

# House Relocation



## A Practical Guide for Austin, Texas

A collaborative project of  
Preservation Austin, The ReUse People Austin, and  
University of Florida School of Architecture

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Note: This guide contains information that will be helpful to property owners, developers, built environment professionals, and more in considering house relocation. This guide has been written for educational purposes, and is not intended to replace legal advice or professional services provided by architects, engineers, general contractors, and others in the design, development, permitting, and construction processes.

# Summary

*House Relocation: A Practical Guide for Austin, Texas* explores house relocation as a tool for the circular reuse of residential structures within Austin's central neighborhoods and beyond. This guide provides an overview of the relocation process to shape a better understanding of the practice and promote its use for economic, environmental, and preservation benefits. Written in response to measurable losses in Austin's historic residential fabric and the impacts of demolition, this guide is written for Austin residents, property owners, developers, and design and construction professionals to provide the information needed to consider a project of their own.

## Motivations + Benefits

**Economic:** The design and development community needs a range of viable alternatives to the demolition of older homes within Austin's central neighborhoods. Skyrocketing property values have caused modest structures to no longer make financial sense, leading to their replacement by larger single-family homes or duplexes. Analysis of permit records shows dramatic increases in the number of demolitions between 2010 and 2021, compared to the previous three decades.<sup>1</sup> While shaping neighborhood character, these smaller homes with fewer modern amenities have provided market-rate affordable housing in the form of lower rents. Their loss contributes to Austin's on-going housing crisis.

**Environmental:** To achieve the City of Austin's zero waste goals of diverting 90% of waste from landfills by 2040, the community needs more options to limit waste and expand the circular economy. Relocation presents environmental benefits through the reuse of existing structures, including their materials and embodied energy. An expansion of the Construction and Demolition Recycling Ordinance, which currently applies to residences larger than 5,000 square feet, would encourage relocation of smaller houses as a straightforward diversion strategy through reuse on their original site, on another site within the city limits, or in a neighboring community.

**Preservation:** Relocation is a tool to preserve individual houses and the collective neighborhood fabric they make up, when not having the option to preserve in place. This strategy retains pieces of Austin's cultural history and building traditions, while diverting materials from the landfill and giving smaller, more affordable housing units a new life. It's important to acknowledge that relocation can be in conflict with principles of historic preservation, as a home's original site and context is key to understanding its history. But, relocation is a preferred option to demolition in situations when preservation in place is not possible.

**Logistical:** Currently, the process of house relocation within the City of Austin is complex and time consuming. The many approvals and permissions required, tight timelines, and subcontractors needed make house relocation feel out of reach and/or unattractive to homeowners and developers. This guide lays out the steps for a house relocation project and provides project examples in efforts to demystify the process and foster the local practice.



A bungalow is cut and lifted on temporary steel rails in preparation for relocation. (Credits: Ben and Sandi Heimsath)



A house in East Austin is ready for transport. (Credit: Kathy Robinson)



In 1975, Austinites watch as the William P. Hardeman House is relocated from 401 East 16th Street to 1111 Red River Street to become part of Symphony Square. (Credit: PICH-03526, Austin History Center, Austin Public Library)



A house is cut in half and temporary wood supports installed to prepare for relocation. (Credit: Kathy Robinson)



A 1933 main house approved for demolition was purchased by a general contractor and relocated outside of Austin. The porch, which extends the entire length of the front facade, was temporarily removed for transport. (Credit: Sarah Gamble)

## Focus + Intent

This guide focuses on the most common type of house relocation in Central Texas: the movement of wood-framed, single-family homes intact or in two pieces from one property to another. This house type is common within Austin's central neighborhoods, traditionally resting on pier-and-beam foundations and relatively small in size and weight. There are other approaches to relocation that fall outside the scope of this guide, due to their complexity and rarity.

The relocation of these typical houses within Austin's city limits preserves the structures that collectively compose local neighborhoods, in contrast to the historic landmark-worthy structures that are best preserved in place. Analysis of relocation permits issued between 2010 and 2021 indicate more than 85% of homes that originate in Austin are moved to locations outside of the city limits. Houses are being placed in surrounding communities where land is more readily available, less expensive, and has fewer development restrictions. Their relocation outside of Austin brings financial, environmental, and logistical benefits and is preferable to demolition, but is a loss to the city's collective history and character.

This guide focuses on the steps and specifics to consider and plan relocation projects within the City of Austin. The guide covers likely scenarios and common challenges, but is not exhaustive. As with any built environment project, professional assistance is an asset, and at times, required by city processes. This guide has been written for educational purposes, and is not intended to replace professional services.

## Origin

The idea for this educational guide came from Preservation Austin's Summer 2018 Greening Your Vintage Home event focused on house relocation. Presenters Architect Sarah Gamble, House Relocation Facilitator Kathy Robinson, and then City of Austin Deputy Historic Preservation Officer Cara Bertron discussed an example relocation project, the benefits of reuse, and their perspectives on the practice. This guide captures the content of this presentation, and expands on the topics most applicable and actionable within Austin today.

<sup>1</sup> In a February 2017 article "7 Years Worth of Central Austin Home Demolitions on Track to Exceed Numbers for Previous 30", *Community Impact's* Christopher Neely reported 1773 demolitions between 2010 and 2017, compared with 1900 demolitions between 1980 and 2009, drawn from City of Austin permit records. In a February 2022 blog post "Heartaches by the Numbers, Demos by the Score: The Environmental Impact of Demolition Waste," Preservation Austin's Mary Kahle reported 6,172 demolition permits were issued between 2010 and 2021, detailing permits by zip code, associated environmental impacts, and efforts in San Antonio and Portland, Oregon to address similar situations. Kathy Robinson's analysis of relocation permits from 2010 to 2021 indicates 85% of relocated homes are leaving Austin.

# Section 1: Relocation Process

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Section 1 outlines six steps for house relocation and highlights information helpful when planning a project within the City of Austin. For the homeowner, the forthcoming pages are intended to explain each step, make the process more accessible, and highlight where guidance from City of Austin staff and design and construction professionals is needed. For the design, construction, real estate, and development professional, this section provides a starting point to discuss relocation with clients, as an alternative to demolition, and highlight nuances and details that might be new to someone navigating the relocation process for the first time.



A garage apartment travels across the South First Street bridge and through downtown Austin on its way from the Bouldin neighborhood to the Ridgetop neighborhood.  
(Credit: Leonid Furmansky)

Throughout this section, ‘origin’ is used to describe the property where a house was originally constructed. ‘Destination’ is used to describe the property where the house will be placed.

## Considerations

Broadly speaking, any building can be moved, but it is important to consider the time and effort required, in relationship to the environmental, cultural, historical, and financial values and costs. Relocation offers a range of potential benefits, but there are situations when the practice is impractical.

From a material and physical perspective, the process begins with a review of the structure and the house’s origin and destination.

### *Structure*

**Materials and Construction:** The house’s materials and construction methods, including its foundation type, are key considerations. Houses which rest on a series of piers, known as pier-and-beam foundations, allow for easy access by way of a crawlspace to insert temporary supports and lift the structure. Houses without a crawl space, such as slab-on-grade foundations, are possible to relocate, but are much more challenging. Also, poor structural integrity and/or extreme weight can make relocation increasingly difficult.

**Size and shape:** Single-story, smaller homes with a rectangular footprint are the easiest structures to relocate and can often be moved in one piece. As structures increase in size or shape, houses must be cut and moved in chunks. Increasing height or number of stories can also require cutting and lead to increased complexity by limiting possible

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transportation routes, requiring a roof to be removed, etc. Size and shape have direct impacts on relocation costs, as the number of man hours and vehicle trips increases with more preparation and when disassembly/reassembly work is needed.

Also, attached garages, small additions, porches, decks, balconies, chimneys, fireplaces, etc are commonly separated from the primary structure for relocation and later reattached, adding time and cost to the project.

### *Origin and Destination*

**Site Constraints:** To prepare and relocate a house, ample space is needed at the origin to move large equipment and vehicles to access the house and reposition it, as needed. At the destination, the space needs are similar and should be coordinated with future phases of construction. A tight site, challenging terrain, limited access, protected trees, fences, and other built elements can make the process more difficult or infeasible.

**Travel distance and routes:** Once a house is prepared for transport, relocation takes place over a TXDOT pre-approved route that takes roadway clearances, tree limbs, power lines, bridges, ground slopes, mail boxes, fences, and more into account. The width of roadways dictates the size of an intact house or house chunks that can be moved.

From a planning and project management perspective, there are four primary roles or areas of expertise needed for a successful house move: house mover, project manager, general contractor, and design professional. The house mover physically prepares the house for relocation, moves it, and then places it at the destination. House moving companies have specialized knowledge and equipment, and the City of Austin requires house movers to be bonded, insured, and registered. The project manager and general contractor roles will vary depending the scope of the project and decisions about who will manage the permitting process. The role(s) could be filled by a single individual, a series of subcontractors, and/or the homeowner. A licensed design professional, most likely an architect and/or engineer, is needed to produce the required set of stamped drawings, as outlined in the required permit applications, including the design of a new foundation and future renovations/modifications/additions.

From a cost perspective, the outline below details financial costs associated with the house relocation process.

- House Moving Contract
- Building Permits
  - Building Relocation Permit
  - New Construction and Renovation Permit
  - Sidewalk-In-Lieu Fee (when applicable)
- Origin Site Preparation and Cleanup
  - tree protection and trimming
  - utility disconnections
  - HVAC and misc equipment removal
  - removal of skirt, fencing, landscaping, etc
- Professional Services
  - Surveyor
  - Architect
  - Structural Engineer
  - Project Manager
- Destination Site Work
  - tree protection and trimming
  - utility and equipment connections
  - foundation work

## Steps

The process has been broken down into six steps, detailing relocation from one Austin property to another. Two applications, the Building Relocation Permit Application and the Residential New Construction and Addition Permit Application, are required to gain approval from the City of Austin.

### *Step 1. Site Analysis*

To begin, the destination is studied to determine if relocation is possible and to guide the house search. A site plan of the destination is required for a Building Relocation Permit, which typically begins with a site survey produced by a land surveyor. A survey details the dimensions of the property in relationship to existing buildings and improvements, as well as setbacks, easements, trees, topography, etc. In addition to the survey, on-site observation and review of the local neighborhood plan, tree protection guidelines, and accessory dwelling unit (ADU) guidelines (when applicable) highlight other factors that may impact the project planning and site design. (See page 11 for more information about ADUs.)

Analysis of the site plan is used to determine the destination's buildable area, which is the area of the property that can be built upon and/or a house relocated into. This information is needed when searching for a house to relocate, as the geometries of the buildable area will quickly rule out houses that do not fit or work with the existing conditions. Also, calculating a destination's current impervious cover, which is the square footage of the property that is impenetrable to water, and comparing it to the maximum allowable impervious cover will further detail the size house (and future additions) that are allowable at the destination. Once a house has been identified for relocation, site analysis at the origin will also be needed.

### *Step 2. House Search*

In addition to site conditions, the owner's preferences and the destination neighborhood are important considerations in searching for a house. For example, the owner may be looking for a favorite architectural style, large front porch, interior layout, or exterior material tied to their lifestyle, hope for a particular 'look', or ease of long-term maintenance. The destination neighborhood serves as a guide for the house search, with the aim of identifying a house that is complementary to the local character and the size, scale, and age of adjacent houses.

To identify a house for relocation, potential buyers can access a range of resources including:



The Buffalo Soldier House in Easton, Maryland's Hill Neighborhood was slid 8 feet horizontally on steel rails using manpower and soap. Built circa 1869, the house was pushed away from modern power lines and the adjacent roadway, in preparation for a full rehabilitation designed by Encore Sustainable Architects and sale as an affordable home for a military veteran. (Credits: W. Ward Bucher, AIA)



This early 1930s house on Red River Street was scheduled for demolition, but local residents spoke out at a Historic Landmark Commission meeting in hopes of preserving it. With plans to build a duplex, the owner agreed to relocate it. Two months later, the house was unexpectedly returned to the site along with messages from the house mover. (Credit: John Anderson)

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**Local House Moving Companies:** In addition to providing moving services, these companies often act as brokers in the relocation process, as they trade homes for relocation services and/or purchase homes for resale. These companies list available homes on their websites, Facebook Marketplace, Craigslist, and other social media. Contacting the companies directly may yield leads or details about upcoming projects.

**Design and Construction Professionals:** General contractors and design professionals who specialize in relocation have relationships with local house moving companies, developers, and land owners. For example, Kathy Robinson is the local representative of The ReUse People, a California-based non-profit whose mission is diverting construction materials from the landfill. Robinson assists in finding buyers for houses and managing the relocation process. Houses are professionally appraised and donated to The Reuse People, who then provides the donor with documentation for a charitable donation for tax purposes.

**Online platforms for buying / selling:** Searching for the phrase “house to be moved” on Austin Craigslist or Facebook Marketplace brings up homes available for sale. Dependent on who is selling the house, the total price may or may not include house moving services.

**Public Records and Meetings:** Building Demolition Permit Applications are public record and can be found through Austin Build + Connect, which is the City of Austin’s online tool for permit record searches. If an owner applies for demolition and the house is 50 years or older, the application is reviewed by the City of Austin’s Historic Preservation Office (HPO). This review yields an administrative approval or the application is referred to the Historic Landmark Commission (HLC) for a public hearing. Demolition cases are heard by commissioners and result in one of three outcomes: 1. The demolition is approved, but with requirements to document the structure; 2. The decision is deferred with recommendations for the owner to pursue preservation or relocation; 3. The demolition is denied or deferred, as the commission considers or initiates historic zoning. A review of the commission’s monthly agenda, which is published one week before their meeting, lists the houses applying for demolition along with informative backup materials. Cold calling or talking with house owners at the commission meeting can yield valuable connections.

**Word-of-Mouth:** Conversations with neighbors, neighborhood associations, design and construction professionals, developers, and others can generate unexpected leads. For example, cold calling developers working in the destination’s neighborhood may reveal available houses nearby.

Once a potential house has been identified, site analysis of the origin confirms if relocation is possible. Meeting with a house mover to survey the house structure and the origin and destination sites is needed to plan for vehicle access and movement on-site, in relationship to terrain, trees, neighboring fences, and other physical elements that will remain in place. A site plan of the origin is not a required submittal for permit applications, but the drawing is helpful in project planning. Vehicle movement and required tree protection, including potential impacts to tree roots and canopy, should be carefully considered. City arborists will conduct tree inspections at the origin, tied to the Building Relocation Permit, before relocation begins, during the process, and after it is completed to ensure compliance with city guidelines.

### *3. House Purchase, Project Planning, and Permitting*

Once a house has been selected, project planning centers on crafting an agreement with the owner, laying out a



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schedule and hiring a house mover, and applying for permits.

**House Purchase:** An agreement to convey the personal property, the house, from one party to another is needed to clearly layout the responsibilities of the house seller and house buyer. Along with establishing the price of the house, the seller and buyer need to agree on who will handle certain tasks during the relocation process. While who does which tasks is a matter of negotiation, the tasks at the origin are more naturally handled by the house seller, such as hiring and orchestrating work happening on their property. Also, in many cases, a house owner will give a house away at no cost, under the condition that the recipient pays for the house to be relocated.

#### House Seller / Owner of Origin

- Relocation Permit, including inspections
- Origin Trees, including tree protection and trimming
- Preparatory site work
- Utility and equipment disconnection, including capping water and wastewater lines
- Origin site cleanup, including removal of debris and house foundation

#### House Buyer / Owner of Destination

- Contract with house mover
- Destination trees, including tree protection and trimming
- Route work, including tree trimming, power lines, etc
- New Construction Permit and other approvals needed at the destination

**Project Planning:** Timelines are a key factor in planning the relocation process, and a general rule of thumb is a two-month minimum to logistically plan and physically relocate a house. Currently, the vast majority of houses are moved from the City of Austin to nearby communities due the complexity of in-town moves.

A lack of flexibility in the redevelopment schedule, backlogs in a house mover's project list, or long permit wait times can lead to the demolition of a house that is viable for relocation and valuable from a cultural, historical, and/or financial perspective. To successfully relocate a house within the City of Austin, three timelines must be in alignment:

1. **Origin's Redevelopment:** If redevelopment is planned, the new construction schedule will determine the time available for relocation.
2. **House Moving Company:** A house mover must be contracted and scheduled to relocate the house. The limited number of local companies and the increasing number of projects often results in substantial wait times for



A pair of Duval Avenue bungalows, owned by a University of Texas at Austin fraternity and scheduled for demolition, were sold and relocated to two adjacent lots in the JJ Seabrook Neighborhood. Two 1930s Bergstrom Air Force Base barracks, previously moved to the lots in the 1940s, were also relocated on-site and lifted to become garage apartments. The bungalows and barracks received full renovations, orchestrated and designed by Architect Ben and Sandi Heimsath.  
(Credits: Ben and Sandi Heimsath)



A Tarrytown house (above) is cut into multiple chunks (below) in preparation for relocation. (Credits: Kathy Robinson)



Contributing to a local historic district, two Tudor Revival houses on opposite sides of a block in Gainesville, Florida were relocated to make way for a new sorority house near the University of Florida. Temporary steel rails were inserted through the skirt to lift and support the hybrid structures with their brick façades and wood-framed interiors. (Credits: Carly Walker, Sarah Gamble)

their services. Discussing the schedule with a company upfront is important to ensure the house can be relocated within the available timeframe.

3. **Permitting:** The preparation of permit applications requires substantial financial and time investment, including stamped architectural/engineering drawings. Wait times for the review and approval of these applications can also be significant.

If timing is the primary barrier to relocation, one way to create more time in the process is to relocate a house to a temporary location, which is most likely outside of city limits. Currently, relocating a house to a temporary in-town property, either the house's planned destination or a different property, is not allowed by the City of Austin without an approved New Construction Permit. Also, a Building Relocation Permit for an in-town move is released only after the New Construction permit is approved. This ordering ensures a plan is in place for the relocated house at its destination.

But, there have been special agreements made between the city and home buyers, which document project intentions and timelines, thus allowing a house to be relocated to its destination without an approved New Construction Permit. Alternatively, relocating a house to a temporary, out-of-town site can be done with only a Building Relocation Permit. But, if a house is moved out of the city limits and then brought back into the city, it must be brought up to all current building codes. If a house remains inside the city limits throughout the relocation process, the house and all unaltered elements are grandfathered, in terms of building codes.

Another time saving strategy is the City of Austin's Expedited Building Plan Review, "a premium service that accelerates the building plan review and permit process by holding a single review session with a full team of experienced plan reviewers and the applicant's design team." While the service does increase the overall permitting cost, it may present a viable means to speed up the process and avoid pending demolition.

**Permitting:** To relocate a house within city limits, a Building Relocation Permit and a New Construction Permit are required. Often times, a house seller has already applied for a Building Demolition Permit before considering relocation. They will need to submit a withdrawal form to cancel it, and then apply for a Building Relocation Permit. This application is relatively brief, yet does require a property tax receipt (to confirm all property taxed have been paid), a floor plan of the house to be relocated, a site plan of the destination, and photographs of the house. If the house is older than 45 years, the application will be reviewed by the HPO and the HLC.

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The New Construction Permit Application requires stamped drawings created by a licensed design professional, such as an architect or engineer, which clearly outlines the project scope. At a minimum, a house can be relocated and reused as-is with a new foundation. But, relocated houses often receive partial renovations and/or additions. As with the renovation of any older house, building elements that remain unaltered are grandfathered, while altered or new elements must meet current building codes.

#### *4. Site Preparation*

Utility disconnections and site work are the first steps to prepare for the physical relocation. After residents move out, utility accounts must be closed before requests for disconnection can be made. Austin Energy will disconnect the electrical lines and remove the electrical meter, typically within 2 weeks of the request. Water and wastewater lines are disconnected and will be capped by a licensed plumber, which will be inspected later as part of the Building Relocation Permit final inspection. Texas Gas Service will disconnect the gas lines and remove the meter, and in some instances, 'retire' ground lines (which involves digging up and disposing of them), requiring up to 6 weeks for completion. On the site, removal of brush, fencing, landscape elements, personal belongings, HVAC equipment, building skirt, etc will make way for vehicles to access and maneuver the house within the site and then onto the street.

#### *5. Relocation*

Once the permits have been issued and the date is scheduled, the house moving company will prepare on-site. As required, the house will be cut into pieces and/or porches and other similar elements will be temporarily removed. Building skirts and elements not being relocated will be demolished. The time needed on-site depends on the scope and complexity of the project, but it is common to have a house lifted and placed on steel rails within one to three days. The moving company will apply for a permit from the Texas Department of Transportation (TxDOT), who will design a route and provide it to the house mover for inspection and acceptance. The approved route is good for 30 days for the size structure noted on the application. The permit is valid for 7 days and can be extended up to three days. If the permit expires, a new application must be submitted. A police escort is arranged, along with any tree trimming or power line work needed along the route. Within residential areas, the house moving company may post flyers on parked cars along the route asking them to park elsewhere at the time of the move. A car towing company is often arranged to temporarily move cars that are blocking the relocation.

Typically done at night, the house moves along the designed route and is pulled onto the destination site. In daylight, the house will be carefully placed in its final position, per the site plan. The house will remain on the temporary steel rails until the new foundation can be built beneath.

#### *6. Project Wrap-Up*

At the origin, Building Relocation Permit final inspections confirm the house has been moved, water/wastewater lines are capped, proper tree protection has remained in place, etc. With the relocation complete, site cleanup, including the removal of debris and the house foundation, will make way for new construction.

At the destination, the New Construction Permit and associated inspections will guide all future work on-site. A new foundation is built, the house is lowered onto the new supports, and the temporary steel rails are removed, which typically concludes the house mover's scope of work and the relocation process.

## Section 2: History and Practice



The William P. Hardeman House is relocated from 401 East 16th Street to 1111 Red River Street to become part of downtown Austin's Symphony Square.  
(Credit: PICH-03525, Austin History Center, Austin Public Library)

### History

House relocation has evolved in the US along with the tools and technology available, yet many reasons for its practice have remained the same. Two of the most common uses of relocation to new properties are: to improve and/or redevelop a property; and to make way for new or the expansion of transportation infrastructure. On-site relocation, which is moving a structure within a property, has been consistently used to make space for building additions, new structures, or to escape risk. For example, lifting a house above flood planes or moving a house horizontally away from power lines to extend its lifespan.

The power needed for relocation has shifted from animal-powered to modern semi-trucks. Historically, horses or cattle pulled structures on rolling logs or temporary wood tracks laid in public streets, acting as greased runners for the structures to slide along. To multiply their power, horses would circle a capstan, connected to a pulley and cross-beam, which pulled the house down the tracks. Today, modern semi-trucks, construction vehicles, and jacks are used in combination to lift and move structures of all sizes.

The power needed for relocation has shifted from animal-powered to modern semi-trucks. Historically, horses or cattle pulled structures on

### Contemporary Practice and Opportunities

In Austin, relocation continues to be most often used in response to redevelopment. Yet, permit records highlight that demolition continues to be the predominant choice when a house is no longer needed or wanted. Shifting the perspective on older houses from something that needs to be disposed of to a valuable resource with long-term potential creates opportunities for reuse and redesign. Applying the old adage of 'one man's trash is another man's treasure,' relocation extends the lifespan of structures, preserves residential fabric and neighborhood character, and grows the local circular economy, which the US Environmental Protection Agency (EPA) describes as "keep[ing] materials, products, and services in circulation for as long possible."<sup>1</sup> Current environmental and economic conditions in Austin, outlined below, highlight opportunities for relocation's expanded use.

In Austin, increasing demolitions highlight the misalignment between the rising cost of land and the older, more modest homes that sit upon it. Building on permit analysis presented in *Community Impacts*' February 2017 article titled "7 Years Worth of Central Austin Home Demolitions on Track to Exceed Numbers for Previous 30", Preservation Austin published more detailed analysis of construction permits documenting the continued increase in residential demolitions from 271 per year in 2010 to 622 per year in 2021. Three zip codes, all in South Central Austin neighborhoods (78702, 78703, 78704), accounted for 46.9% of the total 6,172 demolitions.<sup>2</sup> The average size house demolished between 2011 and 2019 is 1003 sf. The largest percentage of demolished structures were built between the 1930s and 1950s, aligning with the times of development and growth of many Central Austin neighborhoods. Comparatively, only 225 house relocation permits were issued between 2010 and 2021.<sup>3</sup>

The design and development community needs a range of demolition alternatives to conserve and reuse materials, while furthering the city's zero waste goals. Demolition has a range of environmental impacts, including the volume of solid waste in local landfills, the embodied energy lost, and the fuel burned to demolish houses and transport waste. In *Treasure in the Walls*, the San Antonio Historic Preservation Office reports, "Sixty-nine percent of demolition permits over the last ten years were for residential structures. Those residential demolitions introduced approximately 338,262,288 pounds (169,131 tons) of debris into San Antonio's waste stream." The report also explains that 41.3 tons of embodied energy is lost when a 1,500 square foot house is demolished.<sup>4</sup> For Travis County, the Texas Commission on Environmental Quality approximated in a 2020 report that 25% of waste going into the three local landfills is from the construction and demolition industry, including residential and commercial projects.<sup>5</sup>

From a design perspective, relocation offers an alternative to demolition and unique opportunities to reuse and repurpose houses. Relocated houses can be used as-is, receive additions and renovations, become the second stories of new structures, or be reassembled in new ways. Houses can be relocated and grouped in pairs or larger numbers on commercial properties to create low density multi-family and/or planned unit developments. Austin's historic housing courts provide a guide for this type of site design, while complementing the local neighborhood character.

A simple and hyper-local approach is to relocate a small main house within a property to become an accessory dwelling unit (ADU). Currently, an ADU's square footage is limited to 1,100 square feet (or .15 floor-to-area ratio, whichever is smaller), with a maximum of 550 square feet on a second level. The 1,003 square foot average house being demolished aligns with this ADU maximum. A 2008 study published by University of Texas at Austin School of Architecture faculty used GIS analysis to determine 42,888 single family lots, per zoning designation and lot size in relationship to regulations at the time, were eligible to receive an ADU.<sup>6</sup> More recently, ADU and zoning regulations have loosened, causing an increase in the number of eligible lots today.

This UT Austin study points to ADUs as a viable infill development strategy that can generate rental income for Central Austin homeowners who own a high value asset, yet are challenged financially to pay recurring property taxes and maintain their house. The cost of new construction is a primary barrier to creating ADUs, and relocation presents a more cost-effective approach by repositioning them within the same property or to a nearby property, while preserving market-based affordable housing. The approach also further develops land already in use and supported by transportation and utility infrastructure, while limiting environmental impacts and public infrastructure costs.

## The Preservation Perspective

Relocation is one redevelopment tool that pairs preservation opportunities with economic and environmental benefits. But, it is important to note that



Built in 1937, a garage apartment was lowered, relocated and rotated 180 degrees, then lifted for reuse. In addition to a new exterior stair and one-car garage below, the interior renovation preserved the art deco details, pine flooring, and cabinetry, while adding a new bathroom, HVAC system, and plumbing.  
(Credits: Sarah Gamble)



Destined for demolition, the O. Henry House was donated to the City of Austin, who relocated it to Brush Square to become a museum. (Credit: Jordan-Ellison Co, 1934. CO9584, Austin History Center, Austin Public Library)

relocation can be in conflict with principles of historic preservation. While the idea of ‘preserving in place’ is fundamental, it is not always possible. As Preservation Austin Executive Director Lindsey Derrington explains, “When you move a structure, you lose two of the seven aspects of historic integrity. But, when you weigh your options of demolition or relocation, clearly, the answer is to move it.”<sup>7</sup> As defined by the National Park Service, historic integrity “is the ability of a property to convey its historical associations or attributes.” With relocation, the aspects of location and setting are lost, while design, materials, workmanship, feeling, and association remain intact.<sup>8</sup>

As Austin struggles with resident displacement and losses in affordable housing, efforts to preserve all types of housing, including smaller single-family homes and ADUs, are a priority. “It was a one-for-one financial trade off, but it makes a huge difference to us that we were salvaging Austin’s history,” explains Sandi Heimsath. Architect and Historic Landmark Commissioner Ben Heimsath and Sandi found their house relocations, which included full interior renovations, cost similarly to new construction. “A big part of these projects is wanting to save history – that’s why we’ve done them.”<sup>7</sup>

<sup>1</sup> At a national level, the EPA supports growth of the circular economy to foster reuse and economic activities. ([epa.gov/recyclingstrategy](https://www.epa.gov/recyclingstrategy))

<sup>2</sup> In a February 2017 article “7 Years Worth of Central Austin Home Demolitions on Track to Exceed Numbers for Previous 30”, *Community Impact’s* Christopher Neely reported 1773 demolitions between 2010 and 2017, compared with 1900 demolitions between 1980 and 2009, drawn from City of Austin permit records. In a February 2022 blog post “Heartaches by the Numbers, Demos by the Score: The Environmental Impact of Demolition Waste,” Preservation Austin’s Mary Kahle reported 6,172 demolition permits were issued between 2010 and 2021, detailing permits by zip code, associated environmental impacts, and efforts in San Antonio and Portland, Oregon to address similar situations.

<sup>3</sup> Kathy Robinson’s analysis of relocation permits from 2010 to 2021 indicates 85% of relocated homes are leaving Austin.

<sup>4</sup> City of San Antonio Office of Historic Preservation’s “Treasure in the Walls: Reclaiming Value through Material Reuse in San Antonio” (authored by PlaceEconomics, February 2021) highlights helpful data along with priorities and recommendations to develop the city’s circular economy and promote alternatives to demolition.

<sup>5</sup> Using data from Texas Commission on Environmental Quality (TCEQ) MSW Facility Viewer, Mary Kahle found 25% of waste going to Travis County’s three local landfills is attributed to construction and demolition, compared to the estimate 21% statewide included in the TCEQ’s “Municipal Solid Waste in Texas: A year in Review, 2020 Data Summary and Analysis” (pg 14).

<sup>6</sup> Moore and Palleroni in their July 2008 report “The Alley Flat Initiative” (published by UT Austin’s Center for Sustainability) detailed the the number of lots able to absorb ADUs (pg 36), in the context of their design for a local affordable housing initiative supporting the design and construction of ADUs to benefit local homeowners renters.

<sup>7</sup> Quotes are drawn from Summer 2022 research interviews by Sarah Gamble and Kathy Robinson.

<sup>8</sup> Historic integrity and its seven aspects are used to evaluate properties in the process to become a National Historic Landmark or be listed on the National Register of Historic Places. (<https://www.nps.gov/subjects/nationalhistoriclandmarks/glossary.htm>)

# Section 3: Future Advocacy and Research

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In conclusion, this research and writing project has highlighted numerous opportunities and next steps, which fall in two categories: advocacy for process and policy changes to support and expand the use of house relocation; and further research and conversations to identify additional applications, benefits, and alignments with local efforts already underway.

## Advocacy for Process and Policy Changes to Support and Expand the Use of Relocation:

- Allow a no-cost switch from a Building Demolition Permit to a Building Relocation Permit, current processes require a cancellation form and reapplication.
- Modify the permit application, review, and approval process for relocation to expedite projects and/or reduce the required fees to encourage relocation over demolition.
- Develop new policies to allow the temporary placement of relocated houses during the permitting process to avoid unnecessary demolitions and support relocation.
- Revise and/or expand the Construction and Demolition Recycling Ordinance to incentivize relocation, as an alternative to demolition

## Further Research and Conversations

- Review City of Austin priorities and plans to identify opportunities and alignments, including: Anti-displacement and Affordable Housing Initiatives; Zero Waste and Circular Economy Initiatives; Imagine Austin and drafts of the revised Land Development Code.
- Connect with Austin Resource Recovery and Office of Sustainability staff to explore how house relocation contributes to conservation, diversion, and zero waste goals and current efforts.
- Identify resources to: connect home sellers and home buyers and/or promote the advertisement of available houses; support small business development for house moving and/or support existing companies to increase their capacity.
- Analyze relocation records and contact owners to track relocated houses' final destination and current use.



Following relocation to Symphony Square, a new foundation is designed to create a basement under the historic structure. (Credit: PICH-03729, Austin History Center, Austin Public Library)

