The Linear City: a Case Study of Connecticut Avenue

Matthew J. Bell, FAIA
Professor
University of Maryland
School of Architecture, Planning and Preservation
College Park, MD 20742

Connecticut Avenue in Washington, DC functions as a “linear city” with unique characteristics that distinguish it as perhaps the most desirable and livable corridor of the great avenues of the capital city. Real estate values remain among the highest in the city and the adjacent neighborhoods are often cited as among the most desirable places to live in the region.

As a formal and spatial configuration, Connecticut Avenue provides a model for linear development with a rich mix of diverse housing types, walk-able neighborhoods and easy access to significant amenities such as Rock Creek Park and its tributaries. And, unlike many of the other avenues in the city, the street is distinguished by a series of small and focused “main streets,” lending character to the neighborhoods in which they reside and providing highly desirable neighborhood retail services.

As a public space, the street is a multi-functional and complex. Its width and generous cart-way is managed as an important part of the commuter network of the region. The arrival of Metro in the 1980’s established it as an important transit corridor, and the cadence of alternating retail main streets provide variety as the streetscape shifts from leafy residential areas to bustling main streets, home to everyday retail services from dry cleaning and food stores to neighborhood restaurants and the occasional specialty store.

This paper will look at the history of Connecticut Avenue, how the form and uses we know today came to be, and will examine in detail aspects of the public space and building fabric of one neighborhood. The paper will illustrate how building types of very diverse size, density and market position combine to form handsome residential streets and define a linear city at once complex, inclusionary and perhaps a model for the redevelopment of suburban boulevards.
Connecticut Avenue is a great street with a unique history. The story of the Chevy Chase Land Company and Senator Francis Newlands is one of the region’s most interesting and willful acts of development and perhaps the first large-scale project for a modern capital city of the 20th Century. Comprising suburban expansion, mixed-use development, diverse housing typologies and a transit corridor that evolved from a streetcar system to the Washington, DC metro system, Connecticut Avenue is the spine of upper Washington, DC (FIGURE 1) and through its unique urban pattern, provides a level of access and livability that is noted throughout the region.

As a linear urban corridor, the 3.3 mile stretch from the Taft Bridge over Rock Creek Park to the Maryland state line at Chevy Chase Circle contains approximately 5000 residential units in multi-family buildings, about 500 single family row or detached houses within five minutes walk of the street and 380,000 gsf in retail and commercial development (FIGURE 2). The development pattern typically places the taller buildings along the street right-of-way with row houses and large and small lot single family detached houses in the fabric several blocks east and west of the street on either side.

Compared to the other avenues that stretch out into the suburbs from the L’Enfant Plan, Connecticut Avenue is today a place of higher land values, a better public realm and perhaps an economically more diverse community. Like Connecticut Avenue, Georgia and Wisconsin Avenues generally follow the commercial land-use designations that arrived with the imposition of zoning in DC in 1920, which will be discussed later. Georgia and Wisconsin were both “turnpike roads and pre-dated the L’Enfant Plan. The zoning of 1920 had two major impacts. Georgia Avenue, largely residential in character prior to the 1920’s, saw the conversion of smaller row houses lining the street
into commercial establishments (FIGURE 4 and 5), a particular character that remains with the street even today. Wisconsin Avenue, which developed later, became an important connection to the Maryland suburbs and grew as an early version of suburban sprawl with the associated strip shopping centers and automobile dealerships lining the avenue. Compared to Connecticut Avenue, both avenues suffer from an identity complex either by lacking a coherent pattern of building mass and street-wall definition (Wisconsin), or having long continuous stretches of under-sized, underperforming and unattractive retail (Georgia) with little or no opportunity, because of the block structure, to adapt to patterns that might support a more diverse fabric of residential types.

Connecticut Avenue is different. Its retail centers are more compact, finite and recognizable; its building typologies more varied, yet its public realm is more coherent; and, it’s overall character, more identifiable (FIGURE 6, 7). Its public spaces are more varied and its overall urban pattern more distinct. Composed of five neighborhood centers, or retail “main streets,” equally spaced along the street and reinforced by the building of the Red Line subway system beginning in the late 1970’s, Connecticut Avenue stands out among its “peers” as a rare form of “linear city,” able to successfully provide diverse housing typologies, a choice of transit options, quality open space and a functioning street grid able to cope with the complexities of modern commuting. How did this come about? Was it the result of a “grand plan” set out in advance by a visionary government leader or clever architect and his or her patron? Or, was this linear city of neighborhoods the result of simple real estate speculation by a motivated investor and his legacy?
The Linear City

The linear city has been a dream of modern architects and planners since seeking radical new versions of city form in the 20th Century. Inspired by the possibilities of new modes of transit and a new scale of regional design, architects such as Le Corbusier, Soria y Mata (FIGURE 8 and 9) and Frank Lloyd Wright began to develop designs for cities and suburbs that reflected new interests in the combinations of transit, new communities, new industries, and the promise of transforming society.¹

Most failed, or if they succeeded, their impact can be traced to well-known and more problematic versions we find in many of our suburban areas, such as the Rockville Pike, or in earlier incarnations, Georgia Avenue in DC. Fueled by the explosion of wealth in the decades after WWII, the species has become, for better or for worse, a common character of the American suburban landscape. Frequently indistinguishable from place to place, the suburban arterial street, as they have come to be called, encouraged the worst aspects of a suburban consumer culture, rapidly consuming the natural landscape and offering little or any sense of public space, just a sprawling landscape of strip shopping centers and automobile-oriented businesses.

But, could the linear city really ever be successfully realized? After all, many American cities and their suburbs have sprawled extensively along arterial roads in the past decades and even considering alternatives such as telecommuting, mass transit and an ever diversifying work force and

¹ Many of the leading modern architects of the early 20th Century developed urban theories that attempted to provide solutions or models for expanding cities. Many, like Soria y Mata’s La Ciudad Lineal, sought to locate jobs near workers and incorporate the latest technologies, such as streetcars and rail lines to bring jobs to the masses. Soria y Mata’s design, like the later designs for Buenos Aires in the 1930’s by Le Corbusier, was one of the only garden city versions that was not composed in a pattern of concentric rings. See: Kenneth Frampton, Modern Architecture: A Critical History (New York, NY: Oxford University Press, 1980) p. 27-28.
schedule, can we really hope to return to the more compact (almost pre-modern) city/village? Or, is the concentric “garden city” the only model to reform the suburbs?

It would be difficult to argue that the real estate entrepreneurs who played major roles in the creation of such a sophisticated urban assembly as Connecticut Avenue were very interested in planning and urban design theory. Surely they understood the idea of the “garden city,” quite popular at the end of the 19th century and probably the model for Chevy Chase, Maryland. Rather, most of the urban theory (if one could call it that) employed by Senator Francis Newlands and his successors of the Chevy Chase Land Company (FIGURE 10) used to fuel the making of Chevy Chase, MD was based upon one simple motivation: leverage real estate value and apply state-of-the-art technology in the form of a street car line connecting the new community to job opportunities in the District. To get there, the Chevy Chase Land Company began an aggressive program of acquiring all of the properties fronting onto the Connecticut Avenue right-of-way from the Maryland line of what would become Chevy Chase, Maryland to the location of the Taft Bridge over Rock Creek Park (FIGURE 11). To make all of this connect, they built their own transportation infrastructure in the form of the Rock Creek Railway streetcar running along Connecticut Avenue.2

Today Connecticut Avenue has evolved into a place of high value in the regional real estate market with high market and spatial recognition and legibility in the form of its streets, parks and public spaces. The public space most identifiable along the street and in Cleveland Park, one of the most well-known of the five “centers” along the avenue (FIGURES 12, 13, 14, 15), is that of the avenue.

2 For an excellent history of Senator Newlands and the development of Chevy Chase, MD, see Elizabeth Jo Lampl and Kimberly Prothro Williams, Chevy Chase: A Home Suburb for the Nation’s Capital (Crownsville, Maryland: Maryland Historical Trust Press, 1998).
itself, supported by a diverse array of parks, smaller neighborhood streets, retail establishments and civic amenities such as schools, community centers and libraries.

A Brief History of Cleveland Park

Cleveland Park (FIGURE 18 and 19) is the most recognizable of the five “main streets” along Connecticut Avenue and comprises the most coherent and complete collection of good urban form, diverse building types and public amenities. Settlement in Cleveland Park dates to 1790s with the establishment of several large estates such as Rosedale, but the area remained largely forest and agricultural land until the mid-1800s. The advent of the electric streetcar made the suburb reachable, with the Rock Creek Railway Line connecting the city to the downtown in the 1890’s, causing real estate values to rise. Most of the early building was in the form of large single family homes, with many built as respites from the Washington summer heat and humidity, such as President Grover Cleveland’s summer residence that gave the community its unique name, Cleveland Park (FIGURE 20 and 21).

By 1903, Cleveland Park had about sixty very large architect-designed houses, many of them located along Macomb and Newark Streets and extending up the hill towards Wisconsin Avenue. As the value of the new suburban area rose and fell, some developers were forced to sell their holdings allowing other developers to purchase these lots and to often fill them with smaller, more affordable dwellings.

The boom years of the 1920s saw the planning and construction of memorable, large, garden-style apartment buildings including the Kennedy Warren (1927), Sedgwick Gardens (1929) and the
Broadmoor which opened in 1929 (FIGURE 16 and 17, 21 and 23). The development of retail centers (FIGURE 25 and 26) followed the building of a diverse array of residential types ranging from duplexes (FIGURE 24) to large apartment buildings and provided goods and services for the new government class that was growing with the expansion of the American federal government. Interestingly, most of the retail centers along the Avenue were constructed as one story buildings.

Apartment building construction continued into the 1940s, and the popularity of Cleveland Park grew with the availability of new commercial areas and proximity to such attractions as Rock Creek Park, the National Zoo, and the National Cathedral. Innovative management strategies in buildings such as Tilden Gardens brought co-operative financing arrangements to the new neighborhoods, making middle class apartment dwelling a real option.

Density, Buildings and the Making of Public Space

Yet history is, by itself, insufficient to explain why the streets and blocks of Connecticut Avenue and Cleveland Park function so well. Active and vibrant public spaces depend on a critical mass of people and the correct development of a supporting street and block network (FIGURES 27, 28, AND 29). Critical mass without a coherent system of streets and blocks can exist but rarely provides the kind of public environment that retains any sense of place or memory. Likewise, a system of interconnected streets and blocks without the benefit of higher density, more intense development can be a challenge for retailers to support and typically results in a monoculture of building types, typical of much suburban development. The distinct separation of uses, typified by most suburban developments constructed after World War II generally prevents this kind of development. Suburban retail areas that are not supported by residential density within walking
distance are highly dependent on large surface parking lots. For retail viability, Connecticut Avenue, and in particular Cleveland Park, is a model that benefits from both the high visibility of a regional traffic artery connecting suburban Montgomery County to the downtown core of Washington, and a diversity of housing types not unlike what is built in many suburban communities today, only better.

Traffic and Access

Traffic volumes along Connecticut Avenue range in intensity from about 25,000 ADT (average daily trips) to 41,000 at Porter Street, about midway between the Maryland state line and the Taft Bridge over Rock Creek Parkway. These numbers are significant and among the highest for any of the L’Enfant (extended) avenues of the city. They demonstrate how important the street is to the regional transit system and the commuter network. In addition, they speak to success of the retail establishments that front Connecticut Avenue in the commercial areas. Retail requires visibility and the location of retail centers in each neighborhood center provides such visibility and hence, retail that can survive and even thrive.

Like suburban areas, Cleveland Park has a very high percentage of single family detached houses, ranging from the large historic homes of Newark and Macomb Streets to more modest homes constructed in later periods. But unlike suburban areas, many of the smaller homes are located within the same urban block as the larger ones (FIGURES 32 to 34), and in many cases, are located as part of an urban block that includes residential typologies of much greater density, such as duplexes and small and large apartment buildings. This yields three important characteristics. First, the streetscape becomes a much richer environment for the pedestrian as the richer visual experience of diverse residential types, all obeying a simple and coherent relationship to the public
space of the street, is experienced. Second, the architecture of the diverse types, while differing in
density and resident profile, makes small adjustments in order to make “co-habitation” possible.

A good example of this is the small apartment blocks on Porter Street just west of the intersection
with Connecticut Avenue. A string of six buildings each with combinations of simple one bedroom
and one bedroom plus studio apartments (FIGURE 35), their outward appearance is that of a large
house, not unlike what one might find a few blocks south of Porter along Newark Street. Each
building incorporates pitched roofs, bay windows and a scale compatible with both lower density
development to the west and higher density development to the east.

Finally, the overall mix on the block (FIGURE 36) allows for a degree of economic integration that
is unique to the city and far superior to that of the suburbs. One block in from the larger buildings
along the avenue typically reside a selection of smaller apartment buildings, row houses, duplexes or
small lot single family detached buildings. The higher quality building stock of the area and of
Cleveland Park in particular, was constructed prior to World War II and hence much of the quality
in value is owed to an era that saw builders offer housing that enjoys a sense of unique character and
“place”. Sears catalogue houses were common offerings; developers like Harry Wardman and
architects such as Mihran Mesrobian (Sedgwick Gardens, 1932) contributed to the fabric of the
neighborhood with distinctive residential apartment buildings designed for a city that was rapidly
outgrowing its historic plan. Multi-family types range from continuous wall facades, which are based
on a “T” type (FIGURE 42) and repeated for several parcels north of Porter Street on the west side
of the Avenue, to much grander apartment buildings, like the Broadmoor, which are clearly
influenced by the garden city movement.
Apartment buildings frequently cater to the recent graduate or young professional couples just starting out and at the other end of the demographic scale, empty nesters. Row houses and duplexes typically appeal to the first time home buyer; and, single-family detached houses in all of its permutations to a demographic at the top end of the scale. Unlike in the suburbs, and in some vast stretches of city row house neighborhoods, these often disparate economic scales are brought into close proximity to one another, often side by side.

The diversity of this demographic along Connecticut Avenue is perhaps most intense at Cleveland Park, and the retail diversity there perhaps a reflection of this (FIGURE 37, 38, 39, 40, 41). Supported initially by a streetcar system and then bolstered by the arrival of Metro in the 1980s, the short stretch of retail along Connecticut Avenue at Cleveland Park is a rich mix of neighborhood serving retail (drug stores, supermarkets, dry cleaners, etc…) and an entertainment destination with a movie theater and an abundance of restaurants. And, like many suburban retail centers, the retail there was built as “stand alone retail,” largely without office or residential units above, although a few interesting exceptions to this rule do persist and add variety.

The retail is supported in several ways, first, by the overall visibility of Connecticut Avenue. Second, higher density apartment buildings (FIGURE 43 and 44) are located within an easy walking distance (densities ranging from 185 dwelling units per acre to five du/acre) of the retail area. Connecticut Avenue is also a transit corridor with frequent metro and bus service connecting commuters to
communities in upper Northwest DC and Montgomery County, as well as cross town connections via Calvert, Van Ness, Porter and Albemarle Streets.

Finally, the role of Rock Creek Park should be mentioned. One of the most important innovations of the Senate Park Commission Plan of 1902, the vast and extensive park provided communities on either side with a close-by city park system connecting the surrounding neighborhoods and providing a green spine of public open space in much the same manner that was done decades earlier with Central Park in New York. The designers of the park also took advantage of the unique topography of the city to bring green “fingers” and tributaries (FIGURE 26) into adjacent city neighborhoods at crucial locations. These small, green connections make the park more accessible and give unique character to the public space along Connecticut Avenue.

Zoning Guides the Form

Aside from the strategic machinations of a very clever developer and successor company, Connecticut Avenue also owes the success of its character to a zoning innovation that might be easy to overlook. When Congress was in the process of enacting DC zoning in 1920, it initially sought to designate the commercial corridors leading in and out of the city (generally L’Enfant avenues extended past the original plan) for continuous ground level commercial (retail) use, running from the historic core to the DC-Maryland line. The evidence of this commercial zoning is present on Wisconsin and Georgia Avenues today, both generally comprising commercial, hence retail, zoning for most of their lengths, and in both cases, supporting a public environment which is inferior to Connecticut Avenue.
How did Connecticut Avenue end up differing from this model? Designees from the Chevy Chase Land Company, the company that had acquired much of the land between the Taft Bridge and Chevy Chase Circle, petitioned Congress in 1920 to limit the commercial zoning on Connecticut Avenue to the five retail pockets, more or less equally spaced along the street with each running about 1000’ to 1300’ in length. Today known as Woodley Park, Cleveland Park, Van Ness, Connecticut/Nebraska and Chevy Chase-DC these commercial areas, generally one story in height, are separated from each other by the large apartment buildings stretching between the commercial centers, some rising up to 90’ in height. Thus enacted, residential parcels along Connecticut Avenue developed by the Chevy Chase Land Company could be sold as simple “blocks of flats,” rather than including the additional burden of retail development and all of the infrastructure issues that accompany vertical mixed-use. In other words, height and use were separated and maximized for greater profit via a simple diagram.

Such a departure from the continuous commercial zoning applied to Wisconsin and Georgia Avenues gave Connecticut Avenue this series of smaller retail pockets, essentially civic space or “main streets,” equally spaced along the avenue and delineated to provide a clear beginning and end to each neighborhood. In some cases, such as Cleveland Park, the natural terrain of Rock Creek Park also provided a sense of identity and separation within the framework of the “linear city,” providing, in some places, a natural gateway into the commercial areas as one crosses the Klingle Valley Bridge just north of the Kennedy-Warren apartment building. Smaller branches of Rock Creek Park weave in and out of Connecticut Avenue, with Rock Creek Parkway itself providing an alternative artery to regional destinations, parallel, roughly to Connecticut Avenue, and bringing the
benefits of the natural landscape to within steps of the urban dweller. The high density apartment buildings lining the avenue, combined with the heavy volume of commuter traffic in and out of the city, provide support for the retail activity in each of the “main street” neighborhoods. Off-peak parallel parking supports a safer pedestrian environment along the avenue for each of the “main streets”. The strategic addition of the three metro Red Line stops simply increased access and made a desirable area even more so.

So, aside from the positive aspects listed above, what does Connecticut Avenue have that the other great streets of the city lack? One might begin by looking at the simple question of the streetscape. Connecticut Avenue is defined by a simple and coherent block structure with retail and residential buildings facing the street, with the space of the street defined by a continuous line of mature street trees, perhaps mitigating the effects of high traffic volumes. Street trees soften the visual impact of thousands of Maryland commuters advancing into the city daily and provide one layer of a street wall definition of visual interest and variety. At the next vertical layer, some buildings articulate a continuous wall of façade, while others, in a more garden city tradition, provide courtyards and intervening spaces and entourage from the very public space of the street to the semi-public spaces of entry courtyards and building foundation plantings. Though subtle, this aspect of Connecticut Avenue should not be minimized in significance. The layer between the back of the sidewalk and the facade of the building, in residential areas, often provides articulation and planting that helps to provide the green cover for the street and introduce a layer of landscape under planting and flowering trees, very different in type from the oaks and sycamores lining the street. The landscape layer, combined with a simple definition of the street wall by the building, works in concert with the parallel parking on the street to provide a safe and secure pedestrian realm.
Street frontage is also an important aspect of how the public space of the street is defined. Unlike long, wide expanses of garden apartment buildings in other parts of the city, most of the lots facing Connecticut Avenue are organized with the shorter end or side facing the street and the bulk of the building perpendicular to the street front. This results in a greater variety of facades along the avenue. When a large building like the Kennedy-Warren does occupy a wider swath along the street, the parts that actually line the street edge are narrower and frequently interspersed with planted courtyards in keeping with the garden-style apartment character of much of the street. Often times the deft handling of architectural features mask the actual size of a building, making some very large complexes, like Cathedral Mansions, seem in scale with the smaller texture of row houses that stand adjacent to it.

Summary

One way to understand the variety of buildings and public spaces along Cleveland Park/Connecticut Avenue is to understand Duany Plater-Zyberk's rendition of the urban transect (FIGURE 45) which delineates zones from the rural and pastoral (T1) and upwards to higher density settings of T6 and beyond.\(^3\) Evident immediately is the manner in which, unlike suburban settings, a variety of urban and public space conditions are present in a small area. Ranging from a more dense T5 setting (town center) along Conn. Ave between Ordway and Macomb Streets, transect notations then range from T4 to the completely rural transect of Rock Creek Park. Such classification systems are not the best tool to characterize the quality of public space in an area, but rather offer a sense of the variety of public space typologies within a modest area, all within one neighborhood. While variety itself is

\(^3\)Duany Plater-Zyberk Architects and Planners maintain a catalogue of different transects for many cites in the US and abroad. See: http://www.dpz.com/transect.aspx
no guarantee of quality, its orchestration enhances the neighborhoods of Connecticut Avenue in a way most unique to the city.

Finally, how do these characteristics come together to articulate the quality of public space along and within Connecticut Avenue? Unlike the large squares of the L’Enfant plan, the major public space of Connecticut Avenue is the space of the street. The width is consistent from the Taft Bridge to Chevy Chase Circle although the specific articulation of the streetscape differs according to location. It’s a simple formula and the result of real estate pressures, technological advances, some common sense design, zoning innovation and a general level of architectural quality that supports all of the above.

CONCLUSION

If today we were setting out to use the lessons of Connecticut Avenue (FIGURE 46) as a linear city, what rules would be established to make sure that the quality of the design provided good public space, architectural character and yet satisfied transportation and traffic demands? First, the street and block system must be designed to accommodate diverse building types, from the very high density apartments to the large single-family house. Second, critical mass must be attained by maximizing, to the extent possible, the density of multi-family development along the street to help support the retail and to animate public space. Third, neighborhood serving retail must be introduced at a scale of between 50,000 to 150,000 square feet and be located so that it is convenient to both neighborhood residents and regional commuters. Fourth, access to neighborhood and regional parks must be strategically located to serve all of the residential areas. And finally, the diverse fabric of the neighborhoods must be defined by a structure of blocks and lots that
accommodate different building types in close proximity to each other to promote walking and to allow for diverse residential types to be developed based upon market demand.
Bibliography

