiling point, and segregation in public housing was intensified by multiple policies issued through the 1949, 1954, and 1968 US Housing Acts. Beginning in the 1940’s there was a large migration of black households into the Middle-Atlantic region’s cities, with Philadelphia, Chicago and NYC seeing their black populations grow by over 100 percent, creating an influx of black residents into the public housing towers as they were completed. These housing acts also created mortgage subsidies worth close to 13 billion dollars in order to aid suburbanization, a benefit only white residents were able to take full advantage of at the time. With this influx of black residents into cities and exodus of white residents, housing projects originally integrated or white were now filled...
with almost exclusively black families. The Fair Housing Act that came along with Civil Rights in 1968 was meant to ameliorate some of the racial pressure in cities, but actually had unintentionally adverse effects in the case of public housing. The Fair Housing Act eased discrimination in housing procurement, and allowed middle and upper-lower class black residents to move out of substandard public housing, leaving only the poorest residents that had little to no chance of escaping the towers, beginning to create a permanent underclass. During this period, a confluence of factors including; poor design, poor maintenance, intensifying segregation (both racial and economic), and increasing crime, led housing projects to face a serious decline in quality.

The following case studies represent the changes made to the U.S. Housing Act in 1949, 1954, and 1965. These projects, Henry Horner Homes in Chicago; MLK Plaza in Philadelphia; and Lexington Terrace in Baltimore were all high-rise slum clearance projects, and each fared poorly, falling into disrepair in under twenty years. Although the building typologies for these project are similar, there are huge contextual differences to consider, including the impacts of Title I and urban renewal projects on the surrounding areas.
4.3.1 Henry Horner

Location: Chicago, Il
Near West Side

Funding: USHA 1954

Built: 1958
Demolished: 1995

Architect: SOM

Site Area: 25.4 Acres
Units: 920

Building Sizes: (2) 15 Story Buildings
(7) 7 Story Buildings

Cost: 12.2 million (1958)
($108,000 per unit – 2016 dollars)

Overview:

Leading up to the Housing Act of 1949, housing projects built by the Chicago Housing Authority enjoyed a fair amount of success. The housing shortage brought about by the end of WWII had mostly subsided, Chicago had more subsidized housing than any city other than New York, and the wait list for public housing was at its lowest - all facts that make the CHA’s future failures somewhat inscrutable. After the USHA of 1949, the CHA decided to take advantage of the available federal funds and increase its stock of public housing tremendously, adding nearly 16,000 units before 1970, despite the tapering demand for affordable housing at the time (Bowly 2012). Nearly every single one of these new projects would be high-rise, unprecedented even among comparable cities. The CHA was enamored by the idea of high-rise building, and truly believed that all new urban construction would take this form, despite a stagnating growth of the city’s population (Bowly 2012). The Henry Horner Homes (Figure 4-44) were one of the first projects of this period, by renowned architects Skidmore Owings and Merrill, designers of multiple other CHA developments (Figure 4-45). The modern design of Henry Horner had an exposed concrete structure with red brick infill, perhaps as a nod to more traditional vernacular homes (Figure 4-46). Although originally considered successful, Henry Horner was unable to escape the effects of the ensuing urban volatility and race tensions, and by 1970 began a swift descent into substandard living conditions.
HENRY HORNER HOMES, 1957 (U.S. Housing Act of 1954)

Original Site (1951)

Project Site (1957 - 1995)

Figure 4-47. Henry Horner Homes Urban Plans
(source: data from data.cityofchicago.org & Sanborn Fire Insurance Maps)
Density:
This project cleared and replaced the original site with seven and fifteen-story towers (Figure 4-49), covering only a little over 15 percent of the ground, a major decrease (Figure 4-48). Although the DU/acre ostensibly increased from 17 to 39, this does not account for the internal density of the original site, which was most likely high due to the slum conditions. Even with the major increase in building height, from the original three and four-story, the floor area ratio actually stays relatively even.

Security:
The arrangement of the buildings on this site creates a huge amount of public space, with only 15 percent building coverage (Figure 4-50), the remainder of the site is completely open and publicly accessible. This figure does not account for the interior building spaces that are also quite easily accessible by non-residents. With each entry and means of vertical circulation shared by an average of 83 units, the interior spaces which should be private become more like semi-public or even public spaces (Figure 4-51).
Legibility:
One downfall of the post-war housing acts was the additional pressure of urban renewal pushed public housing to increasingly undesirable sites, a problem that affected Chicago more than most cities. Henry Horner was no outlier, bounded on one side by the elevated train tracks, and the other by parking for the Chicago Stadium (now United Center) (Figure 4-53). One on-site street is eliminated, transforming 6 blocks into 3 super-blocks and eliminating inter-site intersections (Figure 4-52, Figure 4-53). Buildings are arranged somewhat randomly, set-back from the block edges, reducing the street frontage drastically (Figure 4-54).
Figure 4-52. Henry Horner Legibility Calculations

Figure 4-53. Street Morphology

Figure 4-54. Street Section
Diversity:
This site included a maintenance building and “boys club” community center, resulting in 4.5 percent non-residential built space on-site. Although segregated housing was no longer legal, built as a slum-clearance project of a black neighborhood, this project began with mainly black residents. Chicago’s black population experienced a nearly 200 percent growth beginning in the 1960’s, so even though segregated housing was no longer legal, projects city-wide filled with primarily black residents, immediately segregating the changing population (Figure 4-55).

The current housing acts set rent amounts completely dependent on income, with the 1969 Brooke amendment reducing this amount to 25 percent, meaning the less a household earned, the less rent they paid.

Figure 4-55. Racial Make-up by Percentage (1960’s)
4.3.2 Lexington Terrace

Location: Baltimore, MD
Poppleton

Funding: USHA 1954

Built: 1959
Demolished: 1996

Architect: Gaudreau Inc.

Site Area: 21.4 Acres

Units: 677

Building Sizes: (5) 11 Story Buildings
(13) 2 Story buildings

Cost: 7.6 million (1959)
($91,000 per unit – 2016 dollars)

Overview:

Although a relatively small city, Baltimore has an extremely troubled past of public housing and segregation. After Title I of the USHA was passed in 1949, the city took the opportunity to embark upon massive urban renewal projects, displacing thousands of households in the process, the majority of which happened to be black (Carmen Thompson et. al. vs. HUD). A 1966 Baltimore Sun article quotes a planning official explaining this disparity; “Almost all of the areas were selected for clearance because they contained the worst housing in the community...[c]onsequently, they were occupied by the lowest income groups - predominantly Negro” (Dilts 1966). However, the fact that renewal projects were able to target black communities so precisely was by design; Baltimore had reinforced segregation through codes, zoning and red-lining (Bloom, Umbach and Vale 2005, 206). Although areas acquired through eminent domain were condemned as “slums”, many were simply working-class black neighborhoods. It was nearly impossible for black families displaced to find fair market housing, and most were forced into high density housing projects such as Lexington Terrace, built to meet this demand. Lexington Terrace was constructed in coordination with that of a hotly contested new inner-city expressway, meant to serve the affluent surrounding suburbs. The clearance for both projects cut a huge swath out of primarily black west-Baltimore neighborhoods, leaving what would be a lasting scar on the community, both physically and socially (Figure 4-57).
LEXINGTON TERRACE, 1959 (U.S. Housing Act of 1954)

Figure 4-58. Lexington Terrace Urban Plans

(source: data from gisdata.baltimorecity.gov & Sanborn Fire Insurance Maps)
Density: 
Lexington Terrace is a high-rise development like the majority of projects of this time, but it also included two-story garden apartment buildings on-site as well (Figure 4-60). For this reason the building coverage remained a bit higher than typical high-rise projects of this time. The FAR and unit density increased from the original site (Figure 4-59).

Security: 
This project eliminates all semi-public and semi-private spaces by adhering to the tower in a park model. The surrounding open space is accessible to the public, with much of it eventually used as parking (Figure 4-61). The towers have a central elevator lobby and exterior single-loaded corridors. Each building entry serves an average of 110 units (Figure 4-62).
Legibility:
This site changed twice in this period, first for the construction of this project, and second for the construction of a new expressway which borders the north of the site, and boulevard which borders the east of the project site (Figure 4-64). The construction of the highway necessitated the elimination of many on-site streets, creating a large super-block, and eliminating interior intersections (Figure 4-63). Although the project buildings are roughly linear, they rarely address the streets, and have generous setbacks, leading to a major decrease in the percentage of street frontage (Figure 4-65).
Figure 4-63. Lexington Terrace Legibility Calculations

Figure 4-64. Street Morphology

Figure 4-65. Street Sections
Diversity:
Lexington Terrace included a maintenance building and community center, resulting in 5.1 percent non-residential built space on-site. Although not segregated, this project cleared a “slum” area that was comprised of almost completely black residents, leading to nearly 100 percent of the original Lexington Terrace residents being black, not dissimilar to the surrounding neighborhood thanks to a legacy of racial discrimination in Baltimore code enforcement and zoning practices (Figure 4-66). Like projects of this time, rent was capped at first 30, then 25 percent of residents’ income, resulting in poor working tenants vacating projects as soon as superior housing could be afforded, and the percentage of maintenance costs paid by the residents’ rent drastically dropped.

Figure 4-66. Racial Make-up by Percentage (1960’s)
4.3.3 Martin Luther King Plaza

Location: Philadelphia, PA
Hawthorne

Funding: USHA 1954

Built: 1961

Demolished: 1999

Architect: Carroll, Grisdale & Van Alen

Site Area: 10.3 Acres

Units: 576

Building Sizes: 4 Buildings
15 Stories each

Cost: 9 million (1961) ($123,000 per unit – 2016 dollars)

Overview:
In the 1950’s and 60’s, Philadelphia faced a severe shortage housing, and began a period of intense public housing construction. Nine projects were funded at this time, with 65 percent of the resulting units built as high-rise construction. MLK Plaza (Figure 4-67) was located in direct proximity to Center City, Philadelphia, in a neighborhood called Hawthorne. As a small black neighborhood, including roughly only 20 city blocks, Hawthorne was completely overshadowed by the construction of this project. Originally named Hawthorne Plaza, the project was renamed MLK Plaza in honor of a 1965 speech by Dr. Martin Luther King made from the steps of the on-site recreational center. The Philadelphia Housing Authority continued its tradition of hiring prominent architects to design these projects, including Oscar Stonorov (Schulykill Falls) and Louis Kahn (Mill Creek) (Bauman 2009). Carroll, Grisdale and Van Alen, the architects of MLK Plaza, had previously designed many high-profile projects for Philadelphia, including the International Airport. Like many projects of this period, MLK Plaza fell into disrepair after only a little more than a decade in operation (Figure 4-68).
MARTIN LUTHER KING PLAZA, 1961 (U.S. Housing Act of 1954)

Figure 4-69. MLK Plaza Urban Plans
(source: data from PASDA & G.W. Bromley 1910 Philadelphia Atlas)
Density:
This project replaced a slum in a densely populated acre, with 50 percent building coverage, and 42 DU/acre. By replacing two-to-four story rowhomes and buildings with fifteen story towers on a relatively small site, the project managed to increase the DU/acre to 56, while only marginally increasing the floor area ratio (Figure 4-71). Although 50 DU/acres was seen as the desirable maximum for high-rise projects, many Philadelphia projects ended up exceeding this, leading to criticism that the PHA was “warehousing” the poor black population, and recreating ghettos. Despite these increases, building coverage is reduced from a fairly dense 50 to 16 percent, a number in line with other projects of this time.

Figure 4-71. MLK Plaza Density Calculations

Figure 4-70. MLK Plaza 3D Site
Security:
While the original and surrounding urban fabric of this site created only 26 percent public on-site space, the project’s layout increases this to 84 percent, an extremely high percentage (Figure 4-72). While the architects of this site imagined a carefully landscaped site with recreational uses (Figure 4-67), the reality of the project turned these spaces into either parking or open “grassy” areas (that would soon turn to dirt or paving). While the cruciform shaped buildings’ entries opened on multiple sides, a single central elevator lobby served the entire building, over 140 units (Figure 4-73).

Legibility:
Philadelphia is a bit of an outlier from other cities included in this study, with smaller average block sizes; therefore even though this project combines blocks and eliminates side-streets to create super-blocks, the resulting block size remains comparatively small (Figure 4-75). Due to the relatively small site, intersection frequency is not drastically reduced (Figure 4-74). However the set-back and shape of the buildings reduces street frontage to 17 percent, extremely low, especially compared to the 88 percent of the original and surrounding urban fabric (Figure 4-76).
Figure 4-74. MLK Plaza Legibility Calculations

Figure 4-75. Street Morphology

Figure 4-76. Street Section
Diversity
This site included a maintenance building and community center, typical of Philadelphia housing projects, resulting in 2.6 percent non-residential built space on-site. Located in an extremely small historically black quarter, the project was originally home to predominantly black residents, and eventually, completely black residents, cementing the uneven racial distribution of an otherwise comparatively integrated neighborhood (Figure 4-77). Like projects of this time, rent was capped at first 30, then 25 percent of residents’ income, resulting in working class tenants vacating projects as soon as market-rate housing was affordable and fair housing laws were enacted.

Figure 4-77. Racial Make-up by Percentage (1960’s)
4.4 Moratorium and Privatization

By the 1970s residents of most large American cities viewed public housing as a housing of last resort. And then matters got even worse (Vale 2002, 7). By the late 1960’s, projects that had been built less than a decade earlier were already in decline. High-rise public housing had failed so spectacularly that congress went so far as to ban any further construction in which family units were built above three stories. The situation in downtown public housing was becoming dire, even though the amount of units promised in the previous acts remained mostly unbuilt. In 1973 Nixon placed a moratorium on beginning any new housing projects, ostensibly to re-examine past policy and attempt to understand where the federal housing acts had gone wrong. NAREB and NAHB along with other private partnerships joined with conservative powers once again to lobby for the privatization of affordable housing. One compromise initiated during this period of pause was rent certificates, which would become the still-prevalent voucher system, often known as Section 8. This system would take the pressure off the government as housing suppliers, and return those looking for housing to the private market. This period was also the origin of the LIHTC, low-income housing tax credits, a way to produce low-income housing as a tax expenditure, instead of a subsidy. The main outcome of this period was a further shift of power and control over low-income housing from the federal government to local governments and private entities.

After taking office in 1980, Reagan’s administration wrote in the 1982 *President’s Commission on Housing* that it was time to make a large shift to supply-side aid, instead of continuing to produce affordable housing. “These programs put people in homes, but it soon became apparent that such programs were contributing to deterioration rather than renewal, to misery rather than comfort” (1982, xvii). This report made the case that maintenance on public housing was too high to sustain, mainly due to declining amounts tenants paid in rent (Figure 4-79) and new efforts at affordable housing should be made available through the forces of the private market. The report moved the responsibility for existing housing projects from the federal government to local PHA’s, leading to further decline. Residents felt abandoned as PHA’s lacked the funding for maintenance, and left many urban housing projects to decay.

No case studies represent this period, as no significant federally funded construction took place at the time.
4.5 Deconcentration and Disinvestment

By the 1990’s the decline of public housing developments across America became a huge problem, especially in cities where large-scale housing projects had degenerated into areas of concentrated poverty, no better than the slums they were originally created to replace and improve upon. A National Commission on Severely Distressed Public Housing was formed, and the resulting 1992 report served as the impetus for a new phase of public housing policy, beginning with HOPE VI (Housing Opportunities for People Everywhere). HOPE VI was created to apportion grants to city-run PHA’s in order to halt the deterioration of severely distressed inner-city public housing. HOPE VI was originally open to only the largest PHA’s with the highest percentage of “distressed housing”. The condition of the housing was determined by certain thresholds in vacancy, crime, economic distress, and physical distress (NCSDPH 1992). The report cites poor design choices as one reason for failure; “Poor site design is obvious in many severely distressed developments: These developments often lack private spaces to be used by families sharing common entrances and stairways” (NCSDPH 1992, 78). In hindsight many of the report’s finding seem quite obvious, such as valuing high quality design over cost; “[e]ven though some design approaches may result in higher capital improvement costs, there are often long-term benefits that can be achieved through sound planning and redevelopment efforts” (NCSDPH 1992, 82), a major turnaround from the adherence to tight construction budgets that exemplified housing policy in previous iterations.

In many ways HOPE VI marked a return to the attitudes of communitarianism first championed by housing reformers in the early 1900’s leading up to the inception of the housing acts. “Instead of designing a group of buildings to be temporary way-stations on a family’s climb out of poverty, today, a whole mixed-income neighborhood is designed so that people can live there permanently if they choose” (U.S. HUD and The Urban Institute 2000, 34). HOPE VI was the product of a partnership between HUD secretary Henry Cisneros and a recently established group called the Congress for the New Urbanism (CNU). Although based in neo-classical and traditional design instead of Modern, similarities to CIAM in name and organization were no mistake. Andres Duany, a founder of CNU felt as if “CIAM was the last organization that effectively and comprehensively changed the way we design the world” (1999). CNU was able to convince Cisneros that the prescriptive design guidelines of New Urbanism were the solution to the current public housing crisis, and the Congress for New Urbanism co-authored the official design guidelines for HOPE VI with HUD, *Principles for Inner City Neighborhood Design*. One chapter named, “Dwelling as Mirror of Self” proved a return to the concept of environmental determinism supported by housers nearly a century before. In fact CNU and HUD took this concept even further, advocating that all public housing be transformed into mixed-income neighborhoods, in hope that the previous poverty stricken public housing tenants gain some amount of social capital from living in close proximity to successful middle and upper-class residents. HOPE VI also marked a return to the consideration of amenities
accessibility to residents that successful PWA and USHA 1937 funded projects were known for by pushing on-site mixed use development (U.S. HUD and The Urban Institute 2000, 16).

HOPE VI and New Urbanism diverged from earlier housing design in many ways, by encouraging a return to the traditional urban fabric (Figure 4-81), rejecting the superblocks early projects were known for; “Design Concept: New streets were added to an existing project in order to subdivide the project’s super-blocks into neighborhood scale blocks. The barren, unclaimed “common areas” of the project have been transformed into a series of residential addresses” (U.S. HUD and The Urban Institute 2000, 21). Hope VI also suggested a respect and adherence to local architectural character, unlike guidelines for the pre-war policies, which cautioned designers to avoid, “[o]veremphasis of architectural detail instead of carefully studied mass effectiveness”, and “[d]ecorative details unrelated to structural frame” (Housing Division 1935). The Congress for the New Urbanism suggested a series of graphic urban design codes to govern the new developments, as well as community pattern books to guide design of HOPE VI construction.

Language used to describe the efforts of HOPE VI suggested a program meant to not only rehabilitate housing projects, but also to revitalize the surrounding neighborhoods, and undo the poor influence public housing had spread to its immediate environs. “If the HOPE VI process does not help to solidify and revitalize the neighborhoods that surround each development, then the sustainability of these developments is thrown into question” (U.S. HUD 2002, 36). Despite the goal of rehabilitation, demolition was deemed the only reasonable course of action in many cases. Certain projects had reached the point of no return, not only in terms of physical decline, but in reputation and perception by both residents and neighbors. Even if rehabilitated physically, these projects had little chance of social rehabilitation. PHAs felt trapped by the one-for-one unit replacement stipulation, reticent to replace high-density projects with more of the same, and called upon HUD to incorporate the NCSDPH’s recommendation to “develop uniform rules that permit flexibility in replacing units lost through demolition” (1992, 87). By 1995 this replacement requirement was suspended, and urban project demolition began in earnest. PHAs were now able to send residents to other existing projects with vacancies, or use vouchers instead of replacing units, continuing the trend of privatizing public housing. Through HOPE VI, close to 200,000 units of public housing were either demolished or sold. Between this wide-scale demolition, the retraction of the one-for-one unit replacement requirement, and the creation of mixed-income neighborhoods, HOPE VI developments typically only rehoused around 20 percent of the

Figure 4-81. New Urbanist Infill
(source: CNU.org)
original tenants in the new development, sparking criticism that the program displaced more residents than it helped (Goetz 2011, Vale and Gray 2014). Although the alleged method of deconcentrating the poverty found at distressed projects was to disperse tenants into higher-income neighborhoods, this was often not the case, with displaced residents simply moving to existing, worse housing developments. A 1998 NYT article pointed out that incorporating ex-public housing residents into higher-income neighborhoods would have “require(d) communities to accept as neighbors people they have long been happy to have out of sight” (Belluck 1998). As previous public housing residents were displaced, new mixed-income residents moved into the HOPE VI housing projects. With the obvious upgrade in design quality HOPE VI afforded, this begs the question, is high quality design considered ‘too good’ for exclusively low-income residents?

Hope VI rehabilitation projects inspired Lawrence Vale to coin the term, “twice-cleared” site (Vale 2013); that is, a site that had been cleared of its original urban fabric in order to build a housing project funded by a previous Housing Act, and cleared for a second time when the city received HOPE VI funding to demolish the distressed project and rebuild. The HOPE VI era case studies are all “twice-cleared” sites, selected from previously analyzed projects in Chicago (Henry Horner Homes), Philadelphia (Richard Allen Homes) and Baltimore (Lexington Terrace), three cities that received a large amount of HOPE VI funding, and demolished a high percentage of existing public housing. Chicago demolished more units than the next two cities combined, and by far has received the most HOPE VI funding, while NYC has remained largely unaffected by HOPE VI, possibly due to the fact that NYC invested much more than other cities in its public housing units both in quality and upkeep. A second reason for this dichotomy is the preferred style of living in each city. While a large portion of New Yorker are accustomed to high-rise and high-density living, cities such as Chicago, Philadelphia and Baltimore are historically rowhomes cities, where high-rise and multi-family housing leads to increased stigma by not only standing out visually, but creating physically isolated islands of poverty.
### 4.5.1 West Haven

<table>
<thead>
<tr>
<th>Location</th>
<th>Chicago, Il Near West Side</th>
</tr>
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<tbody>
<tr>
<td>Funding</td>
<td>HOPE VI</td>
</tr>
<tr>
<td>Built</td>
<td>1999</td>
</tr>
<tr>
<td>Demolished</td>
<td>N/A</td>
</tr>
<tr>
<td>Architect</td>
<td>Landon Bone Baker</td>
</tr>
<tr>
<td>Site Area</td>
<td>25.4 Acres</td>
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<tr>
<td>Units</td>
<td>461</td>
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<tr>
<td>Building Sizes</td>
<td>(1) 7 Story Building</td>
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<tr>
<td></td>
<td>2 and 3 Story Buildings</td>
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<tr>
<td>Cost</td>
<td>$50 million ($165,000 per unit – 2016 dollars)</td>
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</tbody>
</table>

**Overview:**

The Henry Horner Homes project was one of the first in the country to receive funding for rebuilding. This was due partly to a lawsuit that was brought against CHA in 1991 by the Horner’s Mother’s Guild in response to the Housing Authority neglecting the maintenance of the buildings in order to facilitate the path to demolition (Bowly 2012). As one of the first instances of a HOPE VI redevelopment project, there was much at stake. At the ceremony marking the demolition of the towers in 1995, the first project to be demolished in Chicago, then HUD Secretary Cisneros predicted, “As goes public housing in Chicago, so will go public housing for America”. In the place of towers, the community of “West Haven” was created (Figure 4-82), a mixed use/mixed income neighborhood meant to jump start the renewal of the entire Near West Side neighborhood, which had been described as a “war zone” in Alex Kotlowitz’s seminal book *There are no Children Here* before Henry Horner’s demolition. Three story apartment buildings were selected to replace the towers, with carefully crafted residential details, such as differentiated facades, private yards and front stoops (Figure 4-83). Shared amenities were included in the residential buildings, and storefront spaces were left open for commercial uses.

Figure 4-82. West Haven Apartments
(source: Landon Bone Baker Architects)

Figure 4-83. Architect’s Drawings
(source: Landon Bone Baker Architects)
WEST HAVEN, 1995 (HOPE VI)

Figure 4-84. West Haven Urban Plans
(source: data from data.cityofchicago.org & Google Earth)
Density:
Phase one of the project saw just under 500 units demolished, to be replaced by three story apartment buildings with small lobbies, lawns and gates (Figure 4-86). The DU/acre is reduced from 39 to 18, an almost exact return to that of the original site (Figure 4-85). However, building coverage is barely increased from the previous iteration, and floor area ratio decreases sizably.

Figure 4-85. West Haven Density Calculations

Figure 4-86. West Haven 3D Site
Security:
Although the HOPE VI reintroduces some amount of private and semi-private space to the site, the percentages are still far from those found on the original site (Figure 4-87). The mixture of rowhomes and apartment buildings on site greatly eases the pressure on shared entries, with an average of 3 units sharing a single entry access (Figure 4-88).

![Figure 4-87. West Haven Private/Public Calculations](image)

Legibility:
The new HOPE VI development replaced the through-street that was removed for the project, recreating the blocks and intersections that had been eliminated roughly 30 years prior (Figure 4-89, Figure 4-91). The HOPE VI buildings wrapped the blocks, engaging the streets and increasing street frontage sizably, although not to the percentage of the original site, due to the still low amount of building coverage (Figure 4-90).
Figure 4-89. West Haven Legibility Calculations

Figure 4-90. Street Sections

Figure 4-91. Street Morphology
Diversity

Although this neighborhood is marketed as mixed-use and mixed-income, the phase built on this site only currently includes roughly 2.8 percent non-residential spaces, in the form of ground floor store-front commercial uses. Although attempts were made to de-segregate the project, re-housing the predominantly black residents of the towers resulted in similar demographics for the new development, with the neighborhood remaining primarily black, just bordering a swath of gentrification (Figure 4-93). The new project was to be both mixed-use and mixed-income, originally named the “Villages at West Haven” in a marketing attempt to shift away from the stigma of housing project, and attract middle class buyers to invest in condos on the site. Thanks to the 1998 repeal of the one-for-one unit replacement requirement, West Haven was able to incorporate the sale of market-rate condos (Figure 4-92).

![Figure 4-92. Income Mix](image)

<table>
<thead>
<tr>
<th>West Haven</th>
<th>Black Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood</td>
<td>Black Residents</td>
</tr>
<tr>
<td>Chicago</td>
<td>White Residents</td>
</tr>
</tbody>
</table>

![Figure 4-93. Racial Make-up by Percentage (2010)](image)
4.5.2 Townes at the Terrace

Location: Baltimore, MD
Poppleton

Funding: HOPE VI

Built: 2000

Demolished: N/A

Architect: Torti Gallas

Site Area: 21.4 Acres

Units: 350

Building Sizes: (303) Townhomes
(1) 4 Story Building

Cost: 60 million (2000)
($210,000 per unit – 2016 dollars)

Overview:

After the demolition of Lafayette Courts, the largest and most problematic housing project in Baltimore, Lexington Terrace was next to fall, out of commission only 37 years after construction. Besides the physical degradation of the project, project-related crime had become untenable, even spawning a dangerous gang, the ‘Lexington Terrace Boys’. After the towers fell, Torti Gallas, an architecture and planning firm with extensive experience in New Urbanism and HOPE VI, was hired to redesign the site as “Townes at the Terrace”. The new single-family homes have porches and front stoops, and are designed to blend in with the architecture of the surrounding area (Figure 4-94). Alleys were re-introduced to the site as gated walk-ways, leading to private backyards (Figure 4-95).
TOWNES AT THE TERRACE, 2000 (HOPE VI/QHWRA)

Figure 4-96. Townes at the Terrace Urban Plans
(source: data from gisdata.baltimorecity.gov & Google Earth)
Density:
Although the projects had close to 700 units, the new Terrace contains only half as many, reducing the DU/acre even below that of the original site. Of the 350 units, 50 are located in the new four story senior building, and the remainder are rowhomes (Figure 4-98). Replacing the towers with rowhomes only marginally increases building coverage, and the FAR is halved (Figure 4-97).

Figure 4-97. Townes at the Terrace Density Calculations

Figure 4-98. Townes at the Terrace 3D Site
Security:
Unlike many HOPE VI projects, the Terraces planned for on-street parking, and used site interiors instead for private yards each townhome could access by gated alleys (Figure 4-95). This increases the amount of private and semi-private spaces on site noticeably (Figure 4-99). As primarily single family homes, each unit has its own entry (Figure 4-100).

![Figure 4-99. Townes at the Terrace Private/Public Calculations](image)

![Figure 4-100. Typical Townes at the Terrace Rowhomes with Entries](image)

Legibility:
It would have been impossible to replace the original streets eliminated by the project due to the new expressway and boulevard since built (Figure 4-102). Instead, new winding streets are incorporated in order to separate the new construction from the at-grade boulevard, returning the intersection frequency and block size to the levels of the original urban fabric (Figure 4-101). With new two and three-story townhomes bordering the blocks, the percentage of street frontage is close to that of the original site (Figure 4-103).
Figure 4-101. Townes at the Terrace Legibility Calculations

Figure 4-102. Street Morphology

Figure 4-103. Street Sections
Diversity

One unprecedented move in this development was to add a 40,000 sq. ft. mixed-use office building, which would contain the office of the site managers, and create the possibility of jobs for residents. This move increased the non-residential on-site built area to 8.5 percent, quite high, comparatively. The demographics of the new development remain primarily black, in-line with the demographics of the surrounding Poppleton neighborhood (Figure 4-105). As a city with an extremely high black population, this concentration is unsurprising in Baltimore, and has proved to be enduring. Although the majority of the townhomes are reserved for low-income housing, 13 percent of the homes are market-rate, with only small differences from the public units, outwardly indistinguishable (Figure 4-104).

Figure 4-104. Income Mix

Figure 4-105. Racial Make-up by Percentage (2010)
4.5.3 Richard Allen Homes II

Location: Philadelphia, PA
West Poplar
Funding: HOPE VI
Built: 2003
Demolished: N/A
Architect: Wallace Roberts Todd
Site Area: 26.7 Acres
Units: 408
Building Sizes: (18) 3 Story Buildings, (82) Duplex Homes
($196,000 per unit – 2016 dollars)

Overview:

Despite initial success, the Richard Allen Homes were affected by the same troubles that many inner-city housing projects faced, and despite the numerous high-rise projects that needed rehabilitation, Richard Allen qualified for Philadelphia’s first HOPE VI grant of 50 million dollars. As one of the city’s longest operating projects, the water and electric infrastructure was wildly unreliable, and site maintenance had all but ceased, with open spaces paved over to save money on landscaping (Bauman 2009). Most of the project was razed, with buildings considered redeemable gutted and renovated as townhomes with utility upgrades. Pitched roofs and dormers were added in an attempt to humanize the stark buildings. Duplexes were then built to replace the barracks-like apartment buildings (Figure 4-106). This project has faced much criticism for creating such a suburban neighborhood so close to center city, extremely unlike the character of the surrounding neighborhoods (Figure 4-107).
Figure 4-108. Richard Allen Homes II Urban Plans
(source: data from PASDA & Google Earth)
Density:
The number of units on site declines from over 1300 to 408, fewer than one-third, possibly as a deliberate attempt to deconcentrate this area of poverty. Building coverage and FAR also reduces dramatically, from both the previous project and the original site (Figure 4-109). The low density is mainly due to the duplex style of building (Figure 4-110).

Figure 4-109. Richard Allen II Density Calculations

Figure 4-110. Richard Allen 3D Site
Security:
Although the private space on site is reduced, the shared front and back yards of the new duplex homes creates more semi-private space on the site (Figure 4-111). The apartment buildings were gutted and renovated as rowhomes, so each unit on the HOPE VI site now has a private entry (Figure 4-112).

![Figure 4-111. Richard Allen II Public/Private Calculations](image1)

Legibility:
Like the majority of HOPE VI projects, this development restored streets and alleys that had been removed, carving the three super-blocks into smaller blocks close to their original size, and raising the intersection frequency (Figure 4-113, 4-114). However, the suburban design typology used in this project reduces the street frontage to 20 percent less than the previous project, and 40 percent less than that of the surrounding urban fabric (Figure 4-113, 4-115).
Figure 4-113. Richard Allen II Legibility Calculations

Figure 4-114. Street Morphology

Figure 4-115. Street Sections
Diversity:
The extremely suburban redesign of this site does not incorporate much non-residential usage, with the on-site school that served the project’s children vacant since 1982. Instead a 16,000 sq.ft. community center is constructed, as well as an on-site health clinic, resulting in 3.2 percent non-residential space on-site. Although no longer segregated, over 90 percent of the homes are still occupied by black residents. This is slightly higher than the neighborhood, and both percentages are much higher than the current 42 percent proportion of black households in Philadelphia (Figure 4-116). Unlike many HOPE VI projects, the PHA chose not to incorporate any market-rate units in this redesign, keep all of the units for public housing.

Figure 4-116. Racial Make-up by Percentage (2010)
4.6 Current Innovations

After over a decade in existence, the legacy of the HOPE VI program has been carefully examined. Although the designs of many developments were publicized as award-winning and state-of-the-art, many critics questioned whether this was the correct path forward for public housing. When there was finally a pause in the demolition and rehabilitation of distressed projects, HOPE VI was gradually phased out, to be replaced by Choice Neighborhoods, a program that focuses on bringing public and private investment back to struggling neighborhoods. After the initial rush of HOPE VI projects, federal housing funding slowly dried up, reducing by over 20 percent. Due to this reduction in funds, local and state PHA’s were forced to generate creative new sources of funding. The LIHTC, created by the Tax Reform Act of 1986 was heavily relied on, with the amount of LIHTC projects increasing exponentially each year. LIHTC, an indirect tax expenditure, allocates federal tax credits to each state, which then award the credits to developers who can leverage them for private equity. The amount yielded from low-income tax credits is usually not enough to finance a whole project, and must be combined with local, state, and philanthropic funding. Due to this mixed-financing model, the resulting projects may be owned by the developers, or jointly with the government.

LIHTC funding requires that 40 percent of the units are reserved for tenants making less than 60 percent AMI, or 20 percent of the units are reserved for tenants making less than 50 percent AMI. The tax credits expire after ten years, and the income requirements expire after fifteen years, allowing the owner to convert the units to market-rate (Orlebeke 2000, 512). Luckily many LIHTC projects are undertaken by non-profit housing developers who mean to keep their projects affordable past this required time period, however the possibility of losing thousands of low-income units each year remains (Furman Center 2012) (Figure 4-118). The LIHTC/mixed-financing method of creating affordable housing privatizes the construction of affordable housing and leaves the choice of design and designer up to the developers, with little to no oversight from HUD, and vary degrees of involvement by the local PHAs. This has allowed developers to increase fundraising and publicity by choosing cutting-edge architects and design, or filling the

<table>
<thead>
<tr>
<th>LIHTC Sample Description</th>
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<tbody>
<tr>
<td><strong>All LIHTC units</strong></td>
</tr>
<tr>
<td>Total Developments</td>
</tr>
<tr>
<td>Total Units</td>
</tr>
<tr>
<td>Average Development Size</td>
</tr>
</tbody>
</table>

**Region**
- Northeast | 13.5%
- Midwest | 22.7%
- South | 39.8%
- West | 23.9%

**Geographic Distribution**
- Central City | 50.8%
- Suburb | 34.5%
- Rural | 14.7%

**Developer Type**
- For-Profit | 80.0%
- Non-Profit | 20.0%

*Source: HUD data*
role through competitions. Although funding the construction of low-income housing through tax credit has benefits, the complexity of the program has been proven to be inefficient, with less than half of each tax credit dollar going directly towards construction (Orlebeke 2000, 512).

The following case studies, like much of the urban subsidized housing currently created, are very different and represent the poles of current design ideology for affordable housing. Martin Luther King Plaza in Philadelphia is located on a twice-cleared site, adhering to communitarian ideals of providing permanent homes for low-income households. This project also follows the HOPE VI trend of returning to original urban fabric and mixed income living, perhaps more successfully than previous HOPE VI case studies. On the opposite side of the spectrum, Sugar Hill in New York City makes a bold statement, setting itself apart from the surrounding neighborhood - in a way returning to the ideology of designers during the “Urban Crisis and Concentrated Poverty” period, when high-rise buildings were meant to stand out from the surrounding slum-like conditions. In the past this differentiation of low-income housing was a mistake, and led to stigmatization. Sugar Hill was completed recently, and it remains to be seen if this new endeavor to create iconic subsidized housing will be a successful replicable model.
### 4.6.1 Martin Luther King Plaza

- **Location:** Philadelphia, PA
- **Funding:** mixed-finance
- **Built:** 2011
- **Demolished:** N/A
- **Architect:** Torti Gallas
- **Site Area:** 11.7 Acres
- **Units:** 245
- **Building Sizes:** 2, 3 story Duplexes, Townhomes
- **Cost:** 81 million ($330,000 per unit)

As the “rebirth” of Philadelphia’s downtown began to spread outward, the two bleak towers of MLK Plaza created a barrier of sorts, preventing the renewal from continuing south. After the towers’ demolition in 1999 thanks to HOPE VI funding, a multi-phase project was initiated in attempts to return the high-rise super-block into the urban fabric of the city, funded mainly by leveraging Low-Income Housing Tax Credits (LIHTC) and private equity with state and city funds. Philadelphia’s historic housing stock was carefully studied in order to create a “kit of parts” for designing neo-Federalist row-homes with differentiation in color, height and architectural detail (Figure 4-120, 4-121). Although urban planners did not return to the original street-grid, the new layout adhered to the typical Philadelphia street layout, with alleys replaced by backyards and parking for the residents. Lastly a park was created from a block purposefully left vacant (Figure 4-119). After completion, this project won multiple awards for urban, landscape, and architectural design.
MLK PLAZA I-IV, 2011 (Mixed Finance)

Figure 4-122. MLK Plaza Urban Plans
(source: data from PASDA)
Density:
After the demolition of the MLK towers, the number of units on-site declines from 576 to 245, less than half. However, the towers had become so dilapidated, roughly half of the units were vacant before the decision to demolish was made. Dwelling units per acre is reduced to 32, similar to the surrounding area. Building cover is also increased to resemble that of the surrounding area. FAR is also reduced dramatically from the towers (Figure 4-123, 4-124).

Figure 4-123. MLK Plaza Density Calculations

Figure 4-124. MLK Plaza 3D Site
Security:
Private and semi-private space is radically increased from the previous iteration, however, the copious off-street parking provided on-site creates much more public space than typically found in the surrounding area (Figure 4-125). As almost exclusively townhomes, each unit has a private entry (Figure 4-126)

Figure 4-125. MLK Plaza Public/Private Calculations

Figure 4-126. Typical MLK Plaza Buildings with Entries
**Legibility:**

This development restored streets and alleys that had been removed, carving the super-blocks into blocks close to their original size, and raising the intersection frequency (Figure 4-127, 4-128). Street frontage is also increased by emulating the typical urban fabric of the neighborhood. (Figure 4-129).

**Figure 4-127. MLK Plaza Legibility Calculations**

**Figure 4-128. Street Morphology**

**Figure 4-129. Street Sections**
Diversity:
As townhomes, this project is completely residential, with the new park as the only shared community area. Census data is not current enough to determine if this new development has had an effect on racial diversity, but since the demolition of the towers this area has been rapidly gentrifying. 109 of the units were sold at fair market values, half the price houses in the neighborhood currently sell for. The rental units are meant to attract a mix of incomes, from 30-60 percent AMI, which is 74,000 dollars for this neighborhood, setting income limits at 45,000 dollars for a family of four (Figure 4-130).
4.6.2 Sugar Hill

<table>
<thead>
<tr>
<th>Location</th>
<th>Manhattan, NYC Hamilton Heights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding</td>
<td>Mixed Finance</td>
</tr>
<tr>
<td>Built</td>
<td>2014</td>
</tr>
<tr>
<td>Demolished</td>
<td>N/A</td>
</tr>
<tr>
<td>Architect</td>
<td>David Adjaye</td>
</tr>
<tr>
<td>Site Area</td>
<td>1 Acres</td>
</tr>
<tr>
<td>Units</td>
<td>124</td>
</tr>
<tr>
<td>Building Size</td>
<td>13 Stories</td>
</tr>
<tr>
<td>Cost</td>
<td>80 million ($560,000 per unit)</td>
</tr>
</tbody>
</table>

As a single building, this case study differs from the other projects studied in this paper, but it is important as an example of a new direction for low-income housing. New York is facing an extreme crisis of affordability, and Sugar Hill was part of an initiative to create 165,000 new affordable units by 2014 (Figure 4-131). The 80 million dollars in funding came from LIHTC along with state, city and private equity. The non-profit Broadway Housing Communities developed this project, selecting David Adjaye, an internationally known architect, as the designer. The architect’s goal was to redefine the perception of social housing by providing high-design and integrated uses for low-income families. At a press conference to mark the project’s completion Adjaye said, “My hope is that the building, perched high on Coogan’s Bluff, will offer a symbol of civic pride and be a valued new resource for the neighborhood” (2014). Although building on this brownfield (gas station) site was never destined to be economic, the cantilevered structure, irregular windows, and custom designed concrete panels (Figure 4-133) raised the price so high that the per-unit cost of $560,000 skewed NYC’s average, which previously was below 400,000. Although opinions on the fortress-like architecture vary it certainly creates a stark contradiction to the older traditional public housing towers that can be seen across the street (Figure 4-132).
**SUGAR HILL,** 2014 (Mixed Finance)

Density:
Built in a residential area of Harlem, at 155th St. the existing neighborhood is extremely dense. However, the 13 story tower dwarfs the surrounding context of 4-6 story townhomes and apartment buildings, increasing the density of an already dense area. Floor area ratio is increased to 3.3, and although building cover is comparable, the amount of units is notably higher than that of the surrounding site (Figure 4-135).
Security:
The two floors of mixed-uses creates an unusual situation, with truly private residential space only beginning on the third floor, creating a large amount of semi-public space, but less private space than a typical apartment building (Figure 4-136). However the entries for the different uses are separated, with the residents sharing elevators and a stairwell. 124 units sharing one entryway is extremely high, and reminiscent of housing from the 1960’s (Figure 4-137).

![Figure 4-136. Sugar Hill Private/Public Calculations](image)

![Figure 4-137. Sugar Hill Building with Residential Entry](image)
Legibility:
As a single building, it is impossible to measure sugar hill in the same way as the other larger case studies, but legibility may be determined by building height and style. Unlike HOPE VI projects and more recent efforts such as MLK Plaza, the architecture and form of Sugar Hill was designed not to fit in, but to stand out, returning to the ideology of the modern towers built in the 1960’s. Although this proved to be a mistake in the past, Adjaye hoped to erase the existing stigma by broadcasting an iconic example of affordable housing (Figure 4-138).

Figure 4-138. Street Section

Diversity:
The first two floors of the building house a children’s museum, early childhood center, and various offices and community spaces, creating a mixed use-building, in the architect’s words, “offering a holistic approach to the needs of the sugar hill community” (Adjaye 2014). Thanks to these amenities, close to 15 percent of the building is dedicated to non-residential uses. No recent census information is available for this area, so racial diversity is not able to be measured at this point. It was important for the developers that the building be 100 percent affordable housing, but a mix of income units were incorporated, with income limits ranging from 30 percent to 60 percent of the AMI, which in Harlem is 60,000 dollars (Figure 4-139). Over 48,000 applications were received to fill these 124 units, tenants were chosen through a lottery system.

Figure 4-139. Mix of Income
CHAPTER 5 Data Analysis

5.1 Urban Density

Considerable blame for the failure of high-rise public housing is placed on high-density sites, and concentration of poverty within. However, data collected from the case studies suggest that in terms of density, the average DUA of high-rise projects is not notably higher than that of low-rise pre-war housing, both roughly two times that of the local urban fabric. The Williamsburg Houses (USHA 1937), a project with a DUA of 75, has been in operation nearly 80 years while the projects from the 1960’s with similar and lower DUAs barely lasted 30 years (Figure 5-1. Dwelling Units per Acre (as percentage of original urban fabric) Figure 5-1). This proves that unit density alone is not a reliable indicator of success or failure, and must be considered along with massing. While the FAR of high-rise projects is much higher than that of previous projects, this is partially due to extra floor area made necessary by the high-rise typology, in terms of vertical circulation, corridors, and mechanical space (Figure 5-2).

In response to the perception that high-density sites were doomed to fail, the HOPE VI policy led to massively reduced densities, thanks in part to the removal of the one-for-one unit replacement requirement deemed necessary to disperse the “concentrated poverty”. This overcautious approach to site rehabilitation made HOPE VI designers wary of increasing site density in any way including building coverage, and many projects barely improved upon the extremely low building cover of the prior tower sites (Figure 5-3). Despite the New Urbanist theory of adhering to local character, these low percentages in each density measure made many HOPE VI projects read as overly suburban, and out of place in a metropolitan neighborhood. The focus on deconcentrating poor residents undermined the design of the projects, leading to developments that lacked the critical density that would enable a full return to the cities’ urban fabric. In more current attempts at public housing, projects meant to both stand out (Sugar Hill) and fit in (MLK Plaza) address the public realm in terms of urban density, creating public housing that compares favorably to the neighborhood’s urban fabric in terms of DUA, FAR, and building cover. The groupings in Figure 5-4 shows how projects from different periods addressed site density, compared to the original urban fabric. While the two most current projects differ from one another, their proximity to the local urban fabric shows an attempt to move closer to their surrounding context in terms of density.

Figure 5-1. Dwelling Units per Acre (as percentage of original urban fabric)
Figure 5-2. Floor Area Ratio (as percentage of original urban fabric)

Figure 5-3. Building Cover (as percentage of original urban fabric)

Figure 5-4. Site Density Comparisons
5.1.1 Objectives:

- Density must be considered by each of these metrics together, and designed appropriately in relation to project’s goals, and local context.
- Architects must design projects that can adapt to possible and probable changes in the densities of surrounding neighborhoods.
- Sensitivity towards the massing of new projects must always be considered along with density measures. Even if the massing of buildings is not meant to fit in with the local context, it should address it.

5.2 Architectural Security

Unsurprisingly, the data proves projects with appropriate amounts of private and semi-private space are more successful than projects with large amounts of undefined public spaces, and no real buffer between public and private realms (Figure 5-5). In post-war housing, projects coupled a high percentage of public space on-site with entries that served great amounts of units, weakening the security of the site exponentially (Figure 5-6). With no doormen or additional security measures, entryways and interior circulation - areas that should be private to residents - become public as well, leading to insecurity, even within the confines of buildings that residents called home. Although imperceptible in this data, it is apparent enough through the case studies that all public space is not created equal. Although public space, by its nature is accessible by anyone, an implication of enclosure and ownership can be articulated through site design. Creating clear boundaries through building massing suggests a sense of resident possession and can enhance security through natural surveillance. The design of the Williamsburg Houses (USHA 1937) is successful in this by carefully controlling the access points of the large interior public courtyards through the buildings’ shapes, by doing so spatially implying that the recreational space is meant primarily for resident use. Alternatively, the public space surrounding the Henry Horner Homes was ill-defined and allowed the residents no privacy until they reached their unit, and little sense of ownership.
5.2.1 Objectives:

- Clearly define and regulate the interior and exterior boundaries between private and public space.
- Control the permeability of the site, through both building entries and the articulation of public and semi-public spaces. Interior site public spaces should convey a sense of enclosure.
- Manage the amount of units that utilize each building entry, if a high number is necessary than provision such as security systems and doormen must be accounted for.
- Engage with the public realm in a way that enhances the inherent natural surveillance of the site. This may be achieved by focusing the project outwardly, and maintaining “eyes on the street”
5.3 Urban Legibility

In regards to social isolation, the legibility of each project plays the most important role, allowing low-income housing to be instantly recognized and stigmatized. It is obvious, through historical review and data collected that initially, housing projects were meant to stand out from their surroundings, creating neighborhoods unto themselves. Throughout the years and changing opinions on both public housing and its residents, it became clear that in many cases this purposeful separation was a mistake. Figure 5-7 shows that as public opinion on low-income housing shifted, designers no longer employed strategies that would render projects easily distinguishable from surrounding context. Superblocks were rejected and street intersections were reinstated in order to reconnect the project’s residents to the organizational grid of the city. Superblocks were originally utilized in order to create the “garden city” ideal of copious green space and winding non-vehicular paths. Although the goal of abundant recreational space is truly beneficial, the MLK Plaza (mixed-finance) project has proven it achievable without creating superblocks. Instead one small block was designated a public park, allowing the residents all of the benefits of green space, with none of the stigma of super-blocks, or disruption of the city’s grid.

For the most part, the idea of “streets as places” was abandoned by the first two periods of public housing design. “Communitarian” projects saw proximity to streets as unnecessary, choosing instead to focus inward, creating enclaves of sorts. The Corbusian ideology of “Urban Crisis” period projects viewed streets as dangerous, something pedestrians and residences should be separated from. Although “Communitarian” housing projects did not purposefully address the context of surrounding streets, the “German block” style of planning often created a fair amount of street frontage depending on the orientation of the buildings. Alternatively, post-war high-rises removed buildings as far as possible from streets, increasing the legibility of the site not only through the height of the building, but through the refusal to address and add to the public realm of the streets. Although HOPE VI and more current projects once again address the street, frontage never completely returns to that of the original urban fabric (Figure 5-8). This is not purposeful, but instead, a result of the lower densities of these projects. West Haven (HOPE VI) is a perfect example of this; even with all buildings lining the street, the sheer lack of built area prevents a high percentage of street frontage.

One last important aspect of street legibility is parking. While street parking is typical in almost all cities, the inclusion of off-street parking in a project, while an amenity, is not always a successful design decision. Not only does it increase public space on-site, it differentiates the site from its surroundings. Richard Allen II (HOPE VI) is particularly ineffective in this, designing individual driveways for each unit, a feature that would normally never be found in a neighborhood so close to Center City. The Townes at the Terrace (HOPE VI) do a much better job, leaving parking on-street and instead using the alleys for gated back-yards.
5.3.1 Objectives:

- When designing a project as part of an existing neighborhood, consider local context. Regardless if the project is meant to emulate the vernacular, or designed to be complimentary, the new housing should address local character in urban design and architectural massing.

- In order to maintain continuity in the urban fabric, buildings must create and preserve a relationship with surrounding and interior streets.

- Design each development to have connectivity with the grid of the city. This promotes interaction between the project and surrounding area, and decreases exclusion of the project’s residents.

- Provide carefully articulated private or public green spaces for residents
5.4 Diversity

Diversity is a characteristic that depends highly on inherent qualities of the surrounding area. Non-residential on-site space creates a diversity of uses within a project, but in this case the data does not tell the entire story; for example some projects may be restricted in this category by zoning or other regulations (Figure 5-9). The importance of non-residential uses on site vary due to the projects’ proximity, or lack thereof, to resources. For example, the Townes at the Terrace (HOPE VI) incorporated an office building and convenience store, uses that would be otherwise hard to find in the primarily residential area. Sugar Hill (Mixed-finance) created both a children’s museum and childhood education center, to serve not only the residents of the project, but the entire neighborhood by filling a perceived community need. However designing for specific non-residential uses can be risky, since the demands of the community (after project completion) may be difficult to predict. In this regard, it is most important that architects design for flexibility.

As seen throughout the policy research, segregation in public housing has been a major (mostly unintentional) failure on the part of housing policy. The data collected on this characteristic is interesting for a few reasons. Although Figure 5-10 shows that projects have been and remain extremely segregated when compared to the city as a whole, the racial make-up of projects is similar to that of the neighborhood, proving that site selection for projects favored heavily segregated areas. While this is not surprising for pre-war projects that were meant to be segregated, post war projects also followed this trend, even after the projects were legally integrated. The two outliers in this data are the Williamsburg Houses, which was built as an all-white project in Williamsburg, at the time a mostly white area, and Lenox Street, built as an all-black project in Boston, which at the time had a black population of barely 2 percent. Although racial dissimilarity appears to lessen in post-war projects, this is deceptively due to the huge increase in cities’ black populations at this time, while in fact the projects remained primarily black.

Even though the per-unit costs of each project have been adjusted for inflation, an exponential upward trend is apparent (Figure 5-11). This is not completely indicative of the average current spending on public housing units, since the cost of Sugar Hill is unprecedented, even for NYC. As the costs of public housing increases, the percentages of units available exclusively to very (VLI) and extremely low-income (ELI) renters decreases. This correlation may not be suggestive of anything other than the fact that mixed-income housing is now seen as the answer to dispersing concentrated poverty, and costs are naturally rising. However it may be inferred that high-end and expensive design is not viewed as a necessary expenditure for projects meant for the poorest citizens. While mixed-income living is ideal and helps to assuage the economic segregation endemic to large cities, research has debunked the concept that poor residents gain social capital from living near richer ones (DeFillipis 2013). In fact in many cases dispersing public housing residents into mixed-income housing breaks their social networks, and leads to greater alienation. This has been a problem in the West Haven neighborhood (HOPE VI), with tensions rising between residents of market-rate and public housing units.
5.4.1 Objectives:

- Design with flexibility, if the need for mixed-use spaces cannot be predicted, design spaces that can adapt to different uses, or house them in the future.

- Consider the needs of the new housing development along with the needs of the surrounding neighborhood. Consider proximity to existing resources.

- If designing mixed-income housing, do not differentiate between market-rate and low-income units in order to lessen alienation and tensions between residents.

- When designing for mixed-income housing, do not sacrifice low-income units for moderate and market-rate housing.
5.5 Policy

In America, each new method of providing public housing is motivated by many factors, including feedback from the prior iterations. Many choices that are now acknowledged as mistakes were made due to earlier political and design influences. However, many policy choices were made because of positive, or more often, negative feedback from previous attempts. In order to prevent poor policy decisions, feedback must be carefully studied in order to create policy that either reinforces past successes, or counteracts past mistakes. Over-correction of past missteps is often detrimental to future policy recommendations (Figure 5-12).

Designers were extremely instrumental in writing past policies, including Catherine Bauer, Edith Elmer Wood, Alfred Bettman, the Regional Planning Association of America, the National Association of Housing and Redevelopment, and the Congress for the New Urbanism. As we move into the future, the mixed-finance method of funding lessens the effect of designers’ political influence, leaving many public housing projects with no specific federal or state design oversight. Instead developers are depended on to choose architects who will provide appropriate design proposals. This shift has both positive and negative aspects. Many projects funded by past housing policies imbued with design theory are now seen as failures, in retrospect even Bauer believed “to jell both policy and practice in rigid formulas” (1957, 487) was a mistake. However, as seen in

Figure 5-12. Housing Policy Feedback Loop
Figure 5-13 and Figure 5-14, this leaves architects and designers with little influence in creating housing policy, diminishing the role we might play in providing housing for our most vulnerable neighbors. However, the lack of design oversight written into policy also allows architects more freedom in the design of individual projects, which may result in extremely innovative projects, and allows architects and developers to make choices based on personal design and planning ideologies.

5.5.1 Objectives:

- Do not adhere to excessively-specific design ideologies and prescriptions, instead regulate the quality of construction and general architectural standards of projects. Designers should be integrated into the policymaking process in order to advocate for a design agenda that will benefit the residents and neighborhood.

- Public housing programs must be coordinated with neighborhood revitalization programs through comprehensive and participatory planning processes in order to incorporate citizens’ viewpoints, and maximize the effects of improvements made.

- Return to a housing policy that not only provides housing for the poorest citizens, but also for the working poor, temporarily poor, and low to moderate income residents in order to
ease the looming affordability crisis in many American cities. This will stop the perception of “warehousing” the poor, and the stigma of low-income housing will be naturally reduced by a more diverse resident base.

- Create a framework for selecting low-income housing residents and setting income limits, the desire to deconcentrate poverty should not overshadow the fact that there are thousands of extremely low income households on public housing waiting lists. While mixed-income developments are ideal, low-income residents should not be disregarded in order to incorporate higher income groups.

- Continue to support mixed-financing/LIHTC construction and Housing Choice vouchers in order to encourage affordable housing construction within the private sector, but also increase direct subsidies to local PHA’s exclusively for affordable housing construction as a much more cost efficient method of project delivery.

- A guideline for allocating LIHTC dollars should be created, so that projects are given to developers that 1) plan to keep the housing units affordable after the 15 year requirement runs out, and 2) plan to make the entire development affordable, instead of the 40 percent or 20 percent required.

- Create a clear policy for site selection. Public housing is often built in segregated areas of high poverty, ostensibly as an effort to revitalize the distressed neighborhoods, but in reality solidifying the isolation of both the project and neighborhood. A maximum allowance of neighborhood poverty and segregation should be set for housing project sites, so that the new development and existing neighborhood benefit each other.

- Create policy recommendations for designing innovative and replicable housing projects. There is a balance between cost and quality of housing that must be reached in order to produce well-designed high-quality housing that is also economically feasible.
CHAPTER 6
Conclusion

The story of American public housing is one of quiet successes drowned out by loud failures (Goetz 2013, 24).

Throughout this research, the question remains; how influential is design in determining social outcomes? After studying the successes and failures throughout the past century, it would be misguided to believe that design has no effect at all. As designers, while creating affordable housing for low-income residents, careful considerations must be made to context, and a clear understanding of the factors behind these successes and failures of the past is imperative.

Pre-war public housing was designed to serve as a community unto itself, and function as an enclave. Reformers believed that the built environment directly determined social outcomes, and projects were designed as permanent communities. After WWII, the permanent communities of affordable housing were exchanged for projects designed as waystations for the poor, but policies of the time did not enable the mobility that would make this possible, and waystations instead became warehouses for the poor, permanent repositories often viewed as traps by the residents that lived within. The focus of housing policy is now correcting the mistakes of the past, and making public housing an integral and productive part of the city, instead of isolated islands of poverty. Durability, a characteristic of public housing that has been reinforced by housing policy, is not always a desirable quality in the ever-changing urban fabric of cities. The past durability of public housing built form led to durability in segregation, poverty and isolation. Instead, flexibility and adaptability are qualities inherent to good urban housing, and ironically, will create longer lasting affordable housing.

The main conclusion that can be drawn from the case studies in this paper is that the most successful public housing is housing that allows its residents to live in the same preferred manner of living as those surrounding them. This requires a careful study and deference to context. When federal policy incorporated specific recommended design directives, attention to context was impossible. This resulted in residents living in a style they had no desire to. While high-rise and high-density living has been excoriated for public housing, the actual success or failure lies in the contrast to the surrounding urban fabric. High-rise projects in NYC have been successful, since it is a manner of living many residents partake in, while disastrous in Baltimore, a city of mainly rowhomes.

The design and policy recommendations made in this research should be meaningful to local housing authorities, developers, and community development corporations, but are meant specifically for design professionals in order to show how the design fields can, and should be instrumental in the provision of successful urban subsidized housing. Housing policy and implementation includes professionals from a broad range of fields, including architecture, planning, politics, economics, and sociology to name a few. As seen through this thesis, communication is necessary between professionals from these fields in order to deliver the
best results. This research focuses on design issues within public housing, and therefore only shows one facet of the problem. Design is only one part of the solution, and does not fully account for many urban phenomena, such as gentrification, demographic shifts, and changes in urban industry and economy. Therefore further exploration into the economic, political, and societal effects of the design choices examined is needed in order to provide a comprehensive picture of the issues, and help to illuminate the correct path forward in the implementation of affordable and subsidized housing. While this research provides a close look at the history of urban public housing and policy influences, rural and suburban affordable and subsidized housing are not considered, and further research is necessary to explore the effects of architecture and site design on non-urban affordable housing projects.

While public housing is considered by many a failed policy, the success stories actually far outweigh the very public failures. Waiting lists for public housing in big cities are tens of thousands of names long, as residents attempt to procure the only type of housing that would be affordable to them. Even at the demolition of notorious projects, many old residents looked on with melancholy, such as Geraldine Graves of MLK Plaza in Philadelphia, who told the Observer Reporter, “I made my family and I raised my children there...I’m going to miss it” (Oct. 18, 1999). This begs the questions, what is the inherent value of urban public housing? While it has obvious value to its residents as a home, and value to the city by filling a necessary gap in the private market, if implemented correctly, it also has value as a catalyst for neighborhood improvement through urban design improvement opportunities. However, to expect public housing to single-handedly solve problems of poverty and segregation like the HOPE VI program did, may set too high of a bar, and remove focus from the most important thing, creating housing that is beneficial to low-income residents. The intrinsic value of public housing as just that, housing, needs to first be recognized and acknowledged.
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APPENDIX

Site Locations

Figure A-1. Williamsburg Houses Site Proximity to Downtown

Figure A-2. Lenox Street Site Proximity to Downtown
Figure A-3. Richard Allen Homes Site Proximity to Downtown

Figure A-4. Henry Horner / West Haven Site Proximity to Downtown
Figure A-5. Lexington Terrace / Townes at the Terrace Site Proximity to Downtown

Figure A-6. MLK Plaza Site Proximity to Downtown
Figure A-7. Sugar Hill Site Proximity to Downtown Neighborhoods