

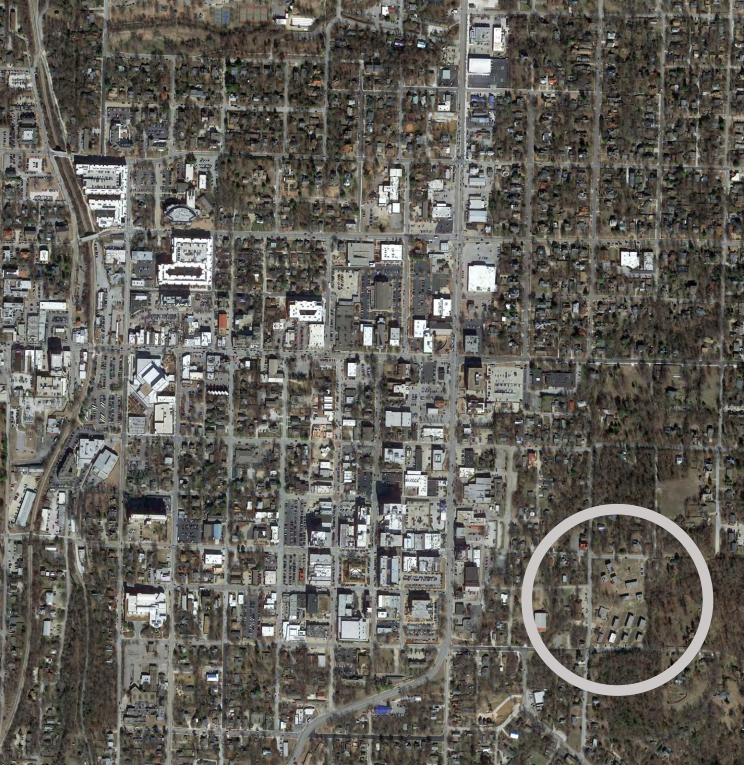
June 2018

LIVABILITY IMPROVEMENT PLAN FOR WILLOW HEIGHTS HOUSING

University of Arkansas Community Design Center prepared for

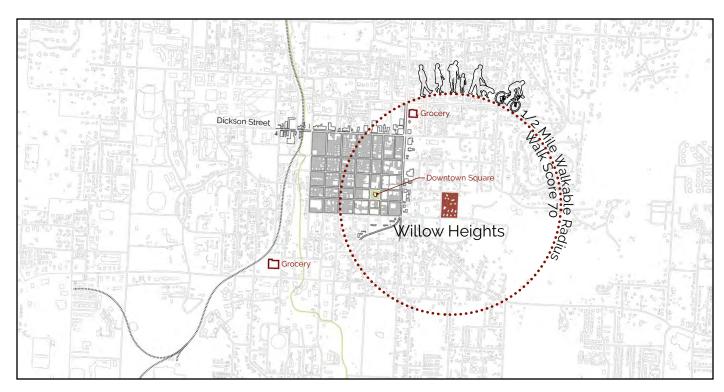
Endeavor Foundation and the Fayetteville Housing Authority

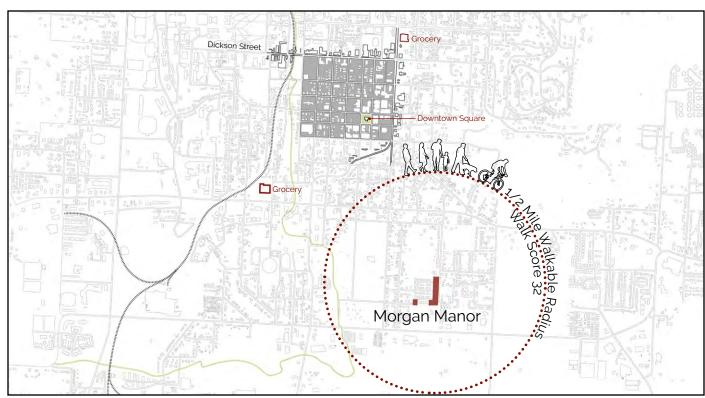
Only 14 percent of U.S. neighborhoods have the three things that many Americans want: walkable access to essential services, affordability, and good schools. **Willow Heights has** this. Let's repurpose the complex with new amenities preserving walkable access to downtown services, while keeping residents in the top tier of livability.



Why move Willow Heights residents to Morgan Manor?

Whereas Willow Heights
has a Walk Score of
70 out of 100—very
walkable; the autodominant environment
around Morgan Manor
has a Walk Score of
32—car-dependent.
Additional transportation
burdens and social
opportunity costs
associated with Morgan
Manor favor repurposing
Willow Heights.













With low-cost livability improvements incorporating new landscapes, porches, decks, and terraces that solve for pragmatic challenges, Willow Heights could become a model hillside neighborhood.





Entrances to existing units are enhanced to solve for flooding problems and to remedy confusion between unit entrance and rear terrace in support of healthy neighborhood functioning and wayfinding.





New street-facing housing ties Willow Heights back to surrounding streets, reinforcing healthy neighborhood functioning and blending. Neighborhood security, as we are reminded by noted urbanist Jane Jacobs, is enhanced when all "eyes are on the street".







The University of Arkansas Community Design Center (UACDC), an outreach center of the Fay Jones School of Architecture + Design, was commissioned by the Endeavor Foundation in December 2017 to prepare a Livability Improvement Plan for the Willow Heights Housing complex. This public housing complex is in a historically diverse downtown neighborhood on the southwest slope of Mt. Sequoyah. Willow Heights is owned and managed by the Fayetteville Housing Authority (FHA) within the federal public housing portfolio administered by the Department of Housing and Urban Development (HUD). The intention of this study is to offer an unconsidered development option that supplements the FHA's pending plan to sell the downtown Willow Heights complex and relocate its residents to the Morgan Manor complex south of downtown.

This planning study is premised on transforming the five-acre Willow Heights complex into a blended-income neighborhood that flattens social distinctions between proposed market-rate units and refurbished low-income housing. New units are coupled with the renovation of the complex's existing units, accompanied by site improvements related to stormwater management and public space. Site proposals articulate a new housing landscape that supports healthy neighborhood functioning, including safe, modernized, and appropriately scaled mixed-market housing. Three planning scenarios were prepared, ranging in cost and level of difficulty. Scenario planning is intended to facilitate more robust decision making among an expanded community of stakeholders in partnership with the FHA, including the City of Fayetteville, housing residents, local/regional civic groups, and policy leaders with an interest in housing.

Public housing agencies, including the FHA, have been chronically underfunded by the federal government for two generations. Most agencies are cash strapped and pressured to sell legacy downtown properties which have unexpectedly accrued value from the comeback of downtowns nationwide. The sale of Willow Heights is

not unreasonable as it potentially fills funding gaps and fits the FHA's current business model. However, the decision to sell Willow Heights has sparked a larger community conversation about social justice issues, including projected long-term impacts on relocated residents. Does moving low-income residents from a now desirable downtown neighborhood—given renewed demand for downtown living among advantaged income groups—to a public housing complex outside of downtown unwittingly reproduce cycles of inequality? A more complete cost benefit analysis for locating low-income populations would factor walkable access to downtown services, an imperative for the complex's zero-car households and single-parent families. Willow Heights has proximity to a local elementary school, the Fayetteville Public Library, the downtown farmer's market, a family-supportive community center, and local government agencies. Notably, Willow Heights is adjacent to the Yvonne Richardson Community Center, an important child development center and community hub used by residents citywide. Through the application of design thinking that addresses healthy neighborhood design, value capture (positioning the public sector to more profitably manage its assets), and social return on investment involving extrafinancial values, this study identifies redevelopment opportunities while keeping residents in a centrally located neighborhood.



April 6, 2018 meeting with Willow Heights residents

Economic plausibility for revitalizing Willow Heights is premised on capturing the true market value (vs book value) of its downtown location and monetizing this value in the development and lease of market-rate units. Indeed, proximity to downtown and general demand for urban housing suggests that a blended-income neighborhood is feasible at Willow Heights. HUD's Rental Assistance Demonstration (RAD) program gives public housing agencies greater flexibility in managing and developing their physical assets, especially in the ability to capture value differentials created by public agency investment in new projects. In the case of Willow Heights, the likely differential will be significant given increased market demand for urban housing and the highly favorable investment climate surrounding the Willow Heights complex. Through RAD, public housing agencies couple the commercial sector's efficiencies in underwriting and development oversight with the public sector's goals to maximize public purpose. Maintaining walkable access to downtown's essential services and civic networks for disadvantaged residents is arguably an important public purpose. Accordingly, lowincome residents may experience both the benefits of new construction, as well as the rare advantages of living in a centrally located blendedincome neighborhood. Given its downtown location and focus on community revitalization, the Livability Improvement Plan for the Willow Heights complex optimizes the project's competitiveness in securing Low-Income Housing Tax Credit (LIHTC) financing, the latter necessary for attracting private finance and development partners. We recommend that the FHA develop a full revitalization plan for Willow Heights and submit the plan for LIHTC financing.

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Introduction: Neighborhoods Matter

"Housing is not just shelter. It is home, opportunity, and security... our homes also in large part determine how we are embedded in our larger society."

Emily Tumpson Molina, Housing America: Issues and Debates

Like many public housing authorities nationwide, the Fayetteville Housing Authority (FHA) is decreasing its traditional reliance on Department of Housing and Urban Development (HUD) financing to provide housing assistance. Exclusive reliance on HUD's narrow financing conditions restricted the use of private financing to develop and maintain public housing. Coupled with inadequate federal allocations to public housing agencies over the past two generations, these state-chartered agencies have been forced to operate under chronic funding scarcity. Funding shortfalls have resulted in operational deficiencies, deferred maintenance, and general deterioration of the nation's public housing stock. With congressional authorization of Rental Assistance Demonstration (RAD) under the FY12 HUD appropriations act, public housing agencies can now convert public housing properties to new ownership while supplementing HUD-assisted housing with private sources of financing. This liberalization in delivery mechanisms for housing assistance has created local provider ecosystems comprised of new owners, financiers, support services, and community stakeholders in partnership with the 3,400 public housing authorities nationwide. Operational flexibility provided under RAD is intended to improve the living environments of HUD-assisted properties while increasing funding security for their long-term operations.

Accordingly, the FHA has assessed its long-term investment needs for the three public housing complexes under its ownership—Lewis Plaza, Hillcrest Towers, and Willow Heights—and Morgan Manor, a former public housing property already converted under the RAD program. Upon reevaluation of its property portfolio, the FHA has proposed the sale of the downtown Willow Heights complex to support relocation of its residents to the Morgan Manor complex south of downtown. The

FHA's application for Low-Income Housing Tax Credit (LIHTC) financing to expand Morgan Manor was firmly rejected last year for multiple reasons including its auto-dominant location. The LIHTC is essential to the FHA for attracting private finance and development partners. Moreover, City of Fayetteville Mayor Lioneld Jordan has withdrawn the city's support for the Morgan Manor expansion, renewing focus on revitalizing Willow Heights.

The proposed sale of the five-acre Willow Heights property on the southwest slope of Mt. Sequoyah for more than \$1 million would provide a much-needed injection of capital for the FHA. Located in a once undervalued downtown neighborhood, Willow Heights is just 1,500 feet (five blocks) from Fayetteville's downtown square—a six-minute walk. Besides proximity to downtown and its essential services, Willow Heights' hillside location offers magnificent views of both downtown and south Fayetteville, a non-transferable amenity adding to property value. The rise in demand for downtown housing among all income groups has far exceeded the growth in Fayetteville's downtown housing supply, which languished for decades in favor of suburban construction. The subsequent repopulation of Fayetteville's downtown neighborhoods has elevated downtown land values, including that of the Willow Heights complex.

Many public housing agencies, including the FHA, are cash strapped and pressured to sell legacy downtown properties that have unexpectedly accrued value from the comeback of downtowns nationwide. The sale of Willow Heights is not unreasonable because it potentially fills funding gaps and fits the FHA's current business model. However, the decision to sell Willow Heights has sparked a larger community conversation about social justice issues, including projected long-term impacts on relocated residents. Does moving low-income residents from a now desirable downtown neighborhood—given renewed demand for downtown living among advantaged income groups—to a public housing complex south of downtown unwittingly reproduce cycles of inequality? A more complete cost benefit analysis for locating low-income populations would factor walkable access to downtown services, an imperative for

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Proponents for maintaining Willow Heights as public housing argue that relocation of low-income residents from downtown to Morgan Manor more than a mile from the downtown core exerts undue hardships on residents, particularly on zero-car households. A 2017 survey by an FHA board member, Melissa Terry, revealed that close to 50 percent of Willow Heights households do not own or lease a car, and thus rely on walking to essential services. While Willow Heights has a Walk Score of 70 out of 100, meaning that the neighborhood is "very walkable" as most errands can be accomplished on foot; Morgan Manor conversely has a Walk Score of 32, meaning that the neighborhood is "car-dependent"

as almost all errands require a car (see https://www.walkscore.com/). The nearest grocery store to Morgan Manor is 1.25 miles away versus half that distance for Willow Heights residents (though the latest incarnation of the established downtown grocery store on College Ave just closed). Once locational impacts on residents' everyday lives are factored, the additional transportation burdens and social opportunity costs associated with Morgan Manor favor repurposing Willow Heights. Feasibility assessment based solely on building-to-building comparisons (i.e., replacement of old housing with new) is incomplete and misses the important neighborhood differentials shaping social and economic opportunities for residents. In other words, neighborhoods matter.

Proponents for revitalizing Willow Heights also contend that corralling yet more low-income residents into an isolated suburban public housing complex is socially counterproductive. Such sorting reproduces the ills of concentrated disadvantage plaguing legacy public housing complexes. Further concentration is counter to current best practices in public housing development, which call for location of residents in neighborhoods offering greater opportunity. The neighborhood is the irreducible spatial unit for determining livability, risk, and protection—encompassing what sociologist Robert Sampson calls "neighborhood effects" (see Robert Sampson, *Great American City: Chicago and the Enduring Neighborhood Effect;* Patrick Sharkey, *Stuck in Place: Urban Neighborhoods and the End of Progress toward Racial Equality;* Robert

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Chaskin and Mark Joseph, Integrating the Inner City: The Promise and Perils of Mixed-Income Public Housing Transformations; and Douglas Massy and Nancy Denton, American Apartheid: Segregation and the Making of the Underclass). Risk and protection are functions of spatial structure, the latter constrained by group status and income level, neighborhood conditions, and other social forces. Important forms of protection, like individual immunity and social organization, are compromised by chronic stressors common in high-risk neighborhoods. Stressors tend to intersect and cascade, including violence, childhood underdevelopment, food and housing insecurity, environmental toxins, and poor social affiliations. Life chances are shaped by where you live and the neighborhood effects differentiating one place from another.

Instead of concentration, social science policy recommends the blending of neighborhoods where diverse income groups are incented to share the same living space. Blending favors scattered site integration of public housing into existing neighborhoods rather than the sorting of residents into complexes apart from the community. What policy experts refer to as the "move toward geographies of opportunity". In the case of an existing complex like Willow Heights, blending entails the introduction of market-rate units in the expansion of Willow Heights as a mixed-income community. The successful HOPE VI projects undertaken by HUD in the 1990s demonstrated precisely this role of placemaking in transforming public housing into high-quality blended neighborhoods. Social distinctions between market-rate and low-income populations as traditionally expressed through housing were eliminated. Blending, though, should not be understood as a spatial fix to poverty: it will not alleviate poverty as thought in the past. Rather, neighborhood blending is a way to preserve access to important services, amenities, infrastructure, and networks otherwise unavailable among homogeneous concentrations of low-income households. Indeed, at the larger scale of downtown, Willow Heights is already part of a blended neighborhood, and, as such, offers greater social return on investment.

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The Challenge: Revitalizing Willow Heights

"Public housing in America evolved directly from the urban design models and architecture developed by leading mid-century modernists. Embedded in their prescriptions were the underpinnings of the dysfunctionality that HOPE VI (a housing redevelopment program of HUD, U.S Department of Housing and Urban Development) was to repair—the lack of diversity, human scale, connections, and identity that the 'projects' came to embody."

Peter Calthorpe, "HOPE VI and New Urbanism" in *From Despair to HOPE: HOPE VI* and the New Promise of Public Housing in America's Cities

To that end, the Endeavor Foundation commissioned the University of Arkansas Community Design Center (UACDC), an outreach center of the Fay Jones School of Architecture + Design, to prepare a Livability Improvement Plan premised on transforming the Willow Heights Housing complex into a blended-income neighborhood. The intention of this study is to offer an unconsidered development option that supplements the FHA's pending plan to sell the downtown Willow Heights complex and relocate its residents to the Morgan Manor complex south of downtown. The planning approach transforms the

five-acre 40-unit complex into a blended-income neighborhood, flattening social distinctions between proposed market-rate units and refurbished low-income housing. New units are coupled with the renovation of the complex's existing units, accompanied by site improvements related to stormwater management and public space. Site proposals articulate a new housing landscape that supports healthy neighborhood functioning, including safe, modernized, and appropriately scaled mixed-market housing. Good neighborhood form drives recommendations outlined in this study.

The UACDC's study accepts the technical recommendations and cost estimations for existing building and site improvements outlined in the RAD Property Condition Assessment (August 7, 2015) for Willow Heights prepared by AEI Consultants. The report was thorough in its recommendations, identifying required renovation needs and modernization of existing housing units. The UACDC's study is supplemental to AEI Consultants' report and does not make additional recommendations on interior improvements. Original floor plans of existing units are well-designed in terms of function and access to natural light, so renovation investments should address modernization rather than costly reconfiguration of units. However, this study does propose exterior building improvements and additions, like screened porches which expand the modest living space of unit interiors. Exterior building improvements incorporate new drainage systems to remedy flooding problems while offering additional neighborhood improvements.

The goal of this study is to envision a Livability Improvement Plan for Willow Heights that triangulates economic feasibility with enhanced placemaking and building renovations to create a blended-income neighborhood, while keeping low-income residents in place. Blending also stems the tide of rampant gentrification. Three planning scenarios were prepared, ranging in cost and level of difficulty. Scenarios are parameterized to HUD's housing construction cost limits (approximately \$151,000 for a new unit and \$131,000 for each renovated unit). Scenario planning is intended to facilitate more robust decision making among

an expanded community of stakeholders in partnership with the FHA, including the City of Fayetteville, housing residents, local/regional civic groups, and policy leaders with an interest in housing. A selected scenario, or combination of scenarios, will require comprehensive commercial architecture and engineering services to implement the selected approach. This planning study, then, is not a turnkey solution to be implemented tomorrow. Rather, it is a first step toward enabling more inclusive community decision making framed by a broader constellation of options, outlooks, and parameters in delivering affordable housing.

Each scenario in the Livability Improvement Plan shares a focus on three primary systems for the five-acre site. First, **landscape systems** for this hillside site introduce comprehensive stormwater management systems to mitigate chronic flooding of both the site and dwelling units. Low impact development or ecologically-based stormwater runoff treatment landscapes (bioswales, infiltration basins, rain gardens) are combined with hard engineering (weirs, French drains, underground perforated pipes) to comprehensively address outsized inputs from upstream properties (see Stormwater Modeling by University of Arkansas Resiliency Center on page 57). Meadow grasses and wetland plant guilds, requiring less maintenance than invasive turf lawns, deliver ecological services—notably flood control. Moreover, stormwater landscapes visually unify and physically connect the north and south

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sides of the site currently divided by the topography, expressing a more blended and coherent neighborhood experience. Here, hydrological solutions double as placemaking solutions.

Landscape systems introduce playground gardens (most resident households have school-aged children, a likely trend among future FHA constituents) throughout the site, including an expanded playground and entrance for the existing child daycare facility. Wayfinding for visitors and residents alike is enhanced through new articulations of public, semi-private, and private exterior living spaces in what is now an anonymous undifferentiated open space system. Improved definition of the complex's open space network addresses "the lack of diversity, human scale, connections, and identity that the [public housing] 'projects' came to embody" per Peter Calthorpe's observation cited above.

Second, **exterior building systems** improvements introduce unit frontage components like balconies, entry porches, screened porches, terraces, patios, and rooftop decks to existing units. These public frontage components simultaneously expand residents' modest interior living spaces and enhance neighborhood spaces. Existing units offer a durable chassis on which to develop such cost-effective amenities, since non-conditioned exterior porch and deck space is one-fifth the cost of conditioned interior space. Most importantly, frontage systems infuse the sociability of porch culture—a social "pattern language" missing from the housing complex. Frontage systems overcome the barracks-like repetition of units, creating value-added subgroupings that introduce

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New market-rate and affordable housing units blend the same frontage components to create a coherent and unified neighborhood. The 1970s-era terraced layout of Willow Heights celebrated the drama of hillside living, particularly the views afforded to each unit. However, this era of planning dismissed the street as a driver of residential and neighborhood design. Conversely, the current housing market strongly favors street-fronting walk-up units where unit entrances are visible and accessible from the street. Frontage components play an essential role in defining the edges of Willow and Center Streets to create socially-engaging public spaces. Neighborhood security, as we are reminded by noted urbanist Jane Jacobs, is enhanced when all "eyes are on the street".

New entry porches are added to existing unit fronts, providing sheltered entrance necessary for dignified arrival to buildings. Entry porches are reconfigured to drain water away from buildings through the installation of French drains below new porous porch decks. Porch structures enhance neighborhood wayfinding, clarifying the difference between unit entrances (we noticed that the U.S. Post Office and UPS delivered packages to both sides of units) and opposite view-side elevations, or unit rears.

A mix of screened porch and terrace options enhance existing unit rears, providing shade for exterior living areas. For example, one screened porch option is two stories, accommodating ground floor extension of the living room as well as optional construction of a bedroom balcony on the second level. Outdoor decks at the ground floor extend into new wetland landscapes planted along existing retaining terraces, combining a rustic landscape within an urban setting. Re-appropriation of units' full rear space entails elimination of intrusive public walks that interrupt views and privacy, favoring instead controlled visitor access to units from building sides or fronts.

Unit mix between market-rate and low-income is blended throughout the entire complex, avoiding income segregation within the site.

Third, introduction of new market-rate and affordable dwelling units elevate the economic and social performance of Willow Heights while diversifying neighborhood income levels. Each scenario plan offers a discernable neighborhood planning approach for enhancing sense of place within the existing complex. Unit mix between market-rate and low-income is blended throughout the entire complex, avoiding income segregation within the site.

Scenario plans correct for the lack of a clearly articulated set of private and public spaces—the missing "middle landscape"—characteristic during the era of public housing development. Scenario plans show the various site improvement possibilities and their spatial impacts on the physical environment of Willow Heights and its surrounding context. Aspects of each scenario could be combined with others to create new schemes beyond the three envisioned, particularly in response to financing opportunities that may arise from new development partnerships.

Managing Public Assets for Improved Value Capture

"Renewal is as important as new buildings. The existing housing stock and new units are complementary parts of the same solution. Existing housing, even in poor condition, may serve residents better by placing them where they have social connections and access to employment. Cities need to provide housing where residents can flourish, whether by building new units or supporting refurbishment, repairs, and upgrading of existing stock."

McKinsey Global Institute, "A blueprint for addressing the global affordable housing challenge"

Economic plausibility for revitalizing Willow Heights is premised on capturing the true market value (vs book value) of its downtown location and monetizing this value in the development and lease of market-rate units. Indeed, proximity to downtown and robust demand for urban housing generally suggests that a blended-income neighborhood is feasible at Willow Heights. Conversely, value capture is implausible at Morgan Manor since it lacks the desirable urban location of Willow Heights and its favorable investment climate—very important in weighing competitiveness for receiving the LIHTC (more on this in "Next Steps for the FHA" on page 60).

Public agencies—including housing authorities—are using "value capture" to finance the development and operation of new projects through the recovery of increases in value and/or income generated from their new project investments. Typically, private landowners capture the totality of value increases generated by public sector investments, what is known as "unearned profit". The public sector, more accustomed to debt management (vs asset management), often fails to capitalize on the market value of its assets when it sells assets at book value or deeper discount to the commercial sector. In effect,

The public sector, more accustomed to debt management (vs asset management), often fails to capitalize on the market value of its assets when it sells assets at book value or deeper discount to the commercial sector. Renovation of the Willow Heights complex would unlock further neighborhood value, a value differential which should be captured by the FHA to self-finance operations.

these transactions have been transferring latent wealth to private sector actors, who often earn windfalls on legacy investments originated by the public sector. RAD gives public housing agencies greater flexibility in managing and developing their physical assets, especially in the ability to capture value differentials created by public agency investment in new projects. In the case of Willow Heights, the likely differential will be significant given increased market demand for urban housing and downtown neighborhoods. Renovation of the Willow Heights complex would unlock further neighborhood value, a value differential which should be captured by the FHA to self-finance operations. Through partnerships with private and nonprofit sectors, public housing agencies couple the commercial sector's efficiencies in underwriting and development oversight with public housing providers' goals to maximize public purpose. Maintaining walkable access to downtown's essential services and civic networks for disadvantaged residents is arguably an important public purpose. Accordingly, low-income residents may experience both the benefits of new construction as well as the rare advantages of living in a centrally located blended-income neighborhood.

Planning Challenges at Willow Heights

Besides its hillside location, the addition of housing units within the Willow Heights complex poses specific development challenges that are important to understand prior to further review of the three planning scenarios. First, mature hillside trees on Willow Avenue should be preserved for their ecological and aesthetic value, narrowing eligible buildable area within the complex.

Second, narrow right-of-ways on Center and Rock Streets prohibit addition of on-street automobile parking, shifting parking burdens to on-site facilities. Any addition of street parking on Willow Avenue entails expensive excavation of the hillside and therefore is not financially feasible. Since structured parking is not financially feasible (\$25,000-30,000 per parking stall in this area), surface parking within the complex

Feasible development options for new dwelling units are limited to street frontages along Willow Avenue and Center Street.

determines the development potential for adding new dwelling units within the Willow Heights complex. For purposes of this study, we allocate one automobile per unit.

Third, the housing complex suffers from chronic flooding due to increased upstream stormwater runoff from urban growth, complicated by the lack of adequate municipal stormwater management infrastructure on the Mt. Sequoyah hillside. The central portion of Willow Heights, where runoff flows are concentrated, will be converted to new stormwater treatment facilities, further reducing eligible buildable area within the complex. Existing concrete retaining terraces between buildings will be replanted as new stormwater management facilities with a facultative landscape of native wild grasses and reeds, supplementing new dry detention facilities at the center of the site.

Fourth, lack of access to the property's interior by fire trucks inhibits development potential of the site's interior between the existing north and south banks of units. Land development codes require fire truck access to within 150 feet of buildings on hard surfaces that are minimum 20 feet in width and constructed to handle live loads of 250 psf (several existing buildings do not meet this access requirement). Installation of new north-south streets to reach additional units that may be planned for the interior of the site is neither financially feasible—at approximately \$500 per linear foot just for the street in addition to costly reconfiguration of existing retaining walls—nor environmentally desirable. Such site costs could easily consume a majority of the housing budget. Despite the cost, limited land area and 100-foot diameter truck turnarounds required at the end of each cul-de-sac would not yield additional parking. From our discussions with the city's

deputy fire marshal, feasible development options for new dwelling units are limited to street frontages along Willow Avenue and Center Street.

Planning Strategy: From a Housing Complex to a Blended Neighborhood

"Private investment shapes cities, but social ideas (and laws) shape private investment. First comes the image of what we want, then the machinery is adopted to turn out that image."

Jane Jacobs, The Death and Life of Great American Cities

Great streets deliver non-traffic services related to gathering, strolling, and recreating, and are consequently key to generating social coherence, identity, connectivity, and other desirable neighborhood effects. Unfortunately, the street was an undervalued (and misunderstood) unit of neighborhood design during the era of public housing development. Most public housing complexes were designed as places apart, withdrawn from their surrounding neighborhoods and lacking a connective tissue of public spaces between buildings. While spatial configuration does not cause or remedy poverty, the inward-looking environments of public housing complexes certainly exacerbate the effects of disadvantage. To address this shortcoming, new and existing dwelling units in Willow Heights will sponsor two frontage components, whether a porch, balcony, terrace, or deck. One will face the street while the other will face the open space system within the housing complex.

Each scenario for Willow Heights is structured around reconnection of the housing complex to its surrounding neighborhood. New housing units define the space of their respective streets through alignment of their building frontages to a "build-to" line at the right-of-way edge. This replaces the suburban standard of a "setback" line, which pushes buildings away from streets. The planning objective is to create a more seamless condition between the Willow Heights complex and

Each scenario for Willow Heights is structured around reconnection of the housing complex to its surrounding neighborhood.

neighboring properties, the latter likely to be upgraded through compact urban infill as the neighborhood redevelops. Scenario planning for Willow Heights assumes a minimum required total of 58 units to match the expansion planned for Morgan Manor. Scenario plans recommend between 60 and 62 total units while exceeding minimum counts for ADA-accessible units. Unit totals were limited by on-site surface parking loads: a balance among healthy neighborhood site design, appropriate scaled housing, and parking that is discrete and non-intrusive.

A "superblock" site (i.e., bigger than a normal city block, which averages two acres), Willow Heights is paradoxically too small and too large. Too large, as it has seemingly large residual areas to accommodate new construction; too small since those residual areas are not large enough to adequately support new internal streets, parking, and buildings. Thus, parking is kept at the edge of the block.

Daycare Facility

Mindful of limited resources, renovation of the daycare facility is pragmatic, introducing two folded roofs that overhang the existing structure to accomplish several tasks (a new roof is needed per AEI Consultants' recommendation). First, the proposed roof's cantilever over the front entrance on the south edge finally provides appropriate cover (good buildings entrances are sheltered) and a welcoming architectural front fitting of a public building. This new porch is foregrounded by a new entry stair/amphitheater that lends the entry sequence a dignity and generosity currently missing. Second, the roof's extension on the west side shelters a new screened play porch for rainy days or when shade is desired. The screened porch is extended by a sheltered openair porch, which provides transition to a new playground with rubberized



Proposed Renovation of Daycare Facility

play surfaces. Third, the folded roofs with east-facing skylights provide a more generous interior space within the facility's core, which lacks adequate natural light and openness. While the original structure has been significantly altered through unsympathetic additions, its original inward-looking organization and alignment were always unresponsive to the street (original building windows only faced the hillside). The roof clarifies the building's identity within the neighborhood and enhances its presence on Willow Avenue.

Center Street Cascade Scenario

The Center Street Cascade scenario focuses new housing development on the housing complex's northern edge along Center Street. This scenario sponsors what could be one of Fayetteville's most dramatic hillside residential street edges. Housing design is driven by optimization of views among a set of hillside units and a set of hilltop units. Among the hillside set, attached triplex structures are horizontally ganged to create efficiency in hillside excavation. While ground-floor accessible units for the disabled with deep porches face Center Street, stacked flats above enjoy orientations to the street as well as views to the west and south. Ground floor units are concrete platform construction doubling as retaining walls with conventional wood-frame walls above. Parking for hillside units is located on the FHA's property, even though it appears to be an extension of the street.



View of Center Street Cascade from northwest corner

Atop Center Street, hilltop units uphold the street frontage established by the hillside units, though buildings are grouped into courtyard configurations to share circulation infrastructure. Hilltop buildings form a larger courtyard consisting of terraced lawns that connect new structures with renovated housing units. The hilltop terraced lawn eliminates the unfortunate retaining wall facing existing units on the south edge of the new lawn, showcasing new porch additions fronting renovated units.

Hilltop Terrace Scenario

Perhaps the least difficult scenario to construct because it does not require excavation of the hill as in the other two scenarios, the Hilltop Terrace scenario locates new units on the complex's highest and flattest point at the northeast corner. Like the other scenarios, however, buildings are characterized by simple volumes and unit mixes. The Hilltop Terrace scenario consists of interlocked L-shape buildings, each surrounding a patio. Buildings range in height from one story to three-story triplex buildings—all cascading in height from the northeast corner to preserve unit viewsheds to the south and west. Living rooms and adjacent screened porches are organized around the patios and views. Unit frontages on Center Street also create a dramatic residential streetscape akin to the Center Street Cascade scenario.



View of Hilltop Terrace from northwest corner

The Hilltop unit cluster does not require extensive hillside excavation or retaining walls, making this the least expensive of the three scenarios. The housing cluster is also the most compact of the scenarios, adding to its cost efficiency. A pedestrian loop of public spaces around the cluster links new units with renovated units fronted by new porch additions. At the other end of the site on the southwest corner at Willow Avenue, two L-shaped buildings are introduced to landmark this important corner of the housing complex. These patio units can be adapted to accommodate live-work uses and other small-scale neighborhood services in concert with the adjacent daycare facility.

Willow Avenue Frontage Scenario

The Willow Avenue Frontage scenario focuses new housing development on the complex's most prominent edge—Willow Avenue. This scenario does the most in connecting the housing complex's existing terraced layout with its primary street and surrounding neighbors. The plan maximizes development along Willow Avenue's available street edge while preserving most existing hillside trees. On Willow Avenue's south end, where the slope flattens, mixed flats place ground-floor accessible units for the disabled on the street edge, while locating parking behind the building. The building's skewed alignment reinforces the daycare facility as an important non-residential use. Willow Avenue units on both the north and south ends are organized



View of Willow Avenue Frontage from northwest corner

around urban-scaled portals with a covered deck, screened porch, and a landscaped patio that connects site, street, and dwelling unit.

On the north end of Willow Avenue, head-in automobile parking is located at grade under two-story duplex units to minimize excavation of the hillside. The costs of hillside excavation and stabilization for on-street only parking is prohibitive. However, ground-level concrete platform construction for parking doubles as a hillside retaining structure (existing walls on Willow Avenue are failing) to support housing above. Stacked duplex units fronting a terraced lawn on the hilltop at the northeast corner of the site offer a modified version of the street-facing units. While this scenario is more expensive to construct than the Hilltop Terrace Scenario due to the costs of hillside excavation and retaining walls, it does the most in connecting the Willow Heights complex to the mixed-use environment of Willow Avenue, including its two churches. The latter institutions are remnants reminding us that Willow Avenue was once a vital neighborhood main street adjacent to the downtown core and could become so once again.

Besides its hillside location, expansion of Willow Heights poses challenges that limit the range of planning and density options.



Challenge 1:
Narrow Right-of-Ways
on Center and Rock
Streets prohibit addition
of new on-street parking

Challenge 2:

Mature Hillside Trees
should be preserved
for their ecological and
aesthetic value

Challenge 3:
Chronic Flooding
requires new stormwater
treatment facilities on hillside,
reducing buildable area

Challenge 4:

Limited Emergency Access
by fire trucks to property
interior inhibits development
potential

Planning Challenges at Willow Heights



1970s-era terraced layout of Willow Heights celebrated the drama of hillside living, particularly the views afforded to each unit. But the planning also dismissed the street as a driver of residential and neighborhood design.







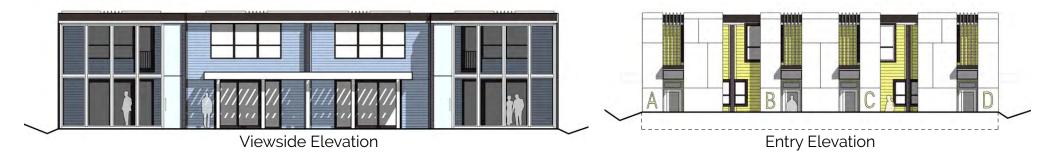






Conversely, the current housing market favors street-fronting walk-up units where unit entrances are visible and accessible from the street.

Willow Heights Existing Building Conditions



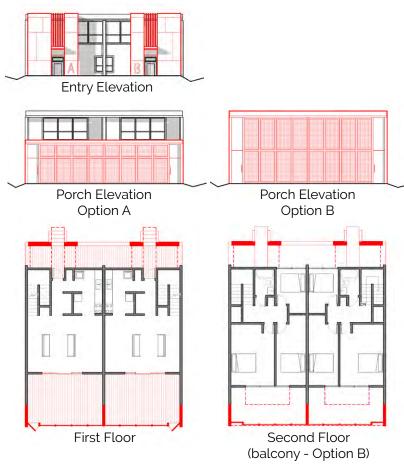


Frontage systems overcome the barracks-like repetition of units, creating valueadded subgroupings that introduce scale, connection, identity, and improved livability to an otherwise underperforming housing layout.

Willow Heights Proposed Building Frontages to Existing Units







Existing Family Duplex Renovation

5 buildings | 2 stories | 2 units | 3 bedroom | 1,145 sf





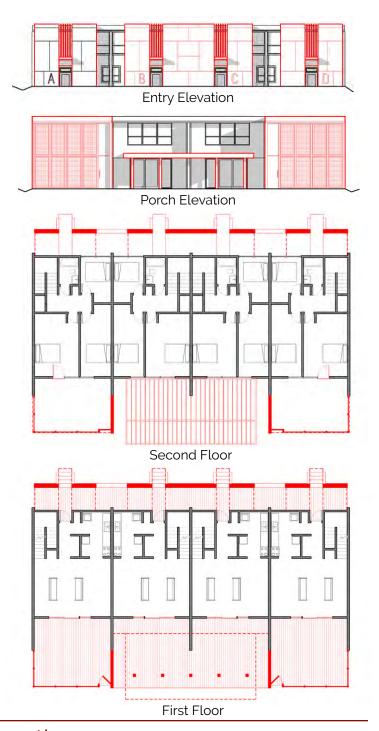


Existing Townhouse Renovation

2 buildings | 2 stories | 4 units | 2 bedroom | 785 sf







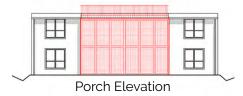
Existing Family Townhouse Renovation

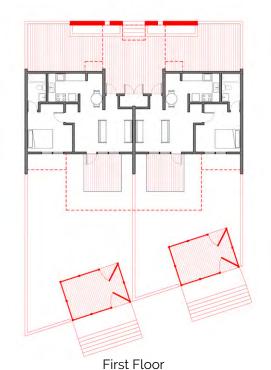
2 buildings | 2 stories | 4 units | 3 bedroom | 1,145 sf













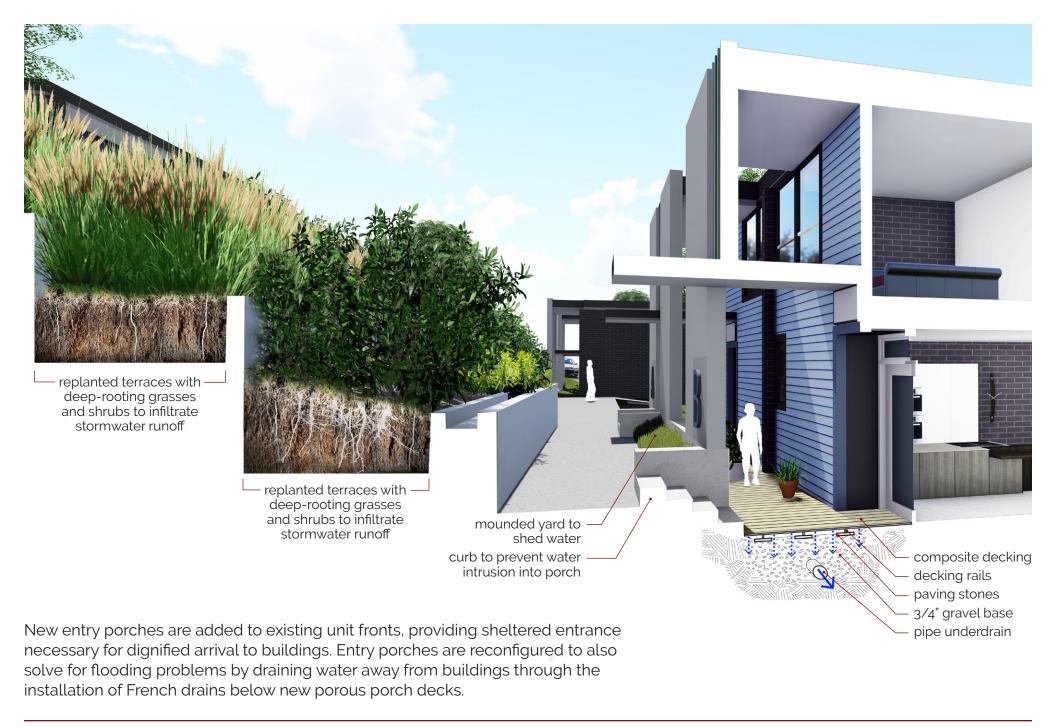






Existing Flats - Duplex and Fourplex Renovation

1-2 buildings | 1-2 stories | 2-4 units | 1 bedroom | 535 sf



Typical Section of Building Frontage for Existing Units



Three planning scenarios were prepared, ranging in cost and level of difficulty. Scenarios are parameterized to HUD's housing construction cost limits (approximately \$151,000 for a new unit and \$131,000 for each renovated unit).

Three Planning Scenarios for New Units



The Center Street Cascade scenario focuses new housing development on the housing complex's northern edge along Center Street. Housing design is driven by optimization of views among a set of hillside units.

Scenario 1: Center Street Cascade



Perhaps the least difficult scenario to construct because it does not require excavation of the hill as in the other two scenarios, the Hilltop Terrace scenario locates new units on the complex's highest and flattest point at the northeast corner.

Scenario 2: Hilltop Terraces



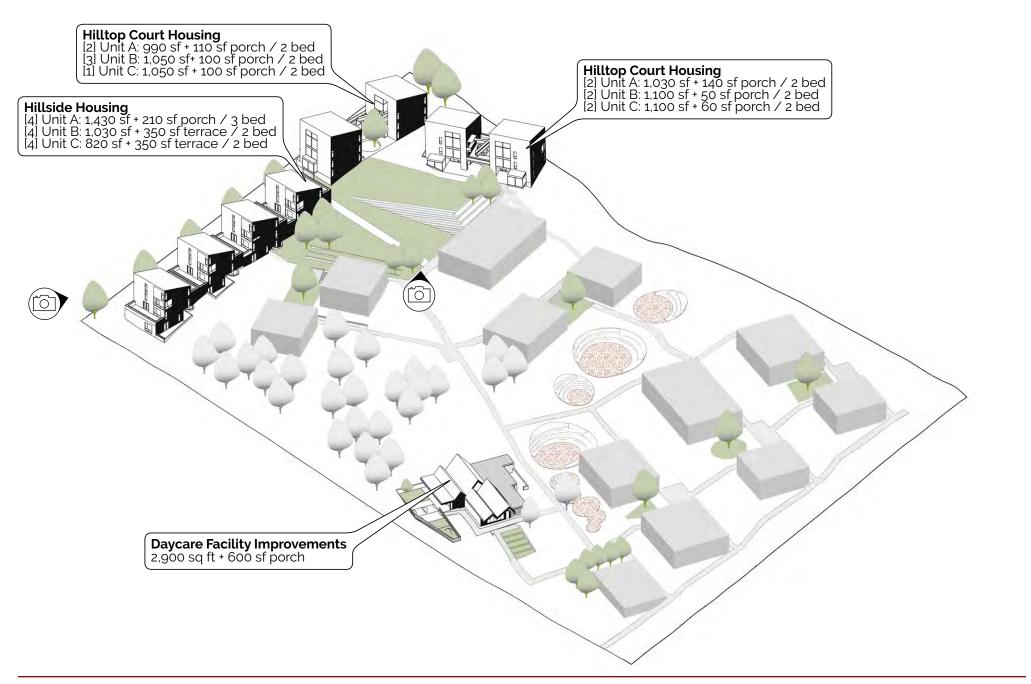
The Willow Avenue Frontage scenario focuses new housing development on the complex's most prominent edge—Willow Avenue. This scenario does the most in connecting the housing complex's existing terraced layout with its primary street and neighbors.

Scenario 3: Willow Avenue Frontage



CENTER STREET CASCADE

Units: 60 Density: 11 units/acre Renovated: 36 Demolished: 4 Proposed: 24



Development Scenario

Units: 60 Density: 11 units/acre Renovated: 36 Demolished: 4 Proposed: 24



This scenario sponsors what could be one of Fayetteville's most dramatic hillside residential street edges.



Among the hillside set, attached triplex structures are horizontally ganged to create efficiency in hillside excavation. While ground-floor accessible units for the disabled with deep porches face Center Street, stacked flats above enjoy orientations to the street as well as views to the west and south.





Third Floor Unit | 810 sf + 325 sf terrace



Second Floor Unit | 1,030 sf + 90 sf porch + 325 sf terrace



First Floor Unit | 1,430 sf + 220 sf porch + 320 sf terrace

Center Street Cascade Triplex





Scenario 1: **Center Street Cascade**

- 1 daycare facility2 stormwater treatment

- 2 stormwater treatment
 3 hillside houses
 4 hilltop court houses
 5 shared hilltop terrace
 6 shared outdoor patios
 7 existing duplex flats
 8 existing fourplex flats
 9 existing family duplex
 10 existing townhouse
 11 existing family townhouse



Existing Parking: 22 New Parking: 38 Total Parking: 60

Daycare Parking: 5

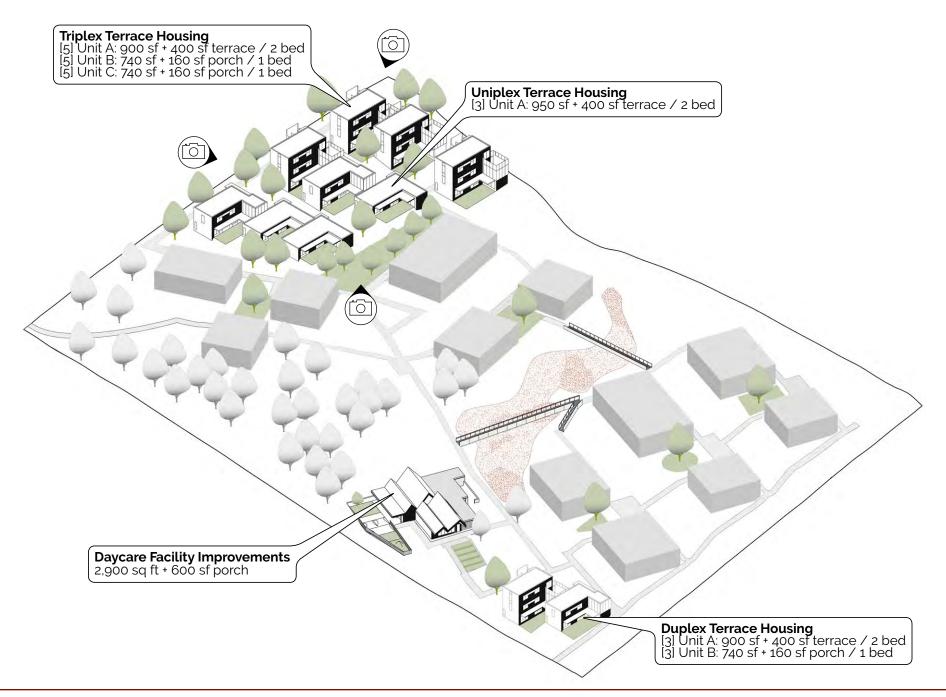
Hilltop units uphold the street frontage established by the hillside units, though buildings are grouped into courtyard configurations to share circulation infrastructure. A courtyard consisting of terraced lawns connect new structures with renovated housing units.





HILLTOP TERRACE

Units: 62 Density: 11 units/acre Renovated: 38 Demolished: 2 Proposed: 24



Development Scenario
Units: 62 Density: 11 units/acre Renovated: 38 Demolished: 2 Proposed: 24





First Floor | 905 sf + 410 sf terrace

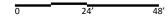


Second Floor | 740 sf + 160 sf porch



Third Floor | 740 sf + 160 sf terrace

Hilltop Terrace Triplex Plans







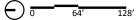




Scenario 2: **Hilltop Terrace**

- 1 daycare facility2 stormwater treatment

- 2 stormwater treatment
 3 uniplex terrace flat
 4 duplex terrace flats
 5 triplex terrace flats
 6 shared outdoor patios
 7 community playground
 8 existing fourplex flats
 9 existing family duplex
 10 existing townhouse
 11 existing family townhouse



Existing Parking: 22 New Parking: 40 Total Parking: 62

Daycare Parking: 5

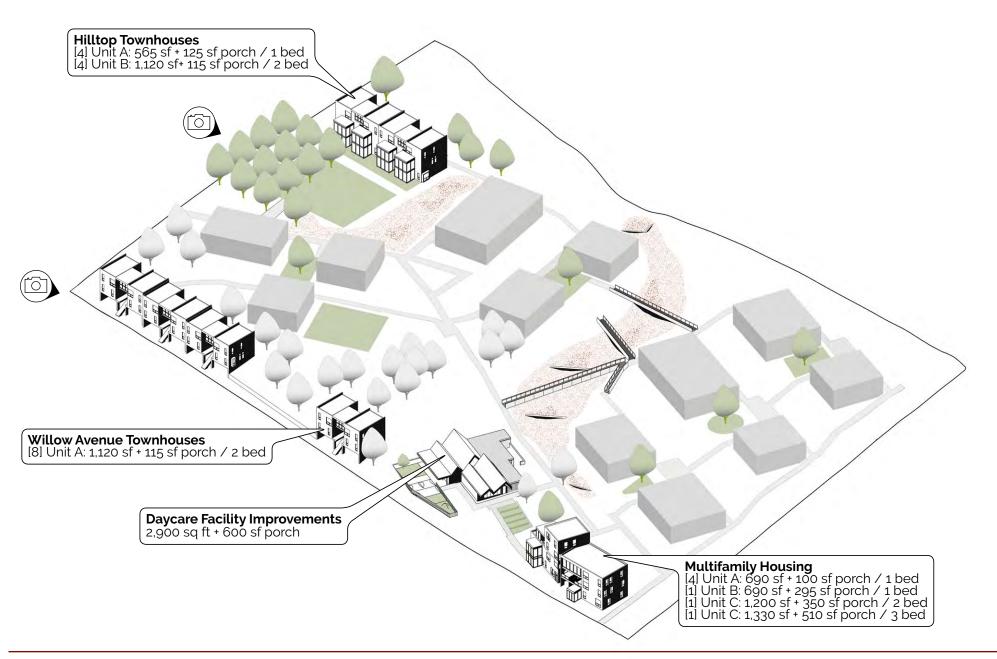
The housing cluster is also the most compact of the scenarios, adding to its cost efficiency. A pedestrian loop of public spaces around the cluster links new units with renovated units fronted by new porch additions.





WILLOW AVENUE FRONTAGE ?

Units: 61 Density: 11 units/acre Renovated: 38 Demolished: 2 Proposed: 23



Development Scenario
Units: 61 Density: 11 units/acre Renovated: 38 Demolished: 2 Proposed: 23



Units are organized around urban-scaled portals with a covered deck, screened porch, and a landscaped patio that connects site, street, and dwelling unit.





Third Floor Plan



Second Floor Units | 1,100 sf + 115 sf porch



First Floor Units | 565 sf + 125 sf porch

Willow Avenue Hilltop Townhouse







Scenario 3: **Willow Avenue Frontage**

- 1 daycare facility2 stormwater treatment
- 3 townhouses w/ carport

- 3 townhouses w/ carport
 4 hilltop townhouses
 5 multiplex w/ patios
 6 shared outdoor patios
 7 shared hilltop terrace
 8 existing fourplex flats
 9 existing family duplex
 10 existing townhouse
 11 existing family townhouse



Existing Parking: 22 New Parking: 54 Total Parking: 76

Daycare Parking: 5







The proposed roof's cantilever over the front entrance on the south edge finally provides appropriate cover and a welcoming front fitting of a public building. The roof's extension on the west side shelters a new screened play porch for rainy days or when shade is desired.

Daycare Facility Improvements

New housing landscape introduces comprehensive stormwater treatment to mitigate chronic flooding of both the site and dwelling units. Landscapes visually unify the north and south sides of the site currently divided by the topography, as well as assist in expressing a more blended and coherent neighborhood experience.





Site Hydrologic Assessment

The existing and potential hydrologic conditions of the Willow Heights sites were assessed using the USEPA Storm Water Management Model (SWMM), Version 5.1 (www.epa.gov/swmm). Data for the SWMM hydrologic model assessment were from the City of Fayetteville Geographic Information System (GIS) data portal, and other sources as indicated. This hydrologic model assessed runoff to and from the site for a 100-year storm. The model simulation included current and proposed hydrologic elements.

Site Characteristics

The Willow Heights location includes an upper watershed of approximately 24 acres that flows into the site through the drainage channel on the eastern side of the property (Figure A, Inflow Channel). Flow accumulating at this point converges with flow from the approximately 8-acre lower watershed and exits the site through a drainage culvert at the southwest side of the site (Figure A, Red Circle). The land cover for the upper watershed is approximately 65 percent forest and 35 percent high density residential

development, with an average slope of 15 percent. The land cover for the lower watershed is 75 percent medium density urban development and 25 percent low density residential development, with an average slope of 13 percent.

Current System Hydrology

The 100-year, 24-hour rainfall event for Fayetteville, AR is 8.8 inches, distributed as an NRCS Type 1A storm, where 60 percent of the rainfall occurs between Hours 6 and 12 of the 24-hour event (Figure B). The intensity of rainfall can exceed three inches per hour for up to an hour

during this event. Containing flow from a hillside site is very challenging under these conditions. The original design 50 years ago was effective for the land use of the watershed at the time (100 percent forest). However, the watershed has been developed, with the addition of up to 25 percent impervious surface area, resulting in significantly increased runoff to the site, and episodic flooding. Most of the flooding occurs at the upstream collection channel (Inflow Channel). Existing site stormwater infrastructure can manage peak flows of up to 15 cubic feet per second (cfs). Surface channel peak flow entering the site from the Inflow Channel during a 100-year, 24-hour rainfall event is nearly 50 cfs, which overwhelms the existing drainage infrastructure (Figure C, Blue Line). The flood water water flows over the surface, exiting the site with peak flow across the site of over 40 cfs

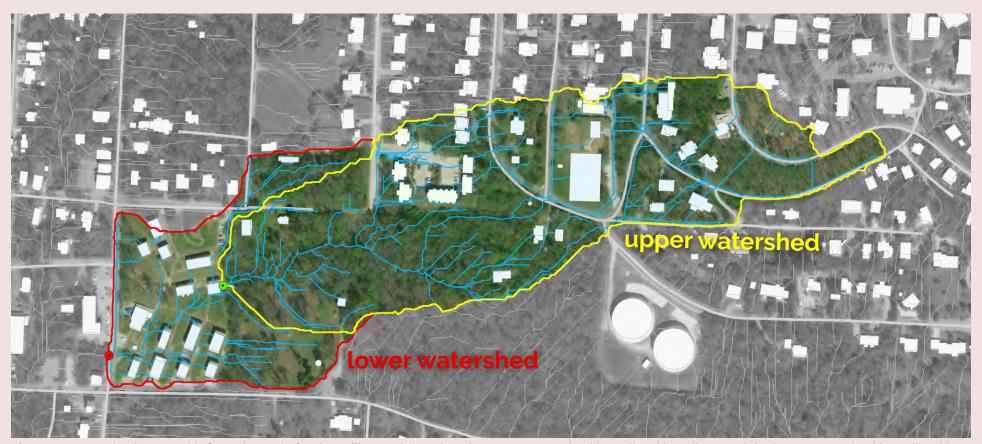


Figure A: Watershed areas with flow channels for the Willow Heights site. The upper watershed is outlined in yellow, and the lower watershed is outlined in red. Flow channels are indicated in blue.

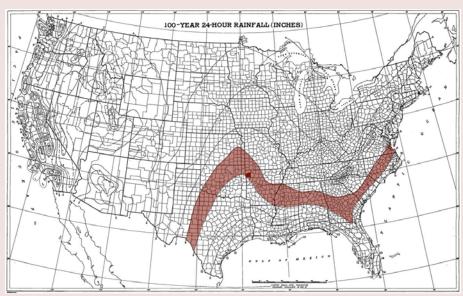


Figure B: Rainfall for the continental US for a 24-hour, 100-year return period event (NOAA Technical Report 40, http://www.nws.noaa.gov/oh/hdsc/PF_documents/TechnicalPaper_No40.pdf).

(Figure C, Red Line). Some surface runoff occurs at the western side of the site but the volume of water is easily managed through enhanced channel diversion to the street drainage system.

Proposed System Hydrology Solution

The focus of the proposed system hydrology solution is to create a series of surface water impoundments to reduce the peak flow from the Inflow Channel. The goal is to keep rainfall within the channel by reducing peak flows to 15 cfs, and thus prevent flooding across the site. The three ponds are connected via trapezoidal vegetated channels with flow control structures at the outlets of each pond. The resulting peak flow at the outfall of the site was less than 15 cfs (Figure D). The new hydrologic elements, as conceptually designed, have a high probability to reduce peak runoff to below flood (overland flow) levels, and retain floodwaters within the

connective channels and pools for the design storm (100-year, 24-hour runoff event of 8.8 inches). Detail design and analysis is necessary to finalize design elements. The pools are designed to be temporary flood storage structures, not permanent storage ponds. They will hold water for no more than three days after the rainfall event concludes. This will allow for more infiltration and less impact downstream of the site from upstream development of the watershed, the source of floodwater currently impacting the site.

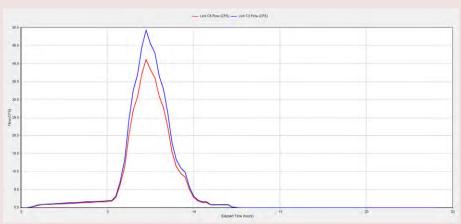


Figure C: Existing site runoff hydrographs. The blue line is the upper watershed, and the red line is the lower watershed.

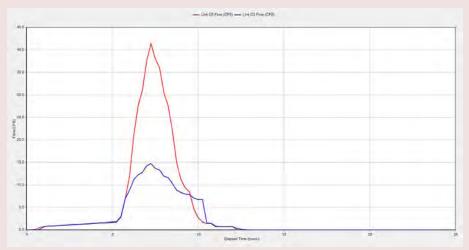


Figure D: Proposed modified site runoff hydrographs. The red line represents upper watershed and the blue line represents lower watershed.

Next Steps for the FHA

"Well-located, properly maintained, affordable housing can be quite profitable. Housing built for lower-income households runs a higher risk of dilapidation and value loss, but mostly due to weak asset management practices and poor choice of location. However, if housing is built where residents can connect to employment and vital services, and if management realizes scale efficiencies in operations and maintenance, properties can rise in value."

McKinsey Global Institute, "A blueprint for addressing the global affordable housing challenge"

Commission a Local Developer/Architect Project Team to Pursue an LIHTC Application for Revitalization of Willow Heights

This modest scenario planning study equips the FHA with a range of plausible revitalization approaches for Willow Heights parameterized to HUD's housing construction cost limits. The content of the study provides \$125,000 in equivalent design services, which precedes and informs the full range of detailed commercial architectural and engineering services required to implement a revitalization plan. Rather than manage interactions with development consultants on simply transactional terms, we recommend the FHA engage in a more relational interaction with area design and development professionals recognized for their commitments to good housing and neighborhood design. Design-focused professionals are intrinsically collaborative and characteristically use design thinking to formulate high-quality multi-variate community and housing outcomes within prescribed development parameters. They would have identified that Willow Heights is a far more compelling candidate for LIHTC financing than Morgan Manor, keeping in mind that LIHTC criteria for funding rewards qualitative contributions like "a concerted community revitalization plan" (Arkansas Housing Credit Program Qualified Application Plan). Certainly, Willow Heights offers a far better value capture solution and social return on investment than Morgan Manor. This does not exclude the involvement of qualified RAD consultants, but rather prioritizes the leadership role of design and planning in achieving better overall

Rather than manage interactions with development consultants on simply transactional terms, we recommend the FHA engage in a more relational interaction with area design and development professionals recognized for their commitments to good housing and neighborhood design.

housing value, strategic community development outcomes, and funding security for long-term operations.

Expand Partnerships with Public Agencies and Nonprofits Affordable housing has become a priority concern to Northwest Arkansas policymakers and foundations who want to be of service on this issue, particularly to affordable housing providers. This study introduces policy concepts in value capture, healthy neighborhood design, and social return on investment to facilitate further discussion on housing and public purpose among a regional policy community. It is precisely around these three matters which entrepreneurial public housing authority leadership nationwide and statewide have transformed their business models, including creation of new partnerships to implement higher performing projects. An obvious first step for the FHA is to forge closer collaborations with the City of Fayetteville in creating solutions to neighborhood challenges, especially those stormwater management and flooding problems on which the city shares responsibility. The Beaver Water District and the Arkansas Natural Resources Commission's 319 Nonpoint Source Pollution program are potential sources of technical and financial support in the implementation of model stormwater management solutions like those outlined above for Willow Heights. Expanding partnerships as a general business model will likely invite future resources as the region contends with housing challenges among all income groups.

Scenario Plan the FHA's Future Operations

Moving from barely surviving to thriving in an age of diminished federal assistance requires housing authorities to evolve a new generation of proactive leadership that links housing and economic development. This entails breaking the self-perpetuating cycle of scarcity imposed by legacy federal models for regulating housing assistance. Seeing the city as an integrated housing market—a "ladder"—some public housing agencies are not only delivering public housing assistance, but other forms of affordable housing including attainable workforce housing, as well as market-rate housing. Solving for one provides solutions for the others. Some public housing agencies are integrating affordable housing in mixed land uses to rejuvenate neighborhoods and downtowns. Other public housing agencies have evolved into vertically-integrated organizations absorbing capacities in development, construction, finance, and design. Using scarcity as a driver of discussion, the FHA could use scenario planning to envision the full range of long-term operational options where even the most radical scenarios are invited for discussion with impunity. The FHA should hold that discussion with a qualified facilitator in a workshop format.

This study introduces policy concepts in value capture, healthy neighborhood design, and social return on investment to facilitate further discussion on housing and public purpose among a regional policy community. It is precisely around these three matters which entrepreneurial public housing authority leadership nationwide and statewide have transformed their business models.

Seeing the city as an integrated housing market—a "ladder"—some public housing agencies are not only delivering public housing assistance, but other forms of affordable housing including attainable workforce housing, as well as market-rate housing. Solving for one provides solutions for the others.

Conversely, those housing authorities unresponsive to this new bipolar landscape of opportunity and scarcity, and unable to renew their purpose within the context of their communities, run the risk of permanent decline. Authorities that lack vision and a transparent process of decision making likewise remain susceptible to obsolete development formulas and a consultant industry aloof from the local public good. Lack of ability to convincingly define and uphold public purpose can become punitive when competing for limited LIHTC financing—the backbone of affordable housing financing (90 percent of affordable housing nationwide is financed through LIHTC). Competing against for-profit housing providers, nonprofit providers' competitive advantage is based on demonstrating enhanced public utility and holistic approaches to housing with spillover neighborhood effects that overturn the unsuccessful formulas of past public housing. Hopefully, this study will encourage the FHA to work collaboratively with area stakeholder groups that have a deep interest in assisting the FHA and nonprofit housing providers generally on solving for affordable housing challenges throughout Northwest Arkansas.

Pursue Grants and Public-Interest Funding Sources

Construction cost estimates are provided below for each of the three scenarios. Additional budget contingencies pertaining to existing conditions are included, which have not appeared in past property needs cost assessments for Willow Heights. Contingencies include foundation

shoring, asbestos abatement, site construction, and ecologically-based stormwater mitigation costs. These budget categories not only provide a fuller account of the repair environment but align with various public-interest funding sources that support improved stormwater management, asbestos removal, affordable housing weatherization, early childhood development including playground construction, the arts and environmental design, and annual CDBG funding for improvements to both housing and infrastructure development. The plan's overarching objective of community revitalization for a downtown neighborhood is a compelling subtext supportive of the FHA's applications for funding. Keep in mind that funders reward organizations with plans that outline a vision.

Even with a fuller accounting of costs and use of costlier concrete platform construction (vs slab on grade) for two scenarios, our projections indicate that the design scenarios are economically viable and within budget. While the Center Street Cascade scenario is slightly over budget (three percent, which can be readily corrected throughout the design development process), the other two scenarios are within HUD's designated construction cost limits, the Hillside Terrace scenario comfortably so. Funding partnerships will defray costs toward creating

Scenario 1: Center Street Cascade

Туре	Unit Count	SF	Cost/SF	Cost/Unit	Subtotal Cost
Demolition	4	3,140	\$8.00	-	\$25,120
Existing Building Renovations	36	32,240	\$90-120	\$64-103K	\$3,124,900
1 Bedroom Renovations & Porch Additions	10	535	\$120	\$64,200	\$642,000
2 Bedroom Renovations & Porch Additions	8	785	\$100	\$78,500	\$628,000
3 Bedroom Renovations & Porch Additions	18	1,145	\$90	\$103,050	\$1,854,900
Foundation Shoring Contingency	-		\$6.00	\$5,373	\$193,440
Environmental Contingency (Asbestos)	-	-	\$5.60	\$5,015	\$180,544
New Building Construction	24	30,560	\$110-130	\$144-180K	\$3,601,600
1 Bedroom New Construction	0	0	\$130	\$0	\$0
2 Bedroom New Construction	20	1,200	\$120	\$144,000	\$2,880,000
3 Bedroom New Construction	4	1,640	\$110	\$180,400	\$721,600
Site Construction Costs	-	-	\$35	-	\$1,069,600
Daycare Renovation & Porch Addition	-	3,482	-	-	\$279,222
Daycare Renovation	-	2,896	\$80	\$231,680	\$231,680
Screened Porch Addition	-	586	\$7	\$4,102	\$4,102
New Trussed Roof	-	2,896	\$15	\$43,440	\$43,440
LID/Stormwater Mitigation**	-	-	-	-	\$120,000
TOTALS	60	62,800	\$136.85	\$143,240	\$8,594,426

Target Cost/Unit \$139,000

*Target Budget \$8,340,000

Difference -\$254,426

more successful public-private partnerships. More importantly, successful partnerships have a better chance in creating a superior housing environment akin to the first 20th century public housing complexes, which were standard-bearers of neighborhood making copied by all income groups.

Scenario 2: Hilltop Terrace

Type	Unit Count	SF	Cost/SF	Cost/Unit	Subtotal Cost
Demolition	2	1,070	\$8.00	-	\$8,560
Existing Building Renovations	38	34,310	\$90-120	\$64-103K	\$3,310,500
1 Bedroom Renovations & Porch Additions	8	535	\$120	\$64,200	\$513,600
2 Bedroom Renovations & Porch Additions	12	785	\$100	\$78,500	\$942,000
3 Bedroom Renovations & Porch Additions	18	1,145	\$90	\$103,050	\$1,854,900
Foundation Shoring Contingency	-	-	\$6.00	\$5,417	\$205,860
Environmental Contingency (Asbestos)	-	-	\$5.60	\$5,056	\$192,136
New Building Construction	24	26,000	\$110-130	\$144-180K	\$3,237,000
1 Bedroom New Construction	13	900	\$130	\$117,000	\$1,521,000
2 Bedroom New Construction	11	1,300	\$120	\$156,000	\$1,716,000
3 Bedroom New Construction	0		\$110	\$0	\$0
Site Construction Costs	-	-	\$25	-	\$650,000
Daycare Renovation & Porch Addition	-	3,482	-	-	\$279,222
Daycare Renovation	-	2,896	\$80	\$231,680	\$231,680
Screened Porch Addition	-	586	\$7	\$4,102	\$4,102
New Trussed Roof	-	2,896	\$15	\$43,440	\$43,440
LID/Stormwater Mitigation**	-	•	-	-	\$120,000
TOTALS	62	60,310	\$133	\$129,085	\$8,003,278

Target Cost/Unit \$139,000

*Target Budget \$8,340,000

Difference \$336,722

Scenario 3: Willow Street Frontage

Туре	Unit Count	SF	Cost/SF	Cost/Unit	Subtotal Cost
Demolition	2	1,070	\$8.00	-	\$8,560
Existing Building Renovations	38	34,310	\$90-120	\$64-103K	\$3,310,500
1 Bedroom Renovations & Porch Additions	8	535	\$120	\$64,200	\$513,600
2 Bedroom Renovations & Porch Additions	12	785	\$100	\$78,500	\$942,000
3 Bedroom Renovations & Porch Additions	18	1,145	\$90	\$103,050	\$1,854,900
Foundation Shoring Contingency	-	•	\$6.00	\$5,417	\$205,860
Environmental Contingency (Asbestos)	-	-	\$5.60	\$5,056	\$192,136
New Building Construction	23	26,390	\$110-130	\$144-180K	\$3,224,900
1 Bedroom New Construction	9	850	\$130	\$110,500	\$994,500
2 Bedroom New Construction	13	1,300	\$120	\$156,000	\$2,028,000
3 Bedroom New Construction	1	1,840	\$110	\$202,400	\$202,400
Site Construction Costs	-	-	\$35	-	\$923,650
Daycare Renovation & Porch Addition	-	3,482	-	-	\$279,222
Daycare Renovation	-	2,896	\$80	\$231,680	\$231,680
Screened Porch Addition	-	586	\$7	\$4,102	\$4,102
New Trussed Roof	-	2,896	\$15	\$43,440	\$43,440
LID/Stormwater Mitigation**	-	•	-	-	\$120,000
TOTALS	61	60,700	\$136	\$135,489	\$8,264,828

*Target Cost/Unit \$139,000 *Target Budget \$8,340,000 Difference \$75,172

 ^{*} assumes \$131,000/unit renovation and \$151,000/unit new construction total construction costs
 ** optional pedestrian bridges (not included in estimates) cost between \$50,000-150,000 each

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