

the  
**AMERICAN  
ALLEY**  
— A Hidden Resource —

Thomas Dougherty | Strong Towns | August 2021



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**STRONG  
TOWNS**

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# Part 1: A Hidden Resource

It is rare to find a street in America that does not seem to be almost wholly oriented around the movement of cars from one point to another. The street understood as part of the public realm seems to be forever lost, a thing of the past. There are political and cultural reasons for this, and a long history of how this came to be, well told by authors including Andres Duany (co-author of *Suburban Nation*), and James Kunstler (*The Geography of Nowhere*). Perhaps the most fundamental reason for this, though, is that most American streets—both historic and modern—are very wide, at least compared to streets of historic European towns and cities.

Two defining spatial characteristics of the modern street, specifically in America, are their size in relationship to pedestrians and their lack of spatial definition. (Modern American streets aren't framed by buildings. If urban space is the "room" of a city, the room is missing walls.) The "minor streets" of Philadelphia, as we will see, offer a striking exception.

## HISTORIC MAJOR STREET VS. HISTORIC MINOR STREET



For almost half a century, architects and urban planners have worked toward transforming the modern auto-centric street to a more person-centric one. Their efforts, and especially the work of the members of the Congress for New Urbanism, have made huge strides toward bringing awareness to the general public of the inhuman nature of the modern city, specifically embodied in the modern street. However, the non-pedestrian scale and lack of spatial definition remains a vast, regrettable divide between almost all of today's streets, and the streets that make up the historic towns and cities of Europe and the minor streets of colonial America.

In this series of articles, I will attempt to lay out a model for the incremental infill development of existing American towns and cities, at a human scale and in a spatially defined manner. This model is the development of the inner block. Inside traditional urban blocks are many types of public, semi-public, and private spaces fronted and formed by buildings and walls. That's the inner block, and it's perhaps best recognized in the form of your basic courtyard. This is perhaps the only place in many American towns and cities today that will allow the development of pedestrian-scaled urban spaces—most easily seen along the residential alleyway.

The American service alley, running through the center of a traditional urban block, was created at a time when city infrastructure looked radically different. Back then, the alley was home to the less-sightly aspects of daily life. Horses, necessary for most transportation, were stabled there, along with the vast amounts of manure they produced. Latrines were located along alleys, where they were periodically emptied by those employed in night soil removal. Firewood and later coal used for heating and cooking were delivered from alleys. Commonly, the "backyard" was also the place where water wells were dug and cooking was done. By the early 1900s, as these forms of services were displaced by more modern infrastructure, the essential utility of the service alley was lost; by the 1930s it was generally no longer platted. In the automobile-dominated world of the 20th century, the alley became home to small garages, parking, and trash pickup. But in recent years even those have been moved to the front street. The infrastructure that once required the space of the service alley (electric wires, natural gas, fresh water, and wastewater) now fits within a cavity wall. Urban alleys today are often abandoned or hardly used.



## “Out of Sight and Out of Mind”

American service alley rights-of-way are typically 16 feet–24 feet wide, measured from property line to property line. Garages and outbuildings along the alleys are often built on the property line or with relatively small setbacks, making the distance from building face to building face quite narrow in comparison with those on the primary streets. To walk down an alley is to get a sense of the human scale and potential for spatial containment found nowhere else in the city.

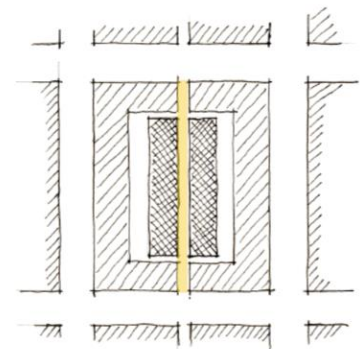
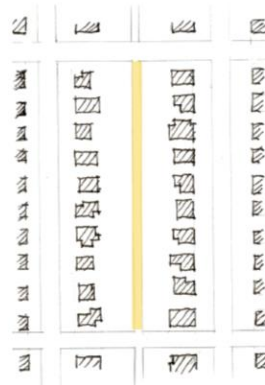
Alleys and rear yards (the space between the primary structure and a rear alley) make up huge amounts of land in American cities. In Chicago alone, there are 1,900 miles of alleys—enough to stretch from Chicago to Los Angeles. A 2010 study by Gehl Architects pointed out that there were 217,500 square feet of alleys in downtown Seattle, mostly vastly underutilized, as well as 456,390 square feet of public parks, squares, and pedestrian streets. “By seriously considering our alleys as potential for great public spaces within the city,” the study concluded, “we can increase our public space by 50% in downtown Seattle alone.” As we will see in Part 2, the service alley is an artifact of an earlier era that had different practical needs. Many cities, no longer seeing the ROI on all the maintenance costs, have simply let them become grown over. Others have de-platted them, striking a new property line down the center and giving the land to the adjacent property owners.



Figure 3: Holley ‘Alley’,  
West Chester, PA



Figure 3: Panama St (‘alley’),  
Philadelphia, Pa



*Holly Alley, West Chester, and Panama St., Philadelphia, at the same scale.*

And it's not only the service alley right-of-way that is underutilized. Rear yards and alleys, especially in residential neighborhoods, often claim as much land between buildings as the front yard and street.

In 1978, in an effort to stop the city's demolition of St. Louis's alleys, Grady Clay authored *Alleys: A Hidden Resource*. In it, Clay wrote, "Out of sight and out of mind, the American residential alley has been the academic, geographic and social outcast of the built environment for at least half a century... The literature on alleys is rudimentary, to say the least, and it is now time to consider what the alley is, and what it might become—a hidden resource waiting to be recognized."



*From service alley to minor street.*

The American alley is a resource that has been "out of sight and out of mind," but it is now one that offers an opportunity for dramatic, value-enhancing redesign and development in many of our towns and cities. Improving alley and rear yard design can be approached at the scale of the individual lot, by a homeowner working independently of neighbors and city; or on a citywide scale, as we reconsider alleys as a network of secondary pedestrian streets. Or, perhaps best: somewhere in between, in which a creative collaboration between homeowners and the city allows for individual choice and initiative within a unified vision of the public realm.



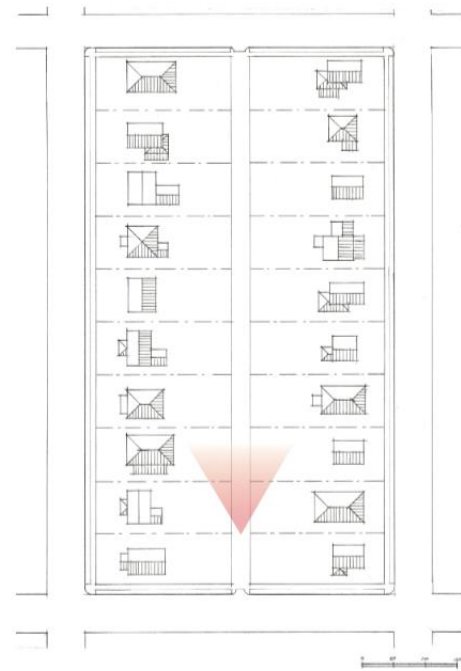
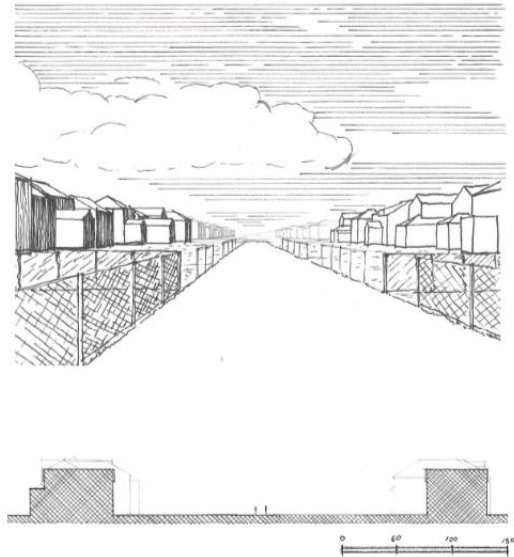
# Alleys and ADUs

American demographics are changing and so are housing needs. According to a 2017 exposition held by AARP and the National Building Museum, entitled “Making Room: Housing For a Changing America,” 28% of the American population is single people living alone. Yet almost 90% of the nation’s residential units consist of two or more bedrooms. Accessory dwelling units (ADUs) were highlighted as one of the greatest potential resources to address the need for smaller residential structures. For towns and cities built according to the traditional development pattern, this often means ADUs along alleys.

Over the last century, the vast majority of municipalities in America have severely restricted, or made illegal outright, the building of a second dwelling in the backyards of single-family homes. That is beginning to change. For example, in 2017 California began the process of legalizing ADUs statewide. For towns and cities across the country, ADU legalization is making inner block development possible for the first time.

Transforming American alleys into streets through the development of ADUs would begin to create the density needed to support highly desirable, walkable, mixed-use neighborhoods. Alley residential streets would be small, prompting the construction of narrow townhouses, coach houses, and apartments over garages or workspaces. They would help address the housing crisis, providing a home for those who do not want or cannot afford a larger, detached single-family home. The new narrow streets could form a secondary street network designed

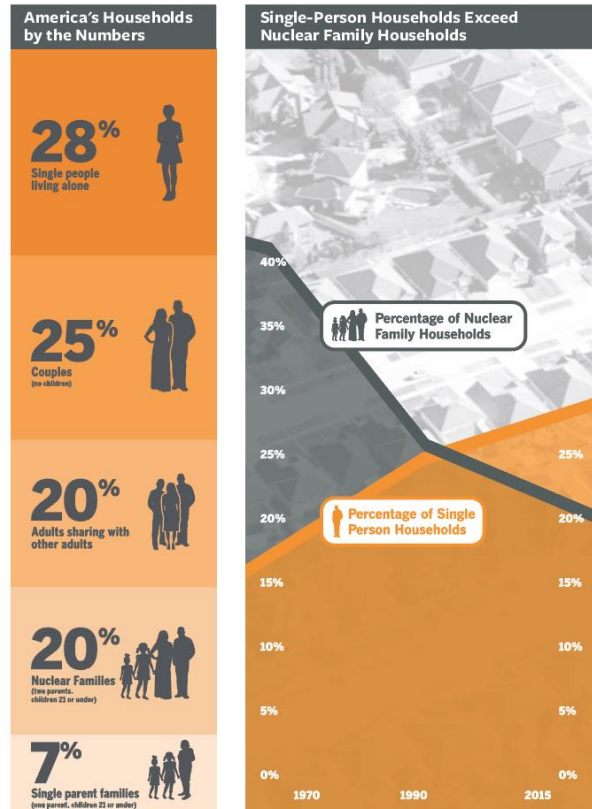
Inside the Typical Residential Block



around walking and biking, providing freedom and independence for the young, the old, and those who do not have a car. Alley homes would be less likely to fall prey to rapid gentrification and land speculation, since the lots they are developed on are already privately owned. Slow incremental development with a range of building types and uses will be enabled through the patient capital of a homeowner. As secondary buildings, incremental development and flexible uses would be encouraged. The defined streets could provide a character of prioritizing (or perhaps only being accessible to) pedestrians.

The historic, tree-lined American “major street” is a wonderful urban space. Creating a more diverse urban fabric around it by developing smaller, mostly pedestrian “minor streets” will only enhance the appeal of the neighborhood.

In Part 2, we will look at the rise of the American alley, and then at its fall in Part 3. In Part 4, we will see that, together, the revival of ADUs and alleys can play an important role in addressing a host of issues in our communities today. The thesis is not that all American alleys should necessarily be lined by townhomes and coach houses. Rather, transforming an alley into a secondary street is historically a process of maturing urban fabric, and through this transformation, critical needs of American cities and communities can be better met.



Historically, the smallest units have received short shrift, but today's largest household category consists of singles living alone. That's a significant mismatch. **The Bottom Line:** Our current housing stock isn't nearly as diverse as we are.

*“Just as the housing needs of individuals change over a lifetime, unprecedented shifts in both demographics and lifestyle have fundamentally transformed our nation’s housing requirements.” - AARP*



# Part 2: Origins of the American Alley

As an urban form, alleys have almost completely escaped the attention of historians. No “history of the alley” has been written, and few other resources can be found. What is pieced together here is a collection of references from books and articles, often themselves bemoaning the lack of historical account regarding alleys. Yet knowing the history of the alley (and being able to differentiate the historic alleys of Philadelphia with the service alleys of later American cities) is key to recognizing not only why they were once so useful, but why they are underutilized in many cities today. Understanding the alley’s past reveals it for what it is today: a hidden resource for making our cities stronger and more prosperous.



*From left to right: Boston, MA (1640); Cambridge, MA (1637); New Orleans, LA (1770); St. Augustine, FL (1770).*

# Why Early Colonial Cities Didn't Have Service Alleys

## English Colonial Towns

Early American colonial cities had no service alleys, the rights-of-way that run along the backs of urban lots. English colonies such as Boston (1630), Cambridge (1636) and Providence (1638) developed informally without city plans. Settlers simply built according to urban sensibilities brought with them from Europe.

Boston developed organically; the streets are said to have simply “followed the cow paths.” Cambridge was developed along roughly orthogonal streets, and Providence built itself along a single high street. None of these early colonial settlements lent themselves to the development of a service alley.

## Spanish and French Colonial Towns

Spanish and French colonial settlements were developed along more formal urban theories. However, though they were often laid on a grid, they never included an inner-block service alley.

Spanish settlements such as St. Augustine, Florida (1573), followed the principles of the Laws of the Indies, giving it a central plaza and other archetypical features. New Orleans (1722), the largest of the French river towns, was composed of 300-foot x 300-foot urban blocks. As these cities developed, passages (sometimes called “alleys”) were often created running perpendicular to the streets, giving access to rear courts. However, no service alleys, like the kind found today running down the center of historic American urban blocks, were included in the layouts of these cities.



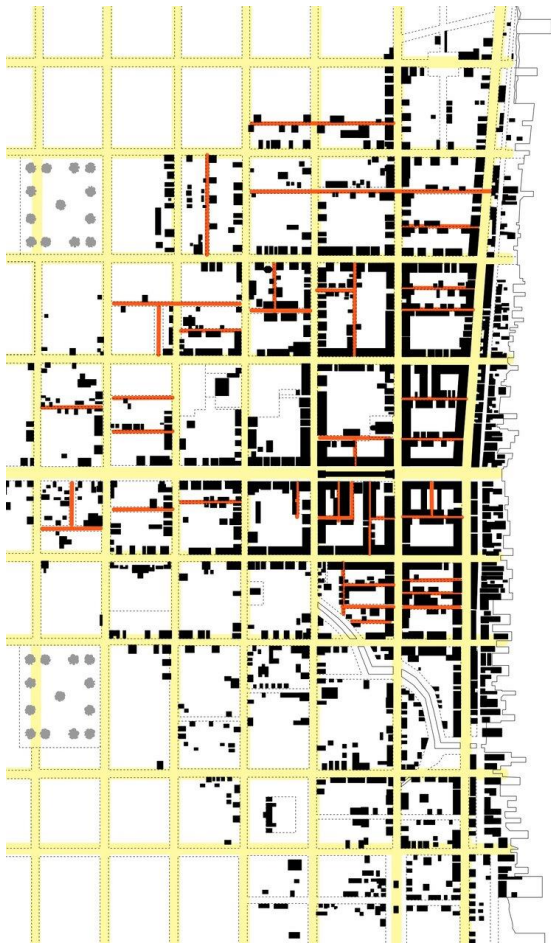
# Philadelphia's Inner-block Alleys, or "Minor Streets"

*Minor Street: A pedestrian-scaled, inner-block street formed by buildings and walls that "front" the street.*

## Philadelphia (1682)

Philadelphia was the first British colony to be laid out according to a formal master plan. Designed by William Penn in 1681, it was a visionary plan and by far the largest proposed city of the New World, at the scale of London and Paris. Penn's design was influenced by the 1666 Great Fire of London, and the subsequent plans for its redevelopment. Penn envisioned his city as a "garden city" with straight, wide, tree-lined streets in which the filth, disease, and fires of London would never exist. The plan of Philadelphia did not include service alleys.

But Philadelphia did not develop according to Penn's vision. The city was built up along the Delaware River because of the economic significance of its wharf. As the city developed from the Delaware River to the Schuylkill River, small paths or lanes were created by the property owners as shortcuts through the grid of blocks. These lanes could be later claimed by the city as public thoroughway if they had been used for 21 years, or if the landowners brought the lane to the court, donating the land in exchange for its upkeep by the city. These later came to be known as "minor streets." In the figure above, the major street network (highlighted in yellow) is clearly visible, with the minor streets (in red) cutting through the block and doubling or even tripling the street network of the city.



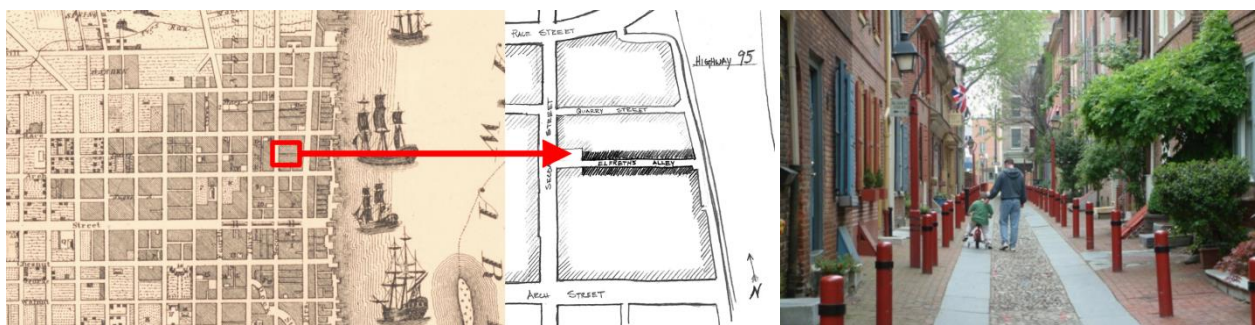
*Partial plan of Philadelphia (1702), showing planned streets in yellow and minor streets in red.*

The most famous of Philadelphia's minor streets, and the nation's oldest residential street, is Elfreth's Alley. In 1706, John Gilbert and Arthur Wells agreed to a joint land lease, where their properties met between front and second streets, to open a cart path as a shortcut to the wharf. As the years went by, small brick buildings were built along the path, and eventually it became a residential street known as Elfreth's Alley, subsequently adopted by the city. Today, 32 buildings dating from between 1720-1830 line the street.



*A minor street in Philadelphia today.*

Though it has the name "alley" in its title, clearly this street is not being used to service the *backs* of buildings along a major street. Instead, this street is formed by the *fronts* of buildings. Elfreth's Alley is not an alley as we commonly use the term today, but rather an inner-block street, or "minor street."



*Left: Elfreth's Alley, 1792. Right: Elfreth's Alley today. (Image via [visitphilly.com](http://visitphilly.com).)*

Between 1840 and 1850, the population of Philadelphia grew by 60%, developing far outside the original platting of the city. The dense living conditions had become extremely tight, and the inner-block minor streets (called alleys) were plagued with disease and debris. Reformers

and city officials saw the alleys and the people who lived in them as the worst parts of the city and society.

Small inner-block courts and alleys, first developed by the working class, had devolved into slum housing for the poorest in the city. Public transportation had allowed for a greater segregation of social classes, leaving the small row homes within the block to the poorest. In a 1904 study it was noted that small, three-story alley dwellings originally built to house one family were now being subdivided and occupied by three families.

Social and housing reformers advocated for new laws to make inner-block development illegal, and they called for the demolition of many of the existing minor streets and courts. The unsanitary aspects of industrial city living were exasperated by their narrowness. However, it was not the form itself that was the problem, but the overcrowding of residents and the arrangement and dilapidation of water wells, latrines, kitchens, and other infrastructure that led to the unsanitary conditions.



*Housing conditions in Philadelphia, 1904.*

In 1855 a city ordinance was passed prohibiting the development of any residential building along a street narrower than 20 feet. In 1895, buildings codes were passed requiring multifamily buildings to maintain eight-foot side yard setbacks, even on 25-foot-wide lots. These and other ordinances largely stopped the development of new inner-block development in Philadelphia.

As the demand for housing subsided, minor street development turned to middle-class picturesque housing courts and tree-covered pedestrian streets, rather than the cramped conditions of before. One of these is St. Alban's place, a residential development built in 1870. St. Alban's was composed of townhouses facing a pedestrian way, complete with fountains and a central flower garden. This was achieved by raising and paving an existing gridded street.



## Service Alleys of America

*Service Alley: The American service alley is generally understood to mean a common right of way that borders the backs of urban property lots. Alleys today are often home to services such as trash collection and parking for the buildings that front the major street.*

The service alley did not appear in America until 1733, a century after the founding of Boston. Their origin can be traced to the British Mews of London and this history must begin there.

### London (1666)

In the early 1600s, horse-drawn coaches had become popular among the wealthy and upper-middle class of London and had begun causing traffic congestion in the city's streets. The carriages were not only creating traffic problems, they were also taking up large amounts of space in the city. In 1631, in an effort to address this problem, Inigo Jones created the first service street for carriage stables as part of his design for Covent Gardens. He called the street a "mews," after the royal stables. These were London's first inner-block service alleys.

Following the great fire of London in 1666, a critical decision had to be made: whether to rebuild the city according to the property lines that had existed prior to the fire, or to reshape the city according to modern Enlightenment city planning principles. In the end, English law prevailed, and instead of reimagining the city layout, London was rebuilt along the same streets and squares that it had been composed of in 1665.



*Grosvenor Square; major streets in yellow, mews streets in red. Image via Genealogy of Cities.*

Service Alley



Montagu Mews, 1915

Image: *The Mews of London*

Minor Street



Montagu Mews, Today

In response, much of the wealthy upper-class decided to move outside the city. By the early eighteenth century, London found itself in a building boom as land west of London and around Hyde Park was developed. Nobility who owned the land began building speculative development on a large scale, and the layout of these new residential blocks looked to Inigo Jones and Covent Garden as a model. The target market of this speculative development was the wealthy upper class who required accommodation for their carriages and horses, along with their new homes.

Three factors prompted the development of alleys in all of the new West London development:

1. They were all large upper-class homes designed to be serviced by servants.
2. The new urban developments were planned and built at the scale of the carriage.
3. The upper-class speculative planning was greenfield development, which allowed for whole blocks to be laid out at once.

Following Inigo Jones in Covent Garden, the developments included mews streets that divided the block, giving access to stables in the back. These were lined with two-story carriage houses which often also served as the living space for the coachman and his family.

## Savannah (1733)

*“It is difficult not to conclude that the squares of Georgian London furnished the models after which the plans of Savannah and the other towns of the colony were fashioned.” — John Reys, The Making of Urban America*

In Savannah, the service alley (or “lane,” as mews were often called in England) was brought to America. In 1733, James Oglethorp, former military commander and member of British Parliament, was commissioned to found Savannah. The colony was a speculative development and some of the trustees of the project were also involved with the new developments west of London.

Savannah’s ward system is a unique urban model that can be credited at least in part to the ingenuity of Oglethorp. Though there is no preceding model for the ward layout, the use of the service alley found direct precedent in London mews.

It was the service alley as platted in Savannah, rather than the “minor street” found in Philadelphia, that became standard for the inner block of American cities. Though all the towns of the Georgia Colony were laid out with service alleys, it did not become standard practice in America until the turn of the nineteenth century. It was then that cities, including Columbus, Detroit, and Chicago, were laid out or re-platted with service alleys.

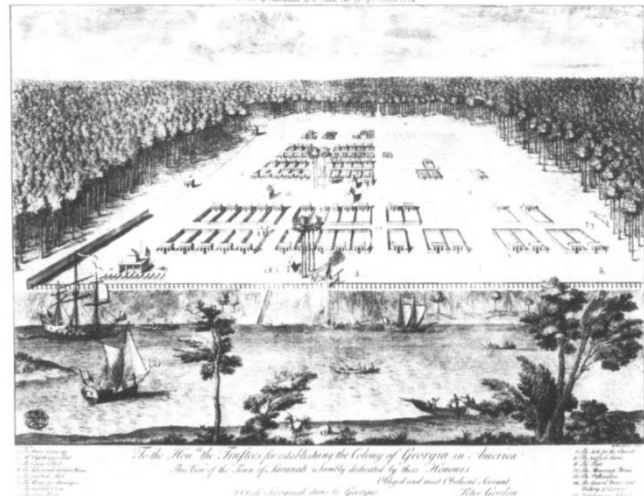


Figure x: View of Savannah, 1734 (Image: The Making of Urban America)

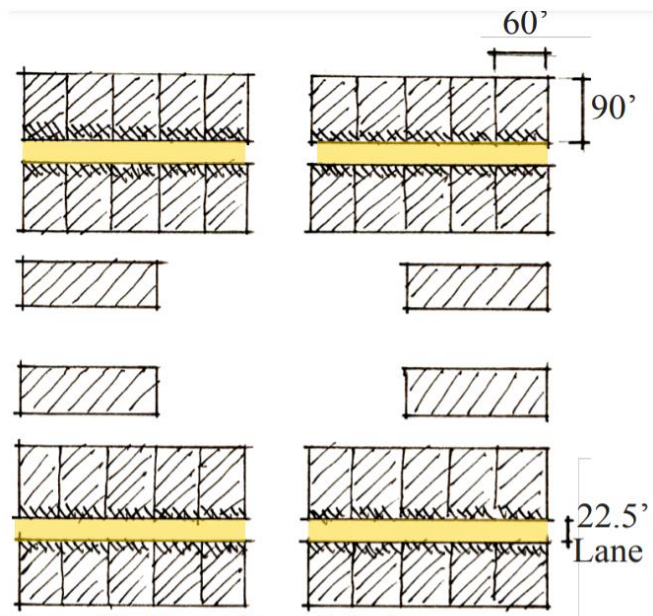
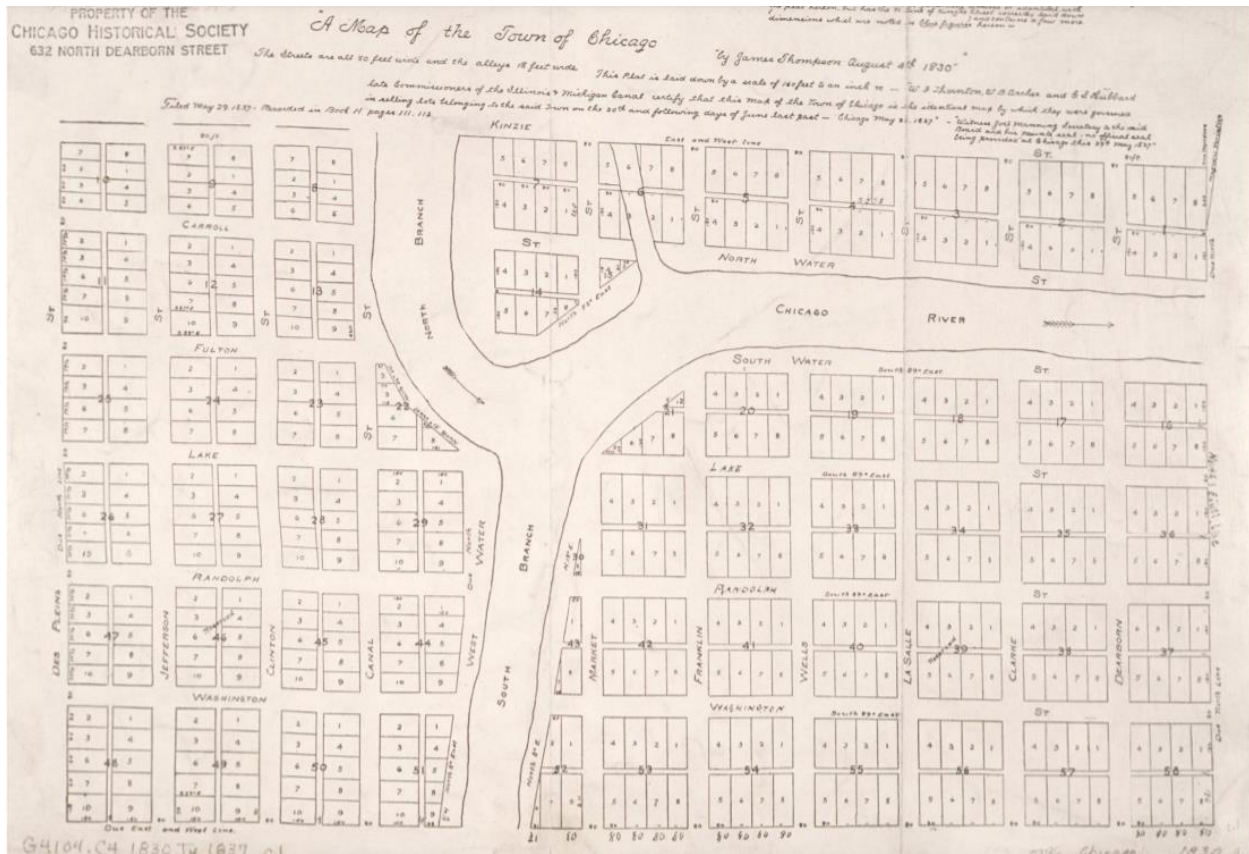


Figure x: Ward Layout (Image: Author)





## Chicago (1830)

When James Thompson laid out the city of Chicago in 1830, all 58 blocks included service alleys running parallel to the main street and through the center of the block. The streets were laid out on a regular grid, with 66-foot-wide streets, and 16-foot-wide alleys. Though the urban form was primarily the same as the London mews, the use had changed somewhat. In London, the mews had served simply to house horse stables for the upper-class. In Chicago, it became home to the unsightly aspects of industrial city living. The Chicago alleys were dirty places and served as the septic system of the city. Latrines, water wells, kitchens, coal deliveries, and horse stables all found a home in the alley.

Chicago embodied the development pattern of the American Midwest. The Chicago block is laid out along the lines of the continental grid and is typically 330 feet x 660 feet, reflecting the measurement system of the Gunter's Chain. As cities and towns were developed across the Midwest, they were laid out as gridded blocks with streets and service alleys.

By the mid 1800s, service alleys intended for city infrastructure often became the refuge of the poor in the increasingly dense cities across America. Here, in places never intended to be lived in, shacks sprang up.

Two main factors led to the development of alley dwellings in cities across America during this time: The constraints of pedestrian movement in an industrial city, leading to dense city centers, and the ability of small developers to capitalize on unbuilt inner-block land through the construction of rental structures.



## Washington, DC (1865–1877)

Service alleys did not exist in the original L'Enfant Plan of the City of Washington, but were added to city blocks in the early years of the city's development.

DC developed later than many American cities, and did not reach its pedestrian size constraint until the mid-1800s. "As the city grew, property owners in 1852 cut up the first five big blocks, inserting alleys and selling off the back lots; the process spread," wrote James Borchert in *Alley Life in Washington*. The city quickly expanded, and developers built both alley and primary street residences simultaneously. "Various sources suggest that, from 1865 until 1877, blocks were often subdivided into street facing and alley-fronting land prior to lot development ... and that alley construction could occur before street development, with street development, or as fill-in later."

In 1894, DC housing reform activists pushed to eliminate all dwelling in alleys, and Congress passed measures to limit their construction and use. Forty years later, Congress created the

Alley Dwelling Authority with the mission to discontinue all living along alleys by 1944. Before alley dwellings could be completely eliminated however, a countermovement emerged to restore the alleys on Capital Hill and Georgetown. Borchert writes, "Alley dwellings that began as housing for working-class whites, and which became 'mini ghettos' for black residents following the Civil War, have recently become expensive and highly sought-after residences for affluent Washingtonians."

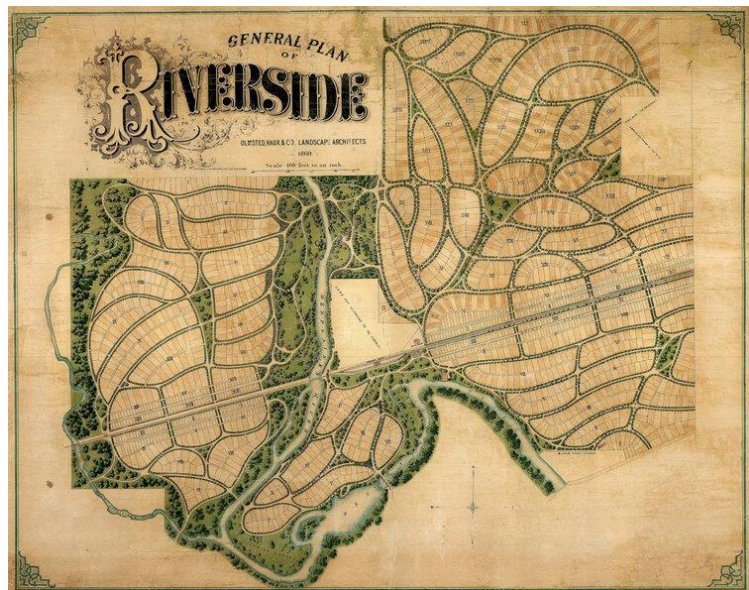
The push to eliminate alley dwellings in the nation's capital and the minor streets of Philadelphia were part of a broader movement to move life away from the inner block in modern cities. That same movement also helped speed the demise of the accessory dwelling unit (ADU). To fully understand the opportunity cities have today in rediscovering the productive capacity of alleys and ADUs (the focus of Part 4 of this book), we need to dig deeper on how we turned our backs on them, in the first place.



## Part 3: The End of the American Alley

By the end of the nineteenth century, infrastructural innovations had begun to negate the need for service alleys. Plumbing brought fresh water, eliminating the need for a courtyard or alley wells, and took away wastewater, eliminating the need for alley outhouses and the pickup of human excrement. Electricity and gas brought light, heating, and cooling, which meant people no longer needed deliveries of coal and ice. Automobiles, both in delivery services and private transportation, meant people didn't need to access barns and stables and all the associated space required for horses and carriages.

In 1869, Frederick Law Olmstead and Calvert Vaux prefigured the end of the service alley with their design for Riverside, Illinois, a train suburb town of Chicago. The design was meant to embody the best elements of the city and the country. It was a picturesque development with single-family houses lining gently curving streets. Service alleys were almost completely absent from the plan.



*Riverside, 1869. (Image via The Frederick Law Olmsted Society.)*

Alleys had been developed to house the unsightly services required for city living. They were known for their stench, filth, and disease. For the Garden City ideal of the early twentieth century, the alley was reminiscent of the worst of city living. New streetcar suburbs often left out the alley. Between 1915 and 1920, automobile ownership in the United States quadrupled. "The auto was speeding up what the trolley lines had begun," wrote Grady Clay, "spreading out the old walk-in city where people had crowded together to make the tightest use of scarce land."

As went the pedestrian-scaled city, so went the alley. According to Michael Martin, "Alleys for the most part ceased to be platted in new developments after the Federal Housing Administration officially disfavored them in the 1930s."

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Grady Clay, the journalist who advocated for saving St. Louis's alleys, wrote in *Alleys: A Hidden Resource*, "The new suburban pattern was fixed, and the single-family house was embedded along waving green lines on maps, with no more than utility easements out back. Every object and activity that required access, garbage, car repairs, storage of boats and trailers—began moving off the back of the lot." An alley could not be found anywhere across the country in post-World War II suburban development.

## Zoning the American Dream (The End of the ADU)

*ADU: An accessory dwelling unit (ADU) is a secondary home on the same lot as a primary dwelling. ADUs are independently habitable and provide the basic requirements of shelter, heating, cooking, and sanitation.*

Building multiple buildings on a single lot of land was once commonplace in the Americas. By the mid-1800s, carriage houses, alley homes, and other secondary dwelling units were common in cities across the United States. The mews of England and the houses along the minor streets of Philadelphia were ADUs until the lots they were built on were subdivided much later.

By the late 1800s, in cities across the country, building codes sought to end development along inner-block alleys more prone to disease and fire. This largely put an end to the private



*House built in 1813. (Image via the Library Company of Philadelphia.)*

construction of secondary rental units and dense alley development, though it often did not explicitly make building ADUs illegal.

Putting secondary dwelling units on a single lot had been part of the building culture of American towns and cities since its founding. But by 1935, their construction had all but stopped. This was primarily due to the implementation of zoned urban regulation. Zoning ordinances had been used in America since the beginning of the century, but after the Supreme Court Decision in *Euclid vs. Ambler* (1926), zoning codes were widely implemented across the country.



*The above house, in 2019.*

Zoning codes halted development of ADUs in existing towns and cities. As suburban development boomed after World War Two, the urban block and alley, the infrastructure within which ADUs were traditionally built, got left behind.

In 1904, Emily Dinwiddie had documented the unsanitary conditions of the alley dwellings in Philadelphia, the result of overcrowding, inadequate plumbing, and the nature of urban life at the time. The developments of postwar America were equipped with an entirely new infrastructure system. As living standards in America improved, the health concerns associated with ADU development were no longer warranted. "According to the Census American Housing Survey, in 1940 half of all dwellings in the United States lacked plumbing," Kol Peterson wrote in *Backdoor Revolution*. "By 1980, only 2.4% of housing units lacked plumbing." However, the zoning codes that still govern the majority of cities today have not changed to recognize the infrastructural improvements and health and safety innovations since the early to mid 1900s; they still outlaw ADU and inner-block development.



## The American Alley: A Hidden Resource

The purpose for maintaining or developing new ADUs has changed in the last century. Historically, the ADUs lining minor streets of Philadelphia were built to house low-wage workers in a dense industrial city. One of the key interests in ADUs of the last 40 years has been their potential as living arrangements for older parents—hence the name “granny flat” or “in-law suite.”

Kol Peterson writes: “In the 1980s, there was a surge of interest in using ADUs as a form of housing for older people. A range of government initiatives were tested and failed. It is only in recent years, since the early 2000s, that we have begun to witness an active resurgence in permitted ADU development in some cities and towns that have actively worked to induce them...”



*A minor street in Philadelphia. (Image via Wikipedia.)*

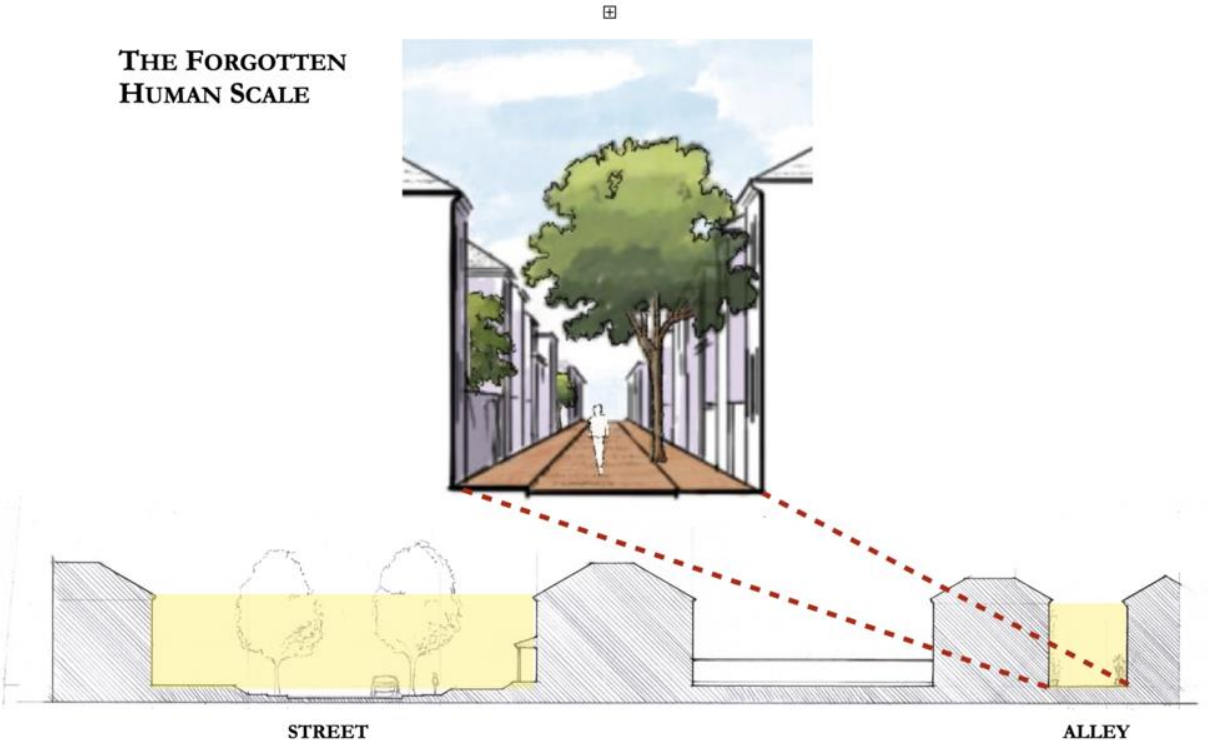
In the last few years, many cities and states have passed new ADU ordinances to encourage the development of secondary units. ADU-building companies, advocacy groups, lending practices, and overall awareness have quickly grown. The number of ADU building permits in Los Angeles went from 80 in 2016 to over 2,000 in 2017.

Today, the stables along the Mews of London have been transformed into residences. Mews were not designed to be lived along, yet because of their urban layout, they have become beautiful residential streets. One London resident (as quoted in Giles Worsley’s “Inigo Jones and the Origins of the London Mews”) wrote of the modern mews streets, “To the city dweller and city walker, the intricate network of these former stable blocks offers a respite from the tensions of city life. Their quiet, hidden and individual character almost always elicits a small shock of surprise and wonder.”

The houses along the minor streets of Philadelphia, too, have become highly prized. Today, some of the most desired residential property lies along these streets and courts. Like the mews in London, these inner-block streets offer a quiet world of their own, right in the heart of the city.

Underutilized or even abandoned alleys can be found in traditional towns across the country. The similarity in scale to the minor streets or mews is striking. As ADUs are developed along alleys in the next few years, we are presented with an opportunity: to construct ADUs which front the street and transform the service alley into a minor street, or to construct ADUs which only look into the private lot, simply leaving the alley as it is.

# Part 4: Rediscovering the Forgotten Human Scale



There is a human scale that has been forgotten here in America. Perhaps more than anything else, it is the human scale that so captivates Americans walking historic European cities. Because in almost all cities and towns across America, that human scale doesn't exist anymore—to the extent that it ever did.

The cities of the New World were laid out with wide, straight roads. The short, narrow, and curving medieval streets colonists left behind in Europe were understood to be unhealthy, fire-prone, inefficient, dirty, stinky, and to be avoided if at all possible. And medieval streets were certainly all of those things. But they also reflected the human person in a way that the master-planned city streets of America did not.

Two defining characteristics of the modern streets, specifically in America, are: (a) their vast width and length in relationship to the pedestrian, and (b) their lack of spatial definition. For



example, when Philadelphia was laid out in 1681, streets were platted at 100 feet wide and 50 feet wide. William Penn, unconcerned about creating a continuous street “wall,” encouraged buildings to be placed in the center of their lots. The streets of Philadelphia were arranged in a grid, creating an endless view to the horizon.

Though the “Forgotten Human Scale” never existed in most American cities, when we experience it now, we get a sense of belonging and of home. The Forgotten Human Scale awakens something deep within us. It reflects the movement of a child and the pace of a pedestrian rather than that of the car. Its approachable size reflects the proportions of the human body. It responds to the human eye by containing space with continuous street walls. And it feels like a room of the public realm in a way that typical American streets do not. My wife Rose, who is originally from the Netherlands, describes the feeling one gets in these places as *gezelligheid*. She says there is no direct translation but when used to describe minor streets, it means “belonging” and “cozy” and “the feeling of home.”



In contrast, modern American cities are built along wide roads. Fire trucks and other emergency vehicles, trash trucks, delivery vehicles, parking, and traffic—all flow along wide roads.

The broad, tree-lined American residential is a pleasure to live and walk along. But wide roads also make possible adjacent narrow streets, and the urban fabric is enriched by the contrast. In Philadelphia, as we saw earlier in this book, the juxtaposition between the wide and the narrow offers a rich and diverse urban experience.

## The Opportunity Presented by ADUs

Today, more and more homeowners across the country are considering building accessory dwelling units (ADUs). Those wanting to build ADUs along alleys are presented with a choice: to accept the current condition of the alley, or to construct ADUs as part of a streetscape that fronts the alley and forms the Forgotten Human Scale in our towns and cities for the first time.



*ADU lowered into a backyard.*

But there is some work to do first. Over the last few years, legislation has been passed by municipalities across the country promoting the development of ADUs. Yet for urban areas with alleys, ADU codes have only imagined the alley as it is now: an undefined space characterized by parking lots, garage doors, and chain link fences.



*Panama Street; minor street of Philadelphia.*

ADUs are like Uber. Uber empowered individuals to capitalize on their privately owned investment of a car that sat parked over 95% of the time. Over the last century, the vast majority of municipalities in America made it difficult or illegal outright to build a second dwelling in the backyard of a single-family home. But recently, legislation legalizing ADUs has swept across the country, west to east. On January 1, 2017, California passed

legislation to begin the process of legalizing ADUs statewide. California coastal cities saw the potential value of real estate drastically change, and Silicon Valley startups are doing their best to seize the moment. Today, if you Google “ADU startup,” you will get results like Rent The Backyard, Abodu, United Dwelling, Dweller, OBY, Homestead, and others. The majority of these startups offer to finance, permit, build remotely, install, and manage the ADU as a rental—and with unbelievably fast timelines. In effect, they are allowing you to make your backyard cash positive within a couple months and just a few clicks on your phone.

It is yet to be seen if any of these startups will succeed, given their current business models. The complexities of construction are a huge barrier to modular construction and the exponential expectations of the tech world. Perhaps a business model will emerge to finance and streamline the paperwork and potential management side, while empowering local builders to actually do the construction.

For many West Coast cities, there are few or no alleys, and the addition of a modular ADU to a private backyard will be a valuable way many people can capitalize on their backyard resource.

For backyards that *do* front onto alleys, though, there is another resource that should be recognized: the historic American service alley. In previous parts of this series, I pointed out that the inner-block, and specifically the alley, is perhaps the only place in existing American towns and cities today that will allow the development of pedestrian-scaled urban spaces. Transforming underutilized service alleys into minor streets could form a secondary street network designed around walking and biking. The construction of ADUs along alleys offer a unique opportunity to begin the transformation of a humble service alley into a much-loved minor street.

## The Problem: Current ADU Codes Do Not Recognize the Alley as a Resource

Most alleys in America are not pleasant enough to inspire homeowners to voluntarily face them with their new accessory dwelling unit. Those writing guidelines for ADU legislation are concerned with parking requirements and possible negative impacts to the main house and main street. But as far as I have seen, they never consider the design guidelines for the alley. Without such considerations, ADUs being constructed today will not only fail to transform the

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alley into a minor street, but will arguably degrade the alley in ways that prompted zoning codes to ban them a century ago.

In Appendix A, I lay out some of the design principles of the most-loved minor streets—principles of buildings arranged and built to *form space*, at a *pedestrian scale*, by buildings characterized by *durability, beauty, and utility*. Modern architectural design has lost the sensibilities and the context for pursuing these time-tried values. Instead, buildings are conceived as standalone objects (anti-spatial) and they are not placed so as to create formed space. The ADUs being offered by today’s building companies, and more importantly the eventual placement of these ADUs, are no different. When advertising their models, companies naturally place them in a remote natural landscape. That is because the designs were never intended for the urban realm. Intuitively, homeowners pull the new ADU away from the alley in an attempt to find a little more privacy for the large modern windows.



*Left: Prefabricated ADU displayed in the environment it was designed for. Right: The same ADU being forced into the messy environment that characterizes backyards and alleys.*

However, even these modern ADUs, designed to be placed in isolation in nature, could be arranged (along with garden walls, outbuildings, and hedges) along an alley in such a way that they transform the alley into a lovely pedestrian-scaled street. An Alley Form-Based Code should be written in tandem with ADU legislation that would encourage the principles of the most beloved minor streets.

# Creating the Most Beloved Minor Streets Today

It is unlikely that modern ADU construction will replicate the density of the minor streets of the past. For one thing, quality of life in the private realm of the home has improved. The history of minor streets in America points to the fact that they were developed in part as a response to housing demands that required extreme urban density. It could be argued that many American minor streets were overdeveloped to their own detriment and that individual houses often lacked a comfortable amount of light, air, and privacy. While there is a housing demand in many cities in the United States today, it is not at the level that it was in the early 1800s.

In Appendix B, I demonstrate that the principles of the most beloved minor streets can be achieved at a much lower density of dwelling units to street frontage. The diagrams there seek to uphold the improved quality of the modern “private realm,” while at the same time following the principles of the most beloved minor streets (“public realm”).

Since each property along a residential alley is privately owned, the transformation from “alley” to “minor street” requires each owner to participate to at least some degree in this shared vision. The alley will not be “spatial” or feel like a street if more than just a few of the lots do not build along it. Given the significant financial barrier to ADU construction, as well as the number of different properties (and thus property owners) that often back onto an alley, this seems like an almost impossible barrier to overcome. Below are four possible approaches:

## 1. Legislation Promoting Street Walls Along Alleys (Space Formed by Homeowners)

New codes and ordinances could make huge strides toward this transformation by encouraging property owners to build a garden wall, plant trees or hedges, or otherwise delineate a common “street wall” along the edge of the alley. If a simple Alley Form-Based Code required garden walls to be built high enough to provide privacy to both the alley and the backyard, and limited the size of the openings off the alley, this alone could form the alley into a lovely urban space, extending the public realm of the city.

## 2. Subdividing and Developing Along the Whole Alley (Space Formed by Single Developer)

The simplest way to develop residential buildings along alleys would probably be for cities to allow homeowners to subdivide their properties parallel to the alley. This is the historic outcome of the mews of London, which were initially ADUs of the main house and then later subdivided. A developer could hypothetically buy out the inside of a residential block and develop a complete minor street. While this is perhaps the most straightforward way to create a “most beloved minor street,” there are significant values created by the relationship of primary home to ADU, and I believe the best minor streets will be created by many hands and minds over a much longer period of time than a typical development today. That being said, Daybreak Mews by Opticos Design is an excellent example of just this type of development.

## 3. ADU Legislation as Part of an Alley Form-Based Code (Space Formed by Homeowners and Incremental Developers; i.e., “The Swarm”)

Most importantly for this research on minor streets and alleys, new ADU legislation could provide design guidelines to encourage principles of the most beloved minor streets for new ADU construction when built in blocks with alleys. The construction of new ADUs has the potential to radically improve the civic realm of the city. ADU legislation is being adopted by municipalities across the country. In West Coast cities that first passed ADU codes, significant investment can already be seen in the building of thousands of new ADUs. Towns and cities of traditional blocks with alleys have the opportunity to craft a simple, Alley Form-Based Code, based on principles of the most beloved minor streets (see: Transformation 1 in Appendix B). The code could then accompany new ADU legislation so as to set the stage for the transformation of the service alley into a minor street and bringing the “forgotten human scale” to American cities for the first time.

## 4. Development of a Pedestrian Court Through the Block (Space Formed by Single Developer)

Exterior “urban space” should feel like a room, with identifiable edges. The first incremental development adjacent to alleys will need to form both sides of its own space. This could be as



simple as developing on two adjacent lots, creating a pedestrian court that connects the front street to the alley or another front street. Croskey St. Mews (1964) in Philadelphia, Warren Place Mews in Brooklyn (1870s), , and Euclid Mews (1980), and Kalorma Mews (1974) in Washington, DC, are a few good examples I have visited. Transformation 2 in Appendix B explores this inner-block development type. In time, if the alley is transformed into a minor street, a beautiful juncture may appear where the minor street and pedestrian court meet.



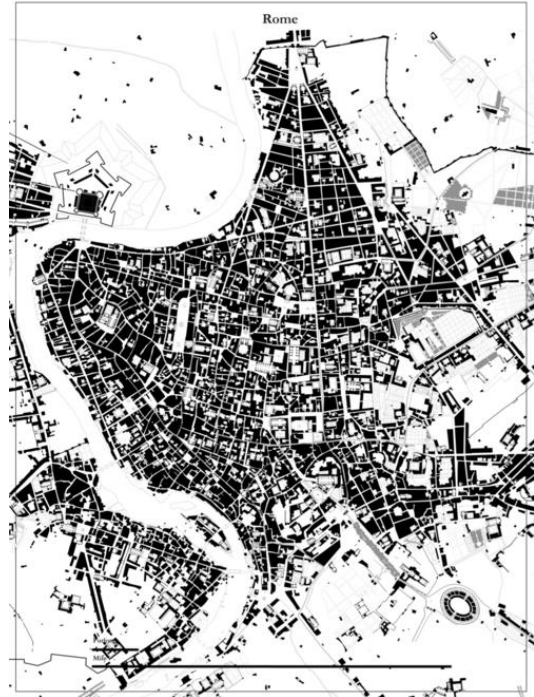
*“Alleys are richer, more flexible, and more subject to creative social interpretation than the frontage street. They will play an ever-greater part in the future of New Urbanism.” —Andres Duany*

# Conclusion

From where I am sitting writing, I can look up at the wall of my studio where I have pinned figure grounds of West Chester, Pennsylvania, where I live, along with Bruges, and Rome. All are at the same scale. The city plans are remarkably similar in size. The juxtaposition allows me to reference the scale and sequence of urban spaces from beautiful cities I know well, and compare them with the city I live in.

There is a vast divide between the gridded layout of a traditional American town and the rich diversity of piazzas and human-scaled streets that make up cities such as Rome and Bruges. It is hard to imagine creating a highly spatial piazza or European street in the grid of West Chester. Private property rights and zoning regulations found throughout the United States make the feasibility of that transformation even more impossible.

West Chester will never be Rome, and I wouldn't want it to try. Instead, I keep these images on my wall because of the humanist values that are implicit in the figural layout. The figure grounds of Rome and Bruges show the size and sequence of piazzas, and the width and length of streets that make up the public realm of the city. The character of these cities, and the piazzas and streets which shape them, are very different. However, they were composed at the scale of the pedestrian and the human eye.



*Top image: Rome. Bottom image: Bruges.*

When I look at the existing residential alleys in West Chester, when I consider the fact that all the property fronting the alleys is privately owned, when I think about all the zoning codes that have made “missing middle” alley structures illegal in my town, when I consider a Borough Council whose greatest concern is providing off-street parking, and when I remember the host of bureaucratic roadblocks faced by would-be incremental developers—I start to envy the greenfield developers. Then I wonder if the goal of creating beautiful, human-scaled places in America is unachievable, and that perhaps I should just try to move to Rome. But as the great R. John Anderson has written, “Brooklyn doesn’t need your ass,” and I am sure Rome is fine without mine.

And thankfully there are other values at stake. My wife Rose and I are working hard to make our townhouse a home, and our small children are blessed to have grandparents just a couple blocks away. I will stick here in West Chester. I have intentionally committed to the place where I live and that I love, and I have chosen to help it mature into a place that is more beautiful, more lovable, and more prosperous.

And, despite the potential roadblocks, this is a very exciting time to live in a town or city composed of urban blocks with alleys. New ADU legislation is opening up the door to developing the alley and the inner block for the first time in a century. The inner block—which for traditional towns and cities is full of human-scaled courts, passages, narrow streets lined even narrower townhouses, and more—is



*West Chester.*

### **Urban infill learning from traditional cities**

If Rome or Bruges can be considered “timeless cities,” it is in their reflection of the human person.

- The traditional city was built to the measure of the person. This can be seen in the highly figural and formal city of Rome, and the irregular medieval city of Bruges.
- Rather than attempting to replicate these spaces in American cities, infill development should look to the humanist principles of these city streets and piazzas so as to shape their own city into a place that reflects the human person.



finally being noticed in the United States. American demographics are changing and so are its housing needs. There is a market demand for small rental housing options in walkable urban centers. Our oldest neighbors are asking for housing options other than the institutional car-centered ones available now. "Human scale" is valued more, and the auto-oriented scale (and price tag) valued less.

It is time that we recognize that the potential for spatially formed, human-scaled, beautiful, and prosperous urban places already lies within every urban block.

# Appendix A: Design Principles of the Most Beloved Minor Streets

Why do we love walking down Circus Lane in Edinburgh, but don't care to walk down the modern mews in Notting Hill, London? In this appendix, I will try to answer this question.

In the preface to his book *A Living Tradition*, Steve Mouzon writes, "The best measure of the greatness of architecture is the extent to which it touches the hearts, minds, and spirits of the people who use it. Good work in architecture can move people, just as good work in music, art, writing, or drama does. How is it possible to recognize architecture that touches and moves people? Generally, the places that move people most deeply are the places they love the most."

Though there is perhaps little that can be called "great architecture" in the mews of England or minor streets of America, the best way to measure the success of these streets, and the buildings and walls that form them, is the extent to which they move the heart, mind, and spirit of the person who walks down them.



*Circus Lane, Edinburgh (Loved)*



*Mews in Notting Hill, London (Un-loved)*

There is a wide variety of mews, and a range of success in creating places people love. Some mews, such as Circus Lane in Edinburgh, stand out as exceptional; others, like this mews in Notting Hill, London, clearly less so. Instinctively, I am drawn to the image of Circus Lane rather than the mews in Notting Hill, however, it can be difficult to pin down the reasons why.

In the following pages, I will analyze minor streets in Great Britain, the Netherlands, and the United States, identifying why some streets are a pleasure to walk down, while others are not. From this will emerge the principles of **formed space**, **human scale**, the **Vitruvian Triad**, and other traditional urban patterns that characterize the most beloved minor streets.

## 1. Formed Urban Space

People perceive the world spatially. The traditional city reflects this in the arrangement of the urban realm. This mews in London is defined by two-story buildings on either side of the street, creating a completely formed urban “space.” The building facades create a clear edge to the street.

### Space = A figural void.

Space can be imagined as carved out of a solid mass, a subtraction of matter.

### Anti-Space = An undefined area; the context for figural solids.

Anti-space is undefined and therefore not spatial.

—Philip Bess, *Urban Elements and Principles*

Traditional mews and minor streets are spatial, and it is largely because of that spatial quality that they still enchant us today. The mews were not designed to be lived along; they were built to be horse

“If the city is like some large house, and the house is in turn like some small city, cannot the various parts of the house—atria, dining rooms, porticoes, and so on—be considered miniature buildings?”

Leon Baptista Alberti



*Historic Mews - Buildings Form Space. (This is an example of space.)*

stables. Yet because of their design, some have been transformed into beautiful residential streets. The historic horse stables of the London mews create space which can be occupied like a room of a house. This urban sensibility to form space with buildings has largely been lost in the United States, in part due to zoning and building codes.



*Proposed ADU - Object in Space. (An example of anti-space.)*

In contrast, the ADU in this rendered image sits as an object in a field or garden. The space that the ADU sits in is not formed; an “anti-spatial” condition. Anti-space is not necessarily bad. A farmhouse surrounded by fields is anti-spatial, but it is not urban and does not participate in the civic realm.

“Outdoor spaces which are merely ‘left over’ between buildings will, in general, not be used...Make all the outdoor spaces which surround and lie between your buildings positive. Give each one some degree of enclosure; surround each space with wings of buildings, trees, hedges, fences, arcades and trellised walks, until it becomes an entity with a positive quality and does not spill out indefinitely around corners.”

— Christopher Alexander  
*Pattern 106; Pattern Language*

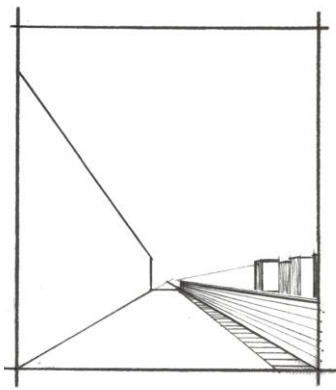


## Space and Anti-Space

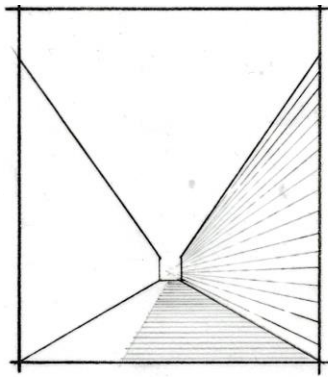
The normative condition of the American alley is anti-spatial, meaning that it is unformed. The 4-foot fence does little or nothing to define space because the vantage point of the eye is higher than it. Space is defined in three dimensions; both sides of the street wall are needed to contain the view.

"In a building, space is defined by walls and framed openings. Intuitively we recognize that a living room missing a wall and simply exposed to the street is not a complete room. Urban space is a room of the city, framed by the walls of buildings. To be considered a room, it must be formed."

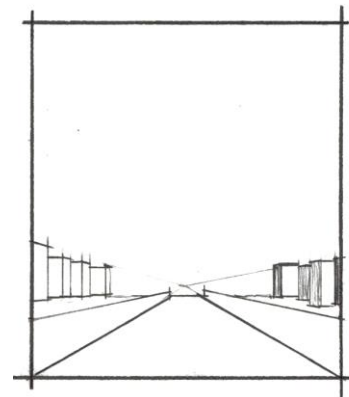
Philip Bess



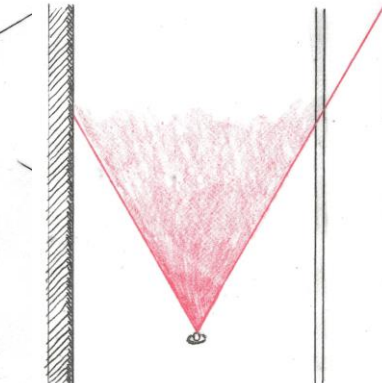
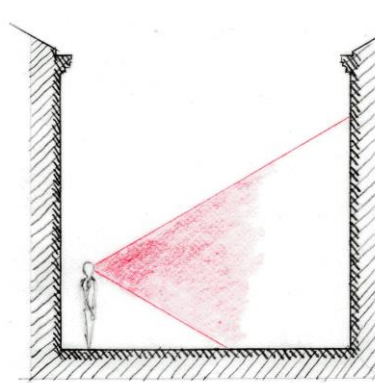
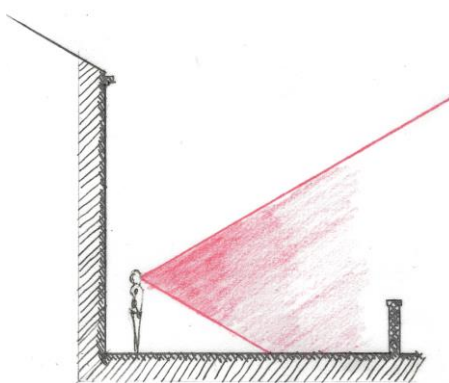
*Anti-Spatial.*



*Spatial.*



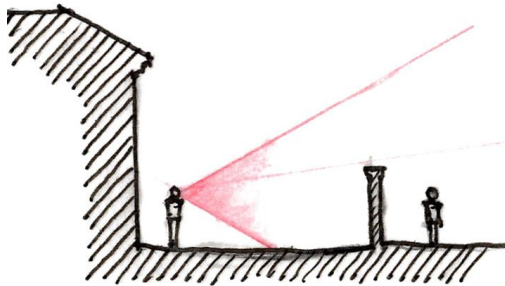
*Anti-Spatial.*



# Walls

## Design Principle:

Walls are an urban device that can be used to form space. Where buildings generally need to engage the majority of the 60-degree cone of vision, walls give a sense of containment at a lower height. The most beloved minor streets are usually a combination of walls and buildings.



Most beloved minor streets are often defined in part by garden walls, usually of masonry or hedges. Walls can also be formed by solid wood fences, bushes, trees, or other elements arranged so as to delineate and form space. Walls are often between 5 feet and 8 feet tall, needing simply to provide privacy to both sides. Masonry walls are often planted with climbing ivy, shrubs, overhanging trees, or other signs of gardens and nature.



*Stolls Alley, Charleston, SC. (Image via Hidden Walks of Charleston.)*



*Circus Lane, Edinburgh.*



*Stamper Street, Philadelphia.*

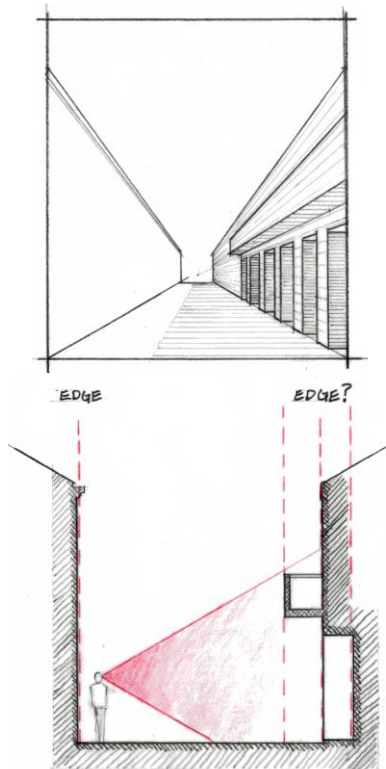
# Street Edge

## Design Principle:

- Create a clear street wall defined by a rhythm of vertical facades.
- Large overhanging balconies or deep recesses detract from the form of the street. They present the street with an unambiguous street wall and entrance to the building.



*Modern mews, London.*



*Radley mews, London.*

The modern mews in London provide the pedestrian with an uncertain street wall. The entrance to the building is somewhere in the recess of the garage door. The second-story balcony reads as a void of uncertain size.

Radley mews also includes garage doors, but because they are in plane with the facade they do not detract from the spatial definition.

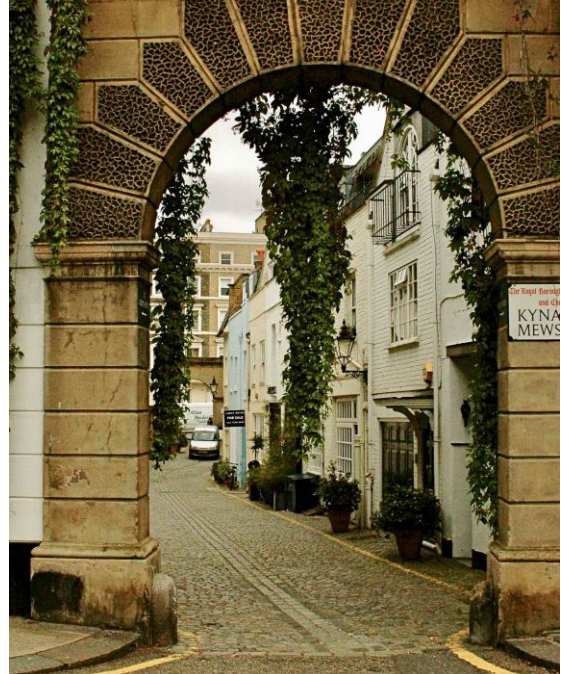


## Gateways

### Design Principle:

Arched openings, such as doorframes, demarcate transition, differentiating one “room” of the urban realm from another.

The arched openings give the mews streets greater intimacy than the main streets. The mews are clearly demarcated by the arches as having a different character than the main street.



## Street Proportions and Spatial Definition

“Spatial Definition: the fabric achieved when fronting facades are aligned in a coherent manner and the defined space does not exceed a certain height-to-width ratio.”

—*Lexicon of the New Urbanists*

“Height-to-Width Ratio: the proportion of spatial enclosure related to the physiology of the human eye. If the width of space is such that the cone of vision encompasses less street wall than open sky, the degree of spatial enclosure is slight. As a general rule, the tighter the ratio, the stronger the sense of place and, often, the higher the real estate value.”

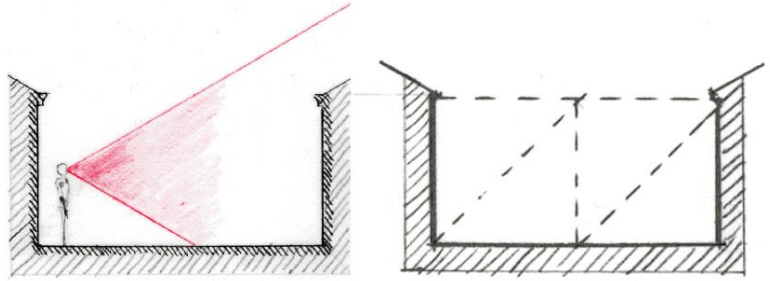
### Design Principle:

When the street is at the scale of a minor street, the vantage point of the pedestrian plays a critical role in determining spatial definition. Street widths of minor streets are rarely wider than a 1:1.5 height-to-width ratio.

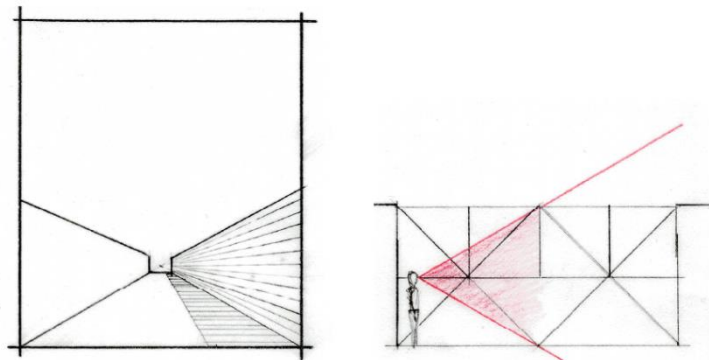
—*Lexicon of the New Urbanists*



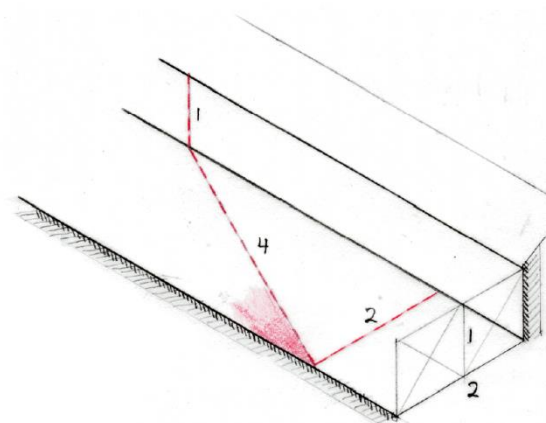
This minor street is formed by single-story structures and the gutter height is at 11 feet. The street section has a 1:2 height-to-width ratio.



Though this proportion is often considered to give full spatial definition, the sky dominates the view of this perspective. Though the section itself is 2:1 proportion, from the horizon line of the pedestrian, the section becomes a 4:1 proportion.



The pedestrian rarely looks at a street wall from a 90-degree angle. If the pedestrian is walking down one side of the street, the cone of vision captures the opposite street wall at a 30-degree angle. This means that a 1:2 street proportion becomes a 1:4 height-to-width ratio for the pedestrian, and taking the vantage point of the eyes into consideration, it becomes a 1:8 ratio.



## A Spectrum of Spatial Containment

### Design Principle:

- Urban space can be formed with more or less solid walls. Culture, climate, and context should all play a role in determining the character of the street walls that form space.
- Perhaps the most spatially contained room is four blank walls. However, our favorite rooms have doors, and windows— a sense of transparency.

In England, the mews were designed first as carriage houses. When they were later renovated into residences, they inherited the party wall density along the street.

Circus Lane in Edinburgh is defined by two-story buildings on either side of the street, creating a completely formed urban space with a high building density.



St. Michael's alley in Charleston is defined by hedges, masonry garden walls, single-story garden outbuildings, wrought iron gates, two-story buildings, and even the two cypress trees. These elements are arranged parallel to the paved street bed to delineate and contain the street which has an overall low building density.



## 2. Human Scaled

The most beloved minor streets reflect the scale and movement of the person. Life, from birth to death, is nourished by the human-scaled realm.



A defining characteristic of minor streets is that they are narrower and more pedestrian-scaled than the major streets they are adjacent to. Pedestrian streets operate at a different speed than the automobile dominated streets of today. Children are offered safety and autonomy in a pedestrian-scaled civic realm. Only on pedestrian-scaled streets can older adults age in place with dignity and autonomy. Our current infrastructure segregates by age, class, and physical ability—because it is designed around the automobile. The pedestrian realm of the city offers the chance to bridge that segregation.

*“Pedestrian Street; The simple social intercourse created when people rub shoulders in public is one of the most essential kinds of social glue in society. The street absolutely will not work unless its total area is small enough to be well filled by the pedestrian in it.”*

*—Christopher Alexander  
Pattern 100; Pattern Language*

# Center of the Street

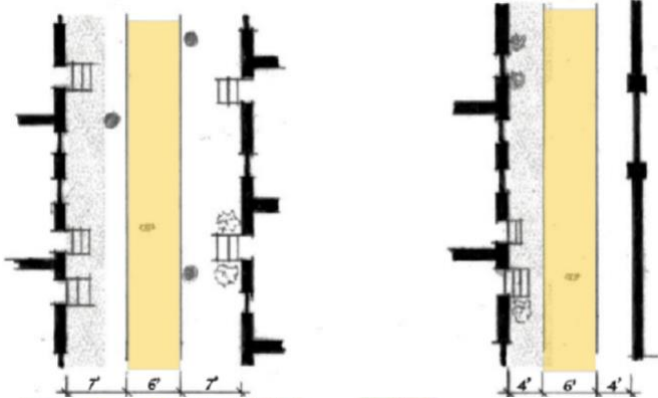
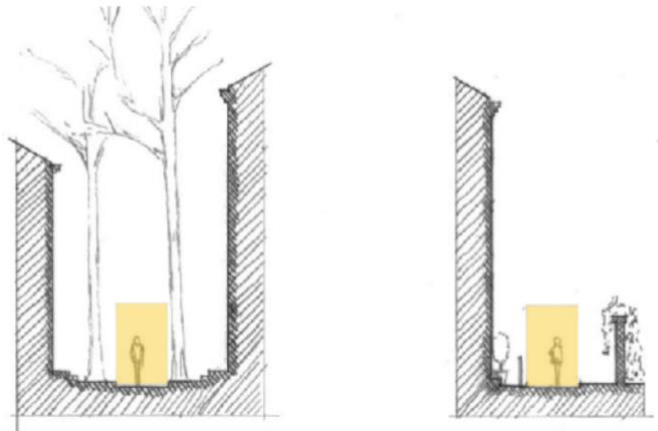
## Design Principle:

In the most beloved minor streets, the pedestrian feels comfortable walking down the center of the street.

In these two Philadelphia examples, curb cuts and material change differentiate the space fronting the house and the linear street-bed. This brings clarity to the pedestrian experience, prompting the pedestrian to walk down the center of the street. Though Panama Street is 6 feet wider, the street bed remains the same width on both streets.

The street is narrow enough that only small cars can venture down; the sense is that it is a pedestrian street reluctantly shared with the occasional car. The six-foot lane and cobbled pavement keep the cars at a pedestrian speed.

Only a pedestrian street allows the one-point perspective view of the street. A single person walking the street still feels enough to properly fill it. The clarity of the street and narrowness of the street bed create a comfortable and safe pedestrian experience.



Panama Street, Philadelphia



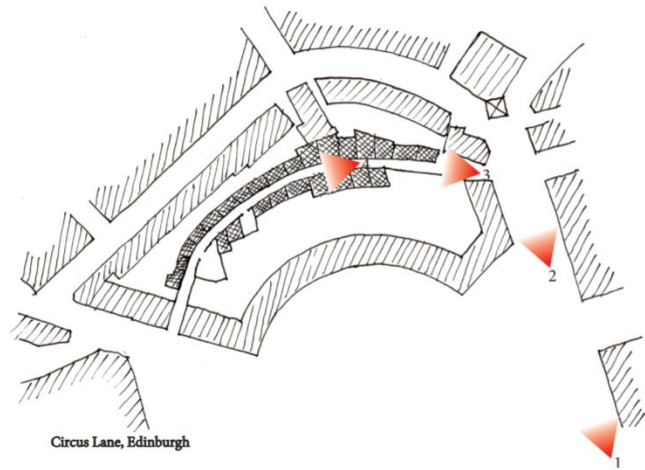
Stamper Street, Philadelphia



# Intimate Space

## Design Principle:

The most beloved minor streets create a quiet neighborhood realm and have the character of village streets. From the wandering exploration of small children, to the slower movement of older adults, all stages of life should find a home on a pedestrian-scaled residential street.



Minor streets offer relief from the noise and busyness of urban life. The masonry walls absorb the noise of the traditional urban city and by the time one has walked a few steps down a minor street it has become a quiet, perhaps even intimate space. This series of views in Edinburgh show the contrast between a major and minor street.

75'-95' Cornice Height  
100' From Building Face to Building Face



Image: Google Maps



Image: Google Maps

18'-22' Cornice Height  
18' From Building Face to Building Face



# Transitional Space

## Design Principle:

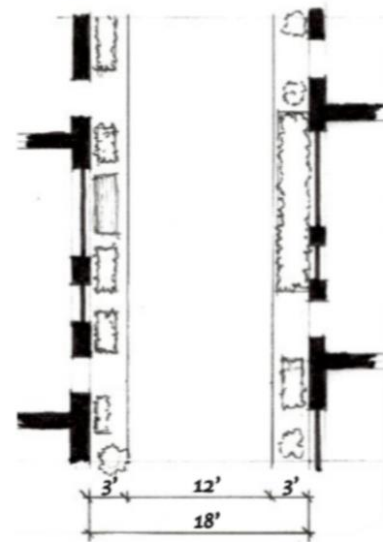
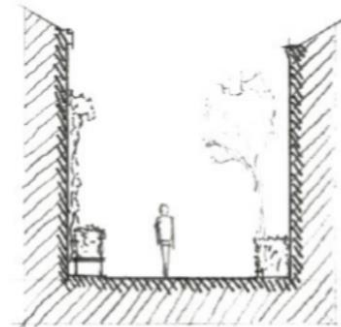
Create a transitional space between the private realm of the home and the public realm of the street.

Minor streets are typically residential, and require a layer of transitional space between the private world of the home and the public realm of the street. Without this, both the person inside the house, and the person walking along the street, feel the lack of privacy. Hedges, vines, flowers, and even trees are the best use of this space to create a residential character of street, and create privacy.

The smallest unit of American urban development was the individual house, rather than the palazzo or courtyard apartment. This continued the building tradition of the English and Dutch, which faced the street with the front entrance of a house, as opposed to an entrance off of a courtyard. This prompted the development of the quiet, semi-private residential street where some of the privacy of the residential courtyard was created by planting a strip of garden along the street in front of the private home.

“Entrance Transition: Buildings, and especially houses, with a graceful transition between the street and the inside, are more tranquil than those which open directly off the street.”

—Christopher Alexander  
*Pattern 112, A Pattern Language*



Circus Lane, Edinburgh

## Transitional Space: Residential Minor Streets in the Netherlands



Transitional spaces along building fronts are characteristic of residential streets. The need for transition from the public to private realm is felt here. The pedestrian-scaled minor street takes on some of the characteristics of the courtyard.



# Visual Terminus

## Design Principle:

Visually terminate streets.

- Avoid the endless section of the grid. This will deflate a pedestrian's experience of the city and give no clear termination and focus point.
- Provide street terminations, squares, or architectural focal points to create a series of spaces rather than an endless street section.

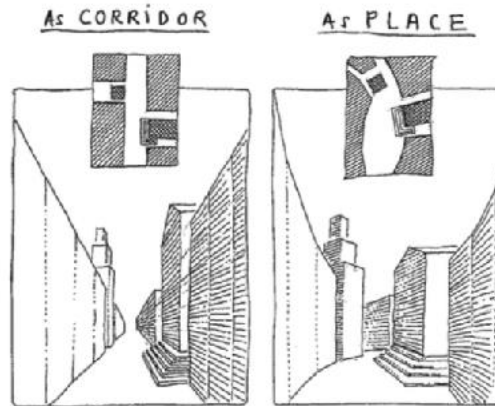


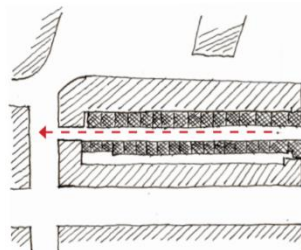
Figure x: (Image: Leon Krier)

Gloucester Mews West stretches on seemingly indefinitely. I am tired just thinking of walking down it. The perfectly straight lines of the street wall are oppressive. Lexham Mews, on the other hand, bends and curves, allowing me to only see down a shorter length. The building facade at the end captures my eye and acts as a wall or termination to the space.

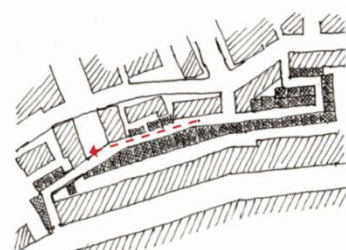
CORRIDOR



PLACE



Gloucester Mews West, Westminster London



Lexham Mews, Kensington London

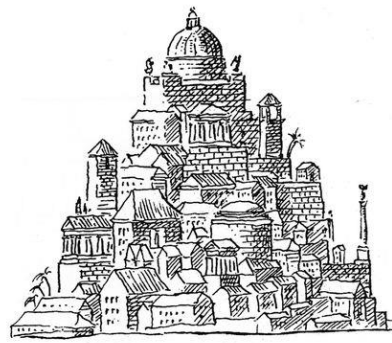


### 3. Vitruvian Triad: Durability, Beauty, Utility

**Formed Urban Space** at a **Human Scale** are important qualities of the most beloved minor streets, but alone they say little about the character of the place. Without the qualities of **Durability, Beauty, and Utility**, the street will not reflect the human condition. Good buildings express a character. We as people expect this. When buildings do not, they seem empty and void; faceless. In some ways the pedestrian must recognize oneself in the reflection of the conscious construction of the building.

#### Durability

Durability of construction makes a building worth inheriting. The concept of “place,” as discussed earlier in reference to spatial form, is also tied to memory. The durability of a place gives a framework on which a person, community, and culture can build memories and hope for the future. The civic realm of the city acts as a “memory palace” for the collective cultural memory. The civic realm relies on the buildings around it for its existence. Durable architecture has the capacity to form durable civic space.



*Two Forms of Accumulation*

#### Beauty

The human person is caught between two worlds, the world of materiality, and the world of transcendent meaning. “Through the pursuit of beauty, we shape the world as our home and come to understand our own nature as spiritual beings.” —Roger Scruton



#### Utility

Why do we build? What is the purpose of our towns and cities? Over what length of time do we judge the values of our answers? It is far easier to measure the movement of cars, quarterly earnings, economic growth, and tax revenue than the ability of places to touch the hearts, minds, and spirits of persons. When judging a place’s utility, we must not forget the young, the old, and those yet to come. What serves the short-term objectives of an economic quarter, a politician’s term, a homeowner’s stay, a developer’s economic return is often to the detriment of the city as a whole, and will adversely affect those to come.

# Masonry Walls

**Design Principle:**

All of the minor streets visited in this study were formed by load-bearing masonry buildings.

“History already tells us massive masonry is the most lasting way to build. Are we to assume the thousands of years prior to the industrial revolution yielded no best practices?”

—Clay Chapman



## Building Fronts

### Design Principle:

The minor street must be presented with the character of a “front.” The civic realm is public, and the architecture that defines it should present an appropriate appearance toward the street. When a public right-of-way is defined by “backs,” it no longer can be considered a street and instead becomes a service alley.

The appropriate appearance does not necessarily include the front door, but must at least have the character of a front. This is usually achieved by the placement of windows, articulation of details and the planting or arrangement along the transitional space. If the facade facing the minor street does not include the front door, the approach to the front door should be clearly evident.

If it is unclear how one enters the courtyard or building, it will begin to feel like a back. If one walks down a minor street and senses that it would be difficult or impossible for there to be eyes on the street, it will feel unsafe and have the character of a back.





## Paving with Stone or Brick

### Design Principle:

The most beloved minor streets are paved with stone or brick.

Streets paved in brick or cobbles are more pleasant to walk along than asphalt paving. Brick paving in the Netherlands is used to subtly differentiate and add interest to the street bed.



Haarlem, Netherlands



Haarlem, Netherlands



London, England



Philadelphia



Utrecht, Netherlands



Philadelphia



Boston



# Horizontal Prison - Vertical City

## Design Principle:

Differentiate the buildings of a street wall with vertical facades.

Two Streets



The City



The Prison



The strong horizontal lines of the modern news development are oppressive and give the street the feeling of being low to the ground, of being prostrate. Undifferentiated repetitive building facades become mechanical and inhuman.

The vertical bays of the individual buildings articulate the street wall and give it a sense of verticality, of standing up.

Individual buildings' facades allow the street to mature. Buildings can be renovated and maintained individually and incrementally. Street facades that are articulated as vertical bays are more durable than the street dominated by the single horizontal facade.



## Conclusion

Some characteristics of minor streets are so common they can be considered definitive of the type. Every minor street studied in this project was composed of 1- to 3-story masonry houses or shops and/or 5-foot- to 12-foot-tall garden walls arranged to form a continuous street wall. They were almost all between 14 to 24 feet wide. Almost by necessity these characteristics create formed urban spaces at a human scale. Pedestrians naturally feel comfortable walking on streets of this scale. When contrasting these streets with the American service alley or major street, the underlying qualities of “Formed Space” and “Pedestrian Scale” stand out in sharp contrast.

Despite these commonalities, certain minor streets stand out as exemplary and can be pointed to as models of excellence, while others clearly less so. Circus Lane in Edinburgh, or Panama Street in Philadelphia, or, for that matter, almost any narrow residential street of medieval Europe, are strikingly humane and lovable. When contrasting Circus Lane in Edinburgh with this modern mews in Notting Hill, London, characteristics of most beloved minor streets stand out and can be identified.

Circus Lane, Edinburgh (Loved)



Mews in Notting Hill, London (Un-loved)



Street as space  
 Formed space by the clear edge of the street  
 Traditional materials and methods of Construction  
 Cobblestone Paving  
 Buildings fronting the street  
 Individual vertical facades of the street wall  
 Planted Transitional Space

vs Street as corridor  
 vs Ambiguity of street wall  
 vs Modern methods and materials of building which defy tectonics  
 vs Asphalt  
 vs Front back Ambiguity  
 vs Harsh repetitive lines of horizontality  
 vs No transitional space

The principles and patterns of the most beloved minor street should be considered as guidelines for the transformation of the American service alley into a minor street, because these are the characteristics that have resonated with persons throughout history. The civic real and urban space must be tangibly formed. The human realm, as Leon Krier noted, is measured not at the speed of the car, but the pedestrian. The principles of durability, beauty, and utility reflect the human condition and are the necessary foundations to creating a home.



# Appendix B: Historic Minor Streets and Today's ADUs

Every historic minor street analyzed in this e-book was composed of garden walls and party wall, 2- to 3-story masonry structures holding a continuous "street wall," forming a 14-foot- to 24-foot-wide street measured from building face to building face. The principles outlined in Appendix A (Formed Space, Human Scale, and even the three principles of Durability, Beauty and Utility) were an almost guaranteed outcome for the space of the street, given the methods and materials of their construction. It would have been hard to build an unpleasant minor street, given the process.

In the following diagrams I will argue that the principles of the most beloved minor streets can be achieved at a much lower density of dwelling units to street frontage. These diagrams seek to uphold the improved quality of the modern private realm while at the same time following the principles of the most beloved minor streets, or public realm.

## Composing Street Walls

Urban designers attempting to form urban space often do this solely by regulating the building. If an alley is lined with townhomes, as the minor streets of Philadelphia are, this can be achieved. But if a residential block is composed of 50-foot-wide lots, and each allowed one ADU per lot, gardens walls or other outbuildings, trees, and other features will be needed to form the space of the alley.

The precedent examples studied in this research show the role that garden walls play in forming the urban space of the minor street. To illustrate this, the following scenarios study how different building heights, orientations, and densities of today's ADUs give more or less spatial form to the space of the alley. Scenario 1.1 then illustrates the way that garden walls added to Scenario 1 turn an anti-spatial condition into a spatial one.

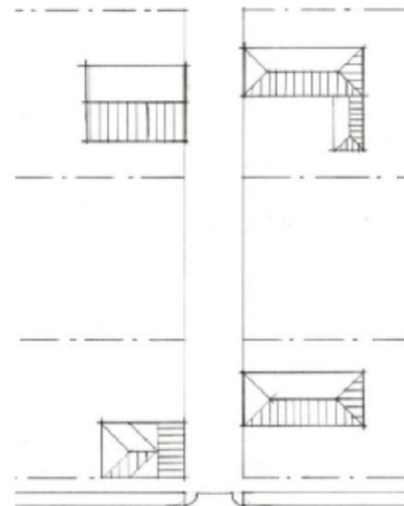
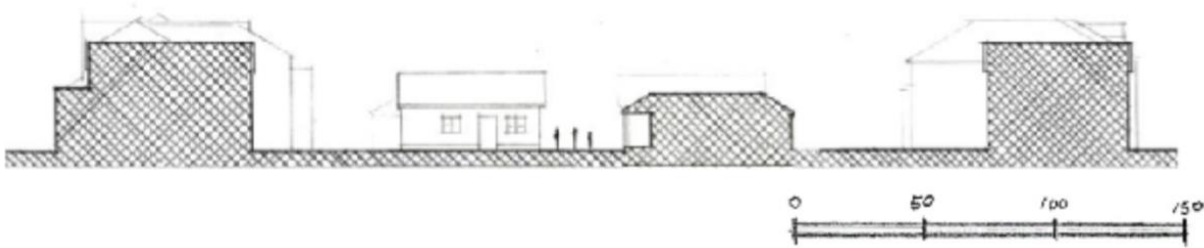
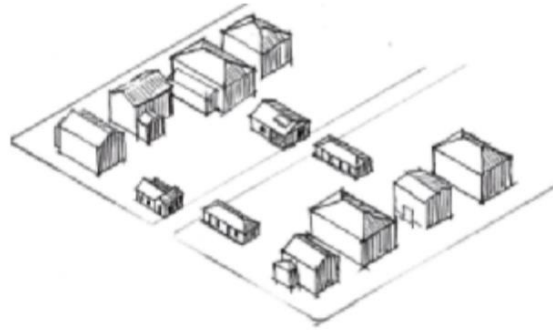
- Containing Space with Many Buildings: Circus Lane in Edinburgh is defined by two-story buildings on either side of the street, creating a completely formed urban space. The street has a high density of buildings to street frontage.
- Containing Space with Few Buildings: St Michael's alley in Charleston is defined by hedges, masonry garden walls, single-story garden outbuildings, wrought iron gates, two-story buildings, and even the two cypress trees. These elements are arranged parallel to the paved street bed to delineate and contain the street, which has an overall low density of buildings to street frontage.



google maps

# Scenario 1: Single-Story Modular Units (Perpendicular to Alley on Every Other Lot)

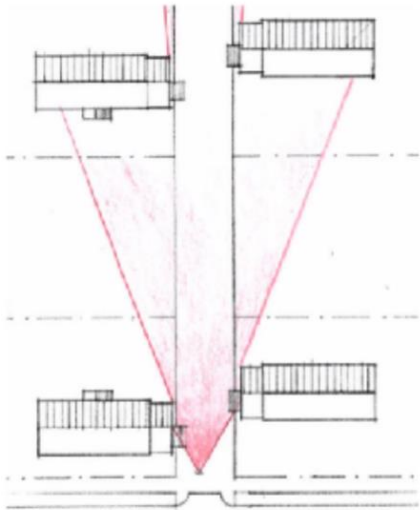
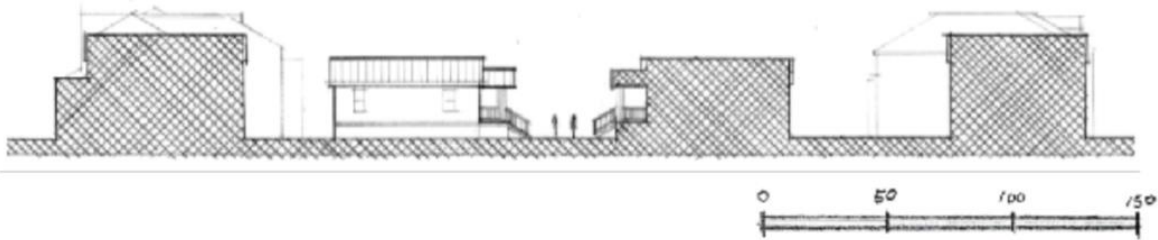
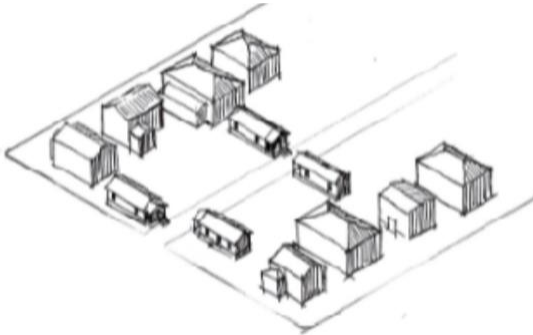
- Scenario 1 is modeled on single-story ADUs offered by startups today.
- The buildings and alley suffer from a lack of containment and privacy offered by a street wall. The perspective shows that the condition is anti-spatial.





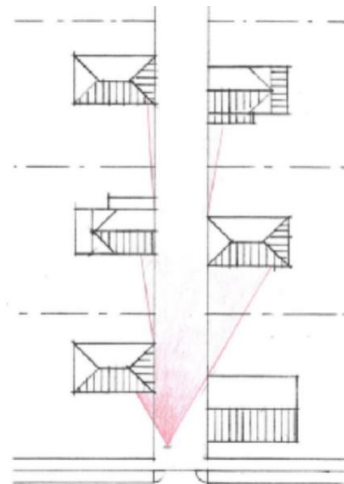
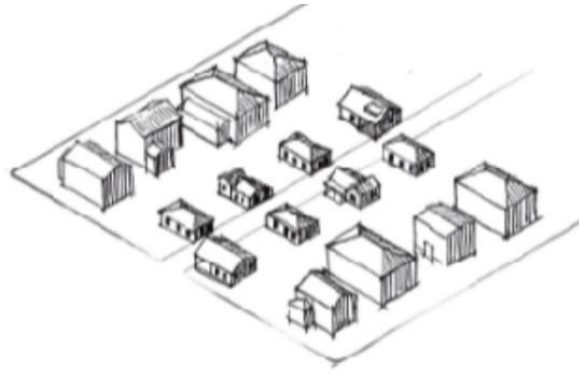
# Scenario 2: Single-Story Modular Units Raised with Porch (Perpendicular to Alley on Every Other Lot)

- The raised porches offer a greater privacy to the interior of the house, but the arrangement is still generally anti-spatial.
- Layout 2 is modeled on the prefabricated Katrina Cottages.



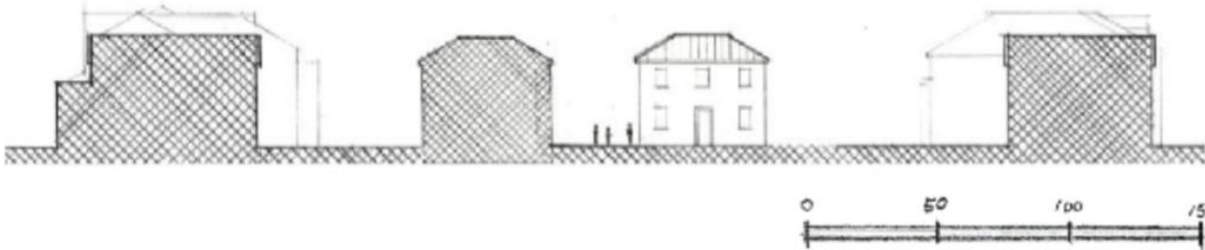
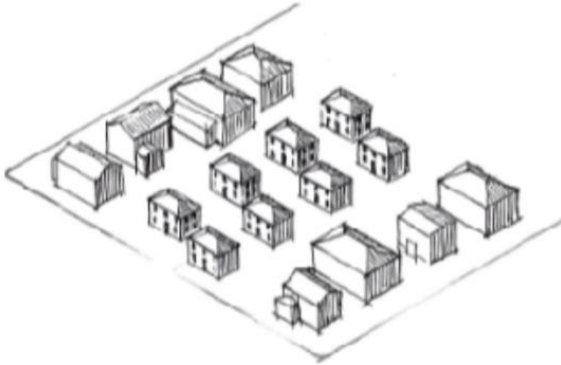
## Scenario 3: Single-Story Modular Units (Perpendicular to Alley on Every Other Lot)

- Doubling the number of units brings about a greater containment of the street. The condition leans toward spatial.



# Scenario 4: Two-Story Houses: 18'x30' Perimeter Footprint

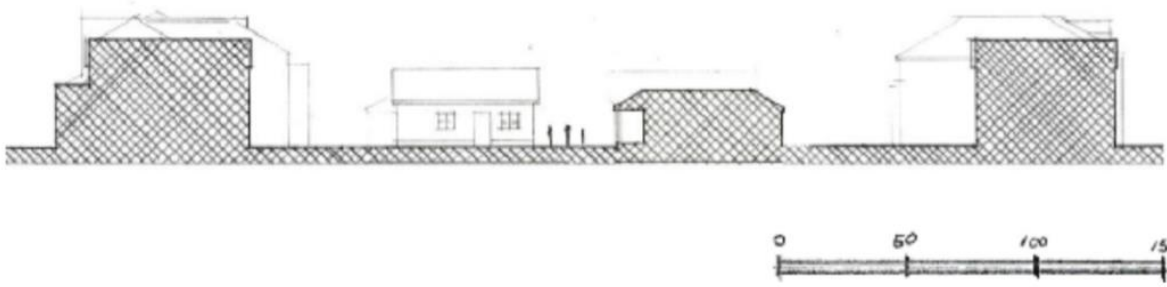
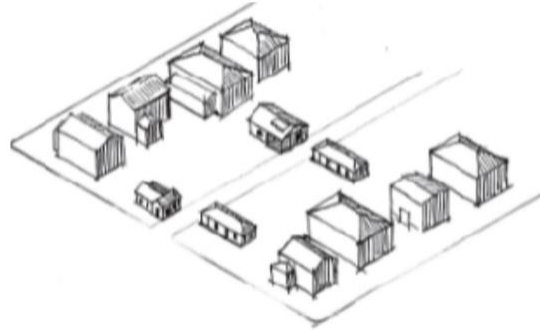
- The height of the buildings creates the greatest change to the street perspective so far. The sky had dominated the view of the street defined by single-story buildings. Here the street begins to feel like a room.



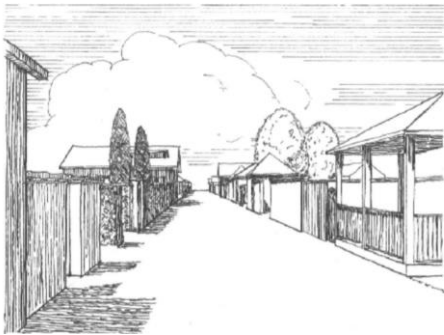


# Scenario 1.1: Adding Garden Walls: Single-Story Modular Units (Perpendicular to Alley on Every Other Lot)

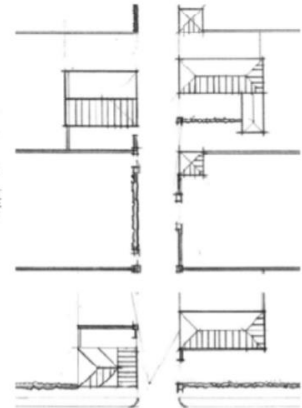
- Adding garden walls and small outbuildings to the least containing layout of buildings, turns an anti-spatial setting into a spatial one.



Scenario 1 with Garden walls:  
Experienced as a 'space'; a pedestrian scaled street



Scenario 1:  
Not experienced as a 'space'



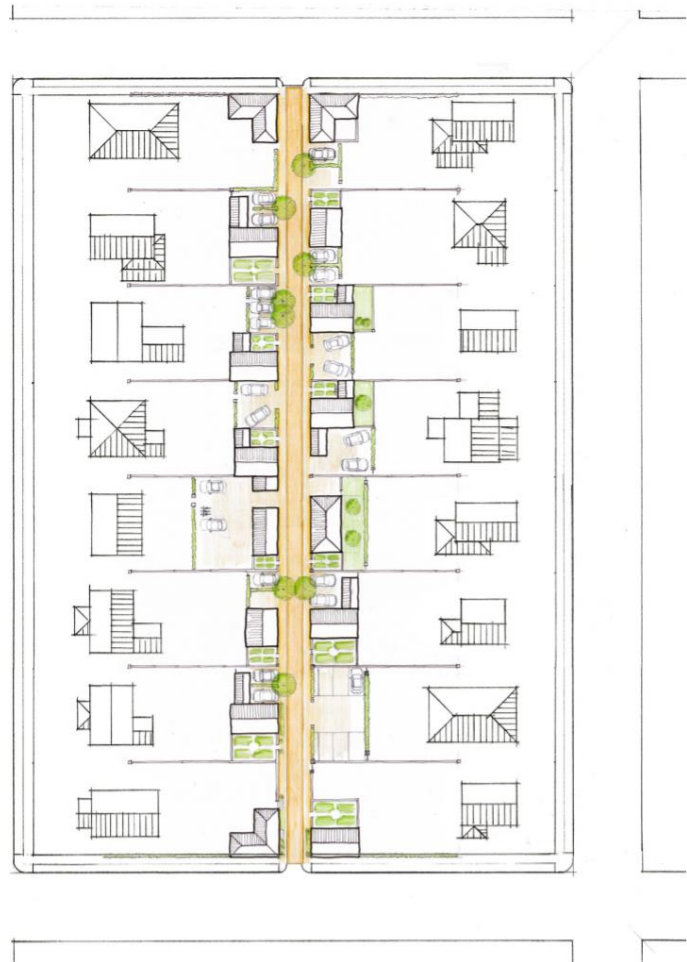
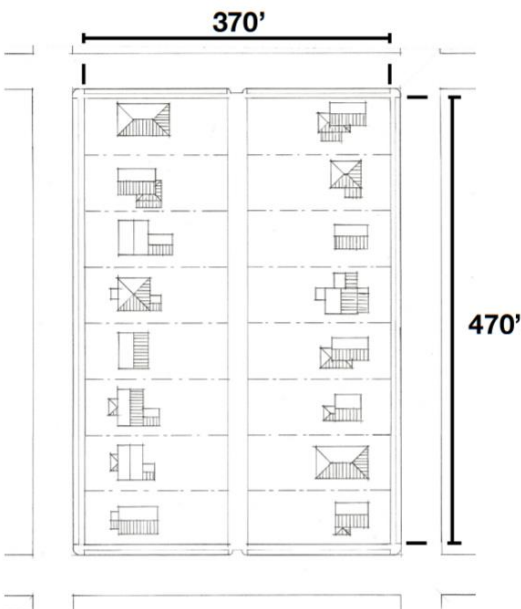
# Transformation 1

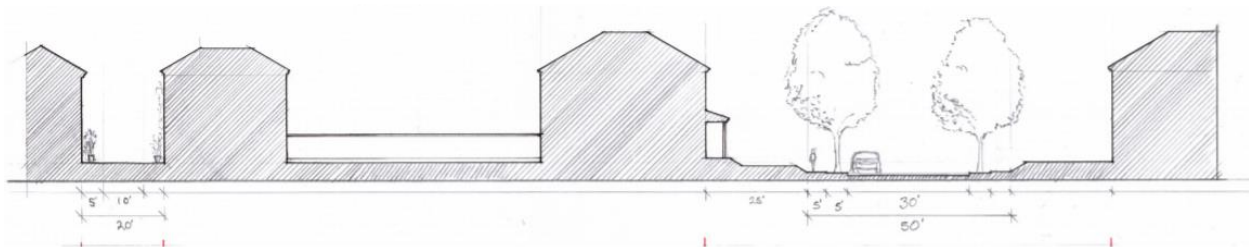
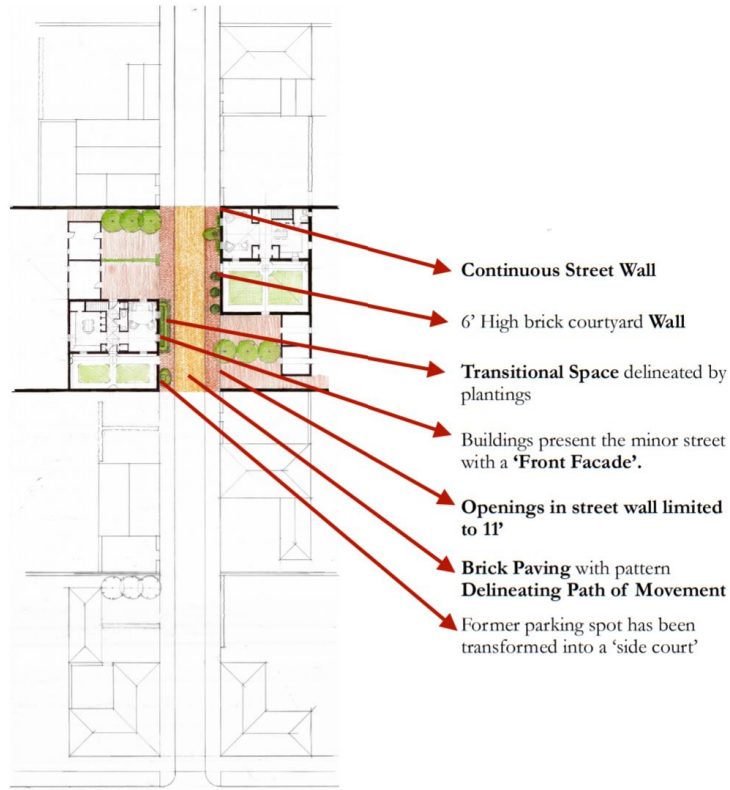
- Almost all ADU building codes in the United States today limit the number of secondary detached dwelling units per lot to one. Almost all codes also limit the building height restricting the ADU to, at most, a two-story structure.
- This study attempts to create a range of parking layouts while maintaining the form of the minor street. Openings in the street wall for car access is limited to 11 feet, and trees or shrubs are placed at the edge of the alley between each adjoining parking spot.

One ADU per lot; 24' max cornice height from alley.

Existing Density = 4 D.U. Per Acre

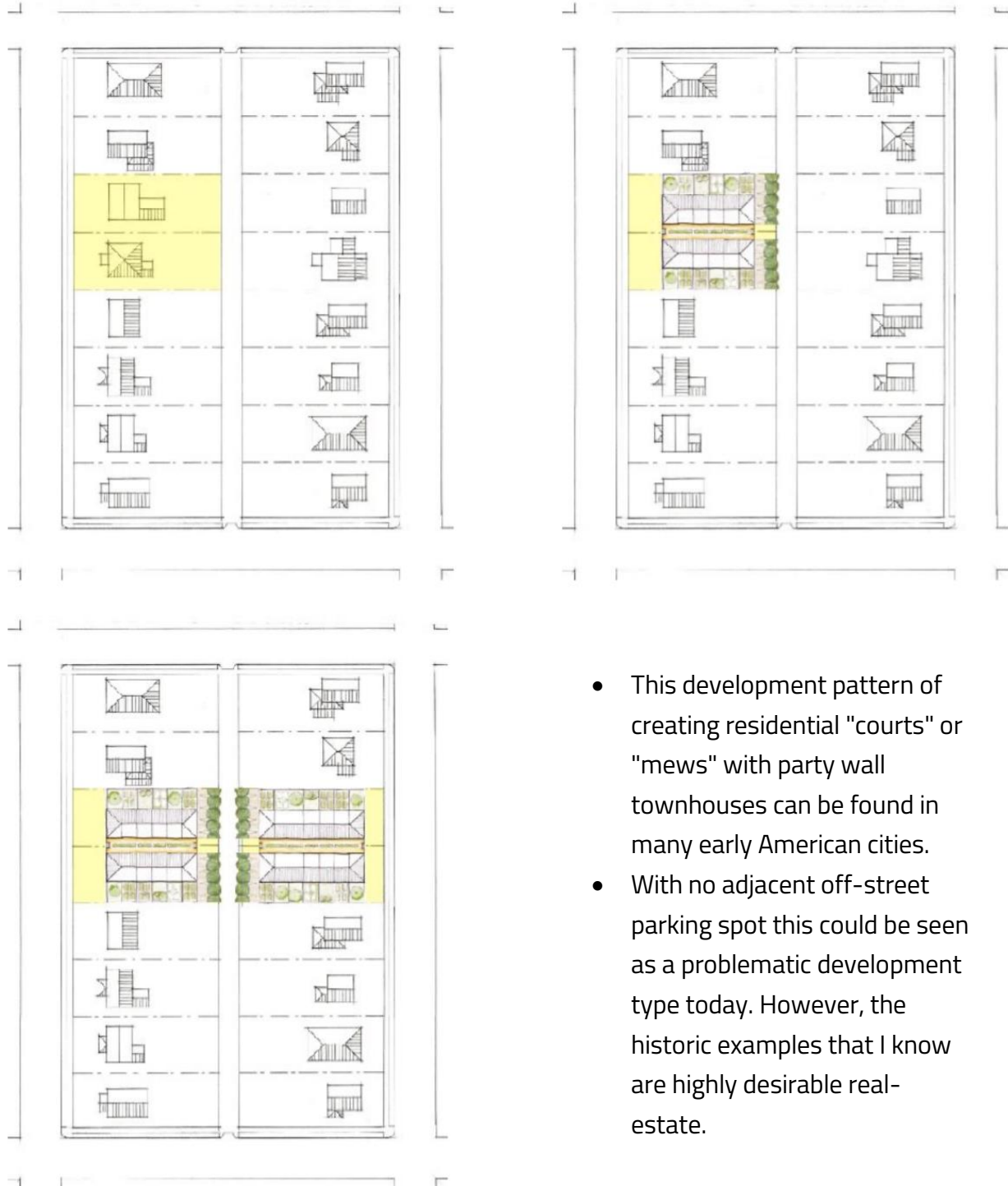
New Density = 8 D.U. Per Acre







## Transformation 2: Inner-block residential court development.



- This development pattern of creating residential "courts" or "mews" with party wall townhouses can be found in many early American cities.
- With no adjacent off-street parking spot this could be seen as a problematic development type today. However, the historic examples that I know are highly desirable real-estate.

- Perhaps in the future, more liberal ADU laws will prompt the development of structures along former alleys to a density closer to what is found in Philadelphia. The junction of the residential court development and minor street now form a beautiful inner-block intersection.
- Parking spaces along the sides of homes can be transformed into courtyards if no longer needed. Nine of the 18 parking spaces shown have been shown as courtyards.

Unlimited structures per lot; Two story maximum; No parking requirements.

Existing Density = 4 D.U. Per Acre  
Proposed Density = 16.25 D.U. Per Acre

Parking = 18 off street

