THE PEDESTRIAN AND THE CITY

The Pedestrian and the City provides an overview of and insight into the development and politics of, and policies on, walking and pedestrians: it covers the evolution of pedestrian-friendly housing estates and the attempts to create independent pedestrian footpaths from the nineteenth century up to the present day. Key issues addressed are the fight against urban motorways, the destruction of walkable neighborhoods through road building, the struggle of pedestrianization, and the popularity of traffic calming as a powerful policy for reducing pedestrian accidents.

Hass-Klau also embraces past and present practical research in walking, where US contributions continue to be important. The book provides detailed insights from 26 cities, of which 16 are from North America, and the rest from Germany, Norway, Denmark and Britain, as well as references to other European countries and cities. Each city includes general transport information and more specific walking issues, such as pedestrianization and other forms of car-restraining policies.

Each of the cities was visited and discussions with local officials took place, and information was critically assessed through numerous site visits and photographs.

As the pedestrian environment becomes ever more crucial for the future of our cities, the book will be invaluable to students and practicing planners, geographers, transport engineers and local government officers.

Carmen Hass-Klau was born in Germany and studied Urban and Regional Planning in Berlin, followed by postgraduate degrees in Britain. She still has her own consultancy, Environmental and Transport Planning, has published numerous books and articles, and was Professor of European Public Transport at Wuppertal University, Germany. She is an academic advisor at Stavanger University, Norway.
“Comprehensively revised, this new edition of a standard work includes fascinating historical evidence of early planning for pedestrians in both West and East Germany as well as major new surveys of progress in Europe and the United States. It will be required reading for any serious student of the subject.”
– Professor Sir Peter Hall, University College London, UK

“The Pedestrian and the City is a much-needed contribution to contemporary pedestrian planning that astutely interweaves planning history with current planning efforts, travel behavior and safety research, and the experience of walking. The rich case studies from the UK, Germany, Denmark, Norway, Canada and the US illustrate cities’ on-the-ground efforts to implement walking infrastructure and initiatives, their successes and limits. Drawing on her expertise as both practitioner and researcher, Hass-Klau’s critical evaluation of the pedestrian spaces is somber yet hopeful. She illuminates the potential for a pedestrian-oriented future even if, as the books so clearly shows, few cities have reached that ideal.” – Renia Ehrenfeucht, University of New Orleans, USA

“The book of Carmen Hass-Klau gives a fantastic overview about the planning and politics related to walking and problems of pedestrians in the last 30 years. The book starts with an interesting historical contribution about the role of the pedestrian in Britain and Germany in the last century. Then it gives the probably best overview about practical examples of larger cities all over the world that promote walking. This is a very welcome addition to the literature for everyone who is interested in walking as mode of transport.” – Helmut Holzapfel, University of Kassel, Germany
To the Pennsylvanian half of my family and to my unknown South Italian relatives
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FOREWORD

Carmen Hass-Klau’s first book, with Sir Peter Hall, was Can Rail Save the City (1985), and in 1986 she was the first user in English of the phrase ‘traffic calming’, her translation of the German Verkehrsberuhigung, in a letter to The Times. She was sole author of her second book Pedestrian and City Traffic (1990), which was described by Sir Colin Buchanan as a ‘public service’ for its history of the development of ideas for the safeguarding of pedestrians. Her influential technical manual on traffic calming, Civilised Streets (1992), had sales all over the world, and I have seen unofficial photocopies, stiff with highlighting, in local authority offices. I was pleased to publish her important paper, ‘Impact of pedestrianisation and traffic calming on retailing’ (1993), in the very first issue of the journal Transport Policy. Her papers and reports on pedestrianization, public transport, especially light rail, and their impacts have been an important part of the library of transport planning.

So this is a book with a provenance, experience, an international scope, a recognition of political context and a multi-disciplinary expertise. The word ‘pedestrian’ in English has had an alternative meaning of prosaic, hence boring or unoriginal, since the 18th century, and it is alas true that academic studies and public plans about walking as a mode of transport are thought of, by many governments and academics, as worthy but peripheral. Carmen Hass-Klau has always challenged this stereotype. Not only is she one of the longest-established and most influential thinkers on pedestrians and traffic, but she has also built that position by an altogether unique personal style, in writing and speech. There are perhaps a dozen scholars in the world who could have made a good fist at writing an authoritative book with a rather similar title to this, but none of them, I am certain, would or could have written this book.

Part of this uniqueness is no doubt connected with her cosmopolitan personal trajectory – a child in the devastated city of Nuremberg (later to become an international icon of pedestrianization) in the early post-war years, a degree in engineering in the Technical University of Berlin, a rare German government scholarship to do a Masters and PhD in planning at Reading University, then employment as a local government planner, the Principal of the consultancy she founded, a university professor, and a background of family and homes in six countries (Germany, USA, UK, Spain, France, Croatia). Outspoken in discussion, she has described the UK style of traffic calming as ‘it doesn’t matter how expensive it is, as long as it looks cheap’, slated the type of traffic calming which is composed of little more than ‘humping anything that moves’, and speculated why some of the best conference speeches are by people whose own transport achievements are appalling.

Some of that outspokenness simmers in the case study visits she reports here. One of the principles of evidence Carmen has developed is that she never permits
herself to generalize about countries or cities she hasn’t visited, and has no great respect for others who do. By ‘visit’ she means primarily on foot, walking the streets and judging their quality and design as an experience, not as a theoretical exercise, seeking advice from the local planners in charge, but never taking their word for it without seeing for herself. It is only after decades of doing so that one can make personal judgements that have the authority of experience and knowledge, and this is given context by her taste for digging into the historical background of plans over a long period. Together, the experiential and historical method produces pen pictures of the pioneering cities of street style, and their followers, which are full of insight and rediscovered elements. (The Inner London council housing estate where I spent five years of my childhood turns out to have an importance in the design of residential space in the history of planning in the 1920s of which I was completely unaware, for example.)

The word ‘provenance’ is not used once in this volume, but it imbues everything in the book: the importance of provenance in ideas, the provenance of urban streetscapes, the lasting traces of now-forgotten history and plans. I have considered myself tolerably well read in the history of transport ideas, but the account given here gives an unfamiliar picture, and one that has never really been told. ‘History’ here includes not just the sequence of government recommendations, but also the global development of ideologies and social systems – American capitalism, a network of mostly socialist architects, the influence of some enlightened commercial companies in providing living conditions for their employees, Nazi Germany, Soviet Communism and its influence on post-war East Germany. One of the thought-provoking themes is the way in which she shows that remarkably closely related developments in Europe and the USA were justified by their supporters in terms of quite different ideologies, aesthetic movements, and welfare motivations, but nevertheless converged in form. This means that when she walks a street in post-unification East Berlin, for example, what she sees and explains is informed by a different intellectual tradition than is contained in the conventional training of traffic engineers and transport planners. One result, for example, is a quite new understanding of the role of Le Corbusier in transport planning and one which contained pernicious elements under the rhetoric.

Her overall assessment is quite a critical one, especially the story she tells of declining trends in walking even in countries and cities that seek to reverse them (and have in some cases had great successes in reversing both the increase in car traffic and the decline in public transport). The final chapter is, however, not a pessimistic one, but full of good entirely practical advice on how to improve the conditions for walking and the lot of the pedestrian. Where there have been improvements, she does not dwell on the influence of her own work, but it does deserve a share in the credit. That’s a chapter that the next author in this field should try to write, the role of Carmen Hass-Klau herself in influencing the developments she reports. Meanwhile you won’t read a book like this by anybody else.

Phil Goodwin
Emeritus Professor of Transport Policy
University College London and the University of the West of England
May 2014
In recent years, walking as a mode of transport and as an essential human activity has become recognized – in principle – as the source of great benefits. These include:

- physical health and mental well-being
- walking instead of using the car (and to some extent public transport) reduces CO2 output
- a high level of walking in neighborhoods creates social benefits and improves the perception of security
- a walking-friendly environment increases the pleasure of enjoying urban life and historic areas
- investment in walking has economic advantages, for instance increase in house prices, turnover and tourism
- being nearly universally accessible, but with no start-up cost, and no training beyond the essential learning process in the first years of life
- provision of infrastructure and facilities are an order of magnitude cheaper than provision of roads, rail and vehicles for car and public transport travel.

So why has walking been the poor relation in all strategic transport policy and government programs, and of little interest to industry – so much so that policies on walking are usually subsumed under the general heading of ‘walking and cycling’ – two utterly unlike modes of transport? And why at a personal level has walking been in long-term decline with only a minority of cities converting into practice the benefits which are so apparent in principle?

One explanation lies in that last bullet point – the huge advantage of low cost has the disadvantage of fewer opportunities for profit and headlines and spectacle – there are fewer mayors or ministers of transport present for the opening of a new traffic-calmed area, and fewer opportunities for rhetoric about long-term infrastructure, and fewer vested interests lobbying behind the scenes for large commercial contracts. This is one reason why in some cases it is easier to win support for a ‘big’ pedestrianization scheme than for smaller local improvements.

Another often-cited reason is that the quality of evidence and proof seems to be weaker, because surveys routinely only include a few walking trips, consultants’ models often ignore it entirely, and the theories of travel choice focus more on easy-to-measure quantities like time and cost, and the simpler claims of economic advantage, and ignore motivations like health, pleasure, convenience, very local activities, and the indirect economic advantage of more pleasant urban environments. However, that is a rather spurious argument since there is now so much evidence on the success of walking improvements – the problem is more that the evidence is ignored or swiftly forgotten.
Motivation

The conception of this book started as a second edition of the book I researched in the late 1980s and published in 1990. That focused on a comparison of West Germany and the UK, and the idea was to extend the case studies to a wider range of countries with more up-to-date data, addressing the question of what has happened since 1990. In total I evaluated 30 cities in six countries (the United States, the UK, Germany, Denmark and Norway, and one case study from Canada). I walked around in the city centers of all of them, some of the inner cities, and a few suburban areas and had very helpful discussions with local politicians, officials and activists.

In the progress of the research, however, it became clear that what was required was a new book, not a revision of the old one. It was not only a question of updating data and judging progress but it also became a question of re-appraising the historical background, the political pressures, the influence of ideologies and social systems, and the practical constraints.

For this reason the first chapter starts with North America, which had previously been of little interest to the more advanced European development, but actually became a source of great insight into the way in which grand road building for the 'motor-car economy' wrecked conditions for pedestrians and the life of many cities. This was seen in even more intense form during Hitler’s Germany, and in watered-down form in the UK. The story of the Third Reich continued indirectly to the events and the philosophy of urban transport and pedestrian planning that occurred in post-war West Germany, and was mirrored by the effect of Soviet thinking on what happened in post-war East Germany – creating tensions following reunification.

The book is divided into two parts; in Part I, I study the historical dimensions and in Part II, I get involved in the more practical questions and experience of promoting walking. I am of the opinion that one cannot understand Part II if one does not know the background discussed in Part I (a gap in the knowledge of many pedestrian campaigners and planners). It is not the history of a specific city – although I am convinced that this is important too – but the broad background which I tried to deliver.

But this is also a book about my love affair with the city. I can remember when I was struggling to find a Ph.D. topic. I had just come back from England and walked for the first time more consciously through pedestrianized streets in a historic city center which had previously been full of cars. It was such a joy and I felt so blissfully happy that I could not understand why every city on this earth did not introduce the same policy and frankly even today I still cannot understand it. My happiness was connected with the ability that I could walk around freely and see for the first time the beauty and diversity of the urban environment. It is the interaction between walking and seeing that is so fantastic and near to impossible in urban spaces full of cars. It is the discovery of beautiful buildings, unknown spaces, views, good or bad street designs, shops, restaurants, cafes and activities other people are involved in, and much more; that is urban walking for me and that is what I judge when I walk around in old and new cities. The story about the pedestrian and the city is also about a kind of interdependency on each other. What city would we have if there were no pedestrians anymore? It would certainly not be a city as known and loved.
This great feeling I still have when I see exciting spaces, this kind of wow effect is not even possible when cycling and certainly not when driving a car.

Consequently, this book is also a declaration of commitment to the historic city centers, the traditional neighborhoods, not only the 19th-century ones but also those suburbs which for some were dreams of a better life. The destruction which has been inflicted on the urban structure is for me sometimes difficult to bear.

Critics will say I am not a realist. I do not mind the criticism because I think we have had too much unreal ‘realism’ and we need more protectors, more people who are on the side of the weaker participants and that no doubt includes the pedestrian who has very little influence and power to fight against inhuman changes. But that has to be done on a genuine evidence base, honest analysis of weakness as well as strength, serious thought, the best possible professional expertise, and an acceptance of the cultural and historical world.
ACKNOWLEDGMENTS

The research on this book is based on my experience in working in the wide field of traffic calming, pedestrianization and public transport in my consultancy and as a professor at the University of Wuppertal. But the contents are also based on the many trips I did during the last years in the United States, Canada and Europe. This book would have been impossible if a large number of professionals had not kindly provided the information and the time for discussions and walks around their city. I am most grateful for their help and support. Altogether I counted more than 60 people who supported my work. Unfortunately I cannot mention all of them here.

My greatest thanks has to be addressed to my husband Dr. Graham Crampton; without his help this book would have taken one year longer and would not be what it is today. The second person I am very much indebted to is Professor Phil Goodwin who read all my chapters and made very useful critical comments. I also would like to express my thanks to Randy Wade from the City of New York. She was absolutely wonderful in showing me her city and read some of my US chapters. Oliver Gajda from San Francisco made me understand better how his remarkable city works. Mike Weiner’s discussions in Savannah and later in Munich helped me write something useful about his city. Tracy Newsome from Charlotte very patiently answered my many questions despite my rather critical views of the city. I also would like to mention Lucia Gonzalez who was very helpful. Suzanne Lennard supported me in getting more contacts in Portland and this was very valuable. In Denver I have to mention Cynthia Patton for her backing and Douglas M. Grenzer for his map of Denver which was sent to all the other US cities as a model. Overall I am grateful to Steven M. Castongia in Charlotte, Chris David in Washington, Carmen Piekar ski in Portland, Charlie Ream in San Francisco, Philip Overcash in Charleston and many more for the time it took to produce the maps for this book. In Vancouver, Steve Brown had to answer many of my queries and he did it very efficiently, I would like to acknowledge him and other members in his office who helped me as well, and Starla Talbot should be mentioned here.

I was very delighted that Lars Gemzæe was happy to read my chapter on Denmark and my appreciation also goes to the consultancy of Jan Gehl that provided maps of Copenhagen and Odense (Michael Nielsen and Camilla van Deurs) for me. In Germany I am grateful to Dr. M. Klamt for reading my Munich chapter and offering some additional data. B. Gutzmer from Freiburg must be credited for his time and endurance to answer all my questions. Without the help of several professionals in the Ministry of Transport in Oslo I could not have written the chapter about Norway. I especially would like to express my gratitude to Guro Berge. My chapter about London would have been impossible to fill with facts without the help of Ian Simmons (City of London), Louise McBride (Borough of Camden) and Jeanette Baatman (TfL).
I am obliged for the support and help I received from my two secretaries, Diana Kent and Sylvia Wiethaup. Last but not least I am in debt to my Ph.D. student Helge Hillnhütter who did the drawings of several maps and made some critical and useful remarks on my chapters I gave him to read. Even so, I am glad I did not give him all the chapters because I may very likely not have wanted to send the book to the publisher at all.

Needless to say, despite all these efforts the author alone bears responsibility for any error or omissions.
DEFINITIONS

ACS    American Community Survey.
AMPTA  American Public Transit Association.
BRT    Bus Rapid Transit – buses use a busway and it is impossible for cars to move into such a lane or park there. However, in the United States they are often simply only bus lanes.
Busway This is a right of way operated with modern, often articulated buses. The right of way is separated from car traffic – it is not only a bus lane – and may be designed like a tramway with high-quality bus stops. The right of way is well integrated into the urban environment and the design standards are high. Some of the best examples are the busway (Line 4) in Nantes, the TEOR lines in Rouen and the Trans Val-de-Marne busway in the Ile-de-France (Department 94).
Das Neue Bauen A style of new architecture developed after the First World War (1919). Its founder was the architect Walter Gropius who opened the first school in Weimar in 1919; it moved later to Dessau. It became especially important for large-scale construction of functional but good tenement housing.
High visibility crossings These have more or less the same function as zebra crossings but whether cars have to stop when the pedestrian is standing on the side of the sidewalk or when the pedestrian has a foot on the crossing depends on the state in the United States.
Laubenganghäuser These were developed at the end of the 1920s, for instance in Hamburg or Dessau. This type of housing block allowed the open entrances to be toward the noisy street but the living quarters overlooked the quieter parts of the estate. They were cheaply built housing blocks – mostly four to six floors.
Light rail or tram A tram may have to share its own right of way with other traffic although large sections of the lines could also have their own right of way. At junctions they will have to mix with other traffic. Modern tram vehicles have low-level floors (40–100%) with easy access for people with disabilities. The average speed is relatively low at 18–20km/h. Normally passenger capacity is lower (about 175–230 passengers) for trams than for light rail vehicles (350 passengers) but with the new 45m long trams that is no longer an issue.
Light rail in contrast may have most of its corridors separated from other traffic, but it may also be running partly on street level and partly in tunnels. If it is separated from other traffic it will have an automatic signaling system. One has to remember that the light rail vehicle was originally a mode filling the gap between an underground railway and a traditional (old-fashioned) tram. In the past there was a clearer distinction between tram and light rail, but nowadays that is increasingly difficult to define, as modern trams have changed so much in comparison to the old-fashioned version. In recent years
most cities have opted for trams whereas light rail was a more common
mode of the 1970s and 1980s in Europe.

**Garden City** The concept was developed by Ebenezer Howard in his book
*Garden Cities of Tomorrow*. It was first published in England in 1898. It became
a relatively influential social movement and two garden cities and one garden
suburb were actually built in England. It had a great impact in many other
European countries before the First World War but in Europe only small‐

scale garden suburbs were built. Nevertheless the idea stayed very
influential.

**Green modes** Cycling, walking and transit – although some experts would
argue that public transport is not really very environmentally friendly, I would
partly agree to that but I still have included it. There is also car sharing but I
have not discussed that in this book,

**Inner city area** This does not mean city centre but mostly 19th‐century housing
areas built close to the city centre.

**Motorways** Called Interstates in North America

**Public transportation** Transit.

**TOD** Transit Orientated Development means high density mostly housing
development around rail, light rail or tram stops

**Tram** Streetcar in the American chapters, the characteristic is slightly different
to the European tram.

**Verkehrsverbund** This is a public transportation organization where all public
transportation modes (bus, tram, train, boat) have a coordinated timetable
and the same price structure. With one ticket all the different modes can be
used. In Germany a Verkehrsverbund area can be very large. The largest
covers the City of Berlin and the State of Brandenburg. Mostly they are not
as large but still substantial. Nearly all of Germany is covered by the
Verkehrsverbünde.
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Part I

HISTORY
The quality and design of streets have always been important issues for walking and more details on this are provided in the final chapter. Some specific street layouts are more popular with pedestrians than others. Narrow medieval streets, crooked lanes and numerous irregular squares made walking interesting and easy when only a few vehicles could access them because the streets were too narrow. However, historically these streets were mostly filthy and rich people hardly used them. This changed during the 19th century when main drains were constructed and most street areas could be converted into cleaner space.

The renaissance and baroque street layouts that developed during the 15th and 16th centuries changed all this. The streets became wide and straight and the squares large and more geometrical. But it was only in the 18th and even more so in the 19th century when the number of coaches and carriages increased and crossing a road as a pedestrian became more difficult and often dangerous that sidewalks were built to safeguard pedestrians and also to keep them away from busy carriageways. Unfortunately, relatively little is known about when the first sidewalks were built.1

The avenues of earlier centuries which were often used for marching changed largely into boulevards during the 19th century. These were streets for pleasurable walking on a scale previously unknown. Normally the wide central reservations of such streets were bordered by trees and used by pedestrians for strolling and mutual admiration. The central walkway also offered the best view of the newly constructed public and private buildings. Furthermore, boulevards had generous sidewalks with even more rows of trees. There was space for everybody from the students and workers on foot to the aristocrats on horseback and the ladies in carriages. In short, this mixing of the different classes had been unknown in previous centuries. Many boulevards were modeled on Paris; the new plan developed by Napoléon III and put into practice by the new prefect Georges-Eugène Haussmann.2 The Haussmann Plan of Paris started in 18493 and was completed in 1898 (Carmona 2002, p. 149). It was the desired street layout for many cities, not only in Europe but also in the New World, in particular for capital cities such as Berlin and Vienna. Although the Haussmann Plan destroyed most of the previous city, it left the historic monuments intact. It was urban renewal on a scale and with a brutality only known following the large fires that plagued many cities. In a sense, the demolition matched the destruction that occurred during urban motorway building a century later, but maybe that is a lame comparison because the biggest assets of this plan were the creation of numerous boulevards, parks and gardens. What the effect was on walking and
healthier living we do not really know but it did create the space for more wheeled traffic and later on for cars.

The majority of North American towns still had nothing like that. Residential and public buildings were constructed along a grid street layout. This was easy, cheap and did not involve sophisticated planning but not all North American cities were happy with this type of street plan and it is here where our story starts.

Innovative Street Layouts

Who actually had control over streets and alignments in most US cities was by no means clear. To facilitate improvement, street commissioners were appointed at the beginning of the 19th century, at least in the large east coast cities. However, they were often powerless if private owners subdivided land and designed streets to their own liking. Even by the turn of the 20th century, it was only Pennsylvania that had passed legislation requiring every municipality to have an overall plan for its streets and alleys. Its major city Philadelphia had already developed a tradition of regulated urban expansion and street planning since its foundation in 1682 (Reps 1965, pp. 161, 169). Altogether Philadelphia had a very sophisticated street network consisting of different street widths, with some of the streets being very narrow and paved with cobblestones. The Intra City Business Property Atlas by Franklin (1939) shows how varied the street widths were (and still are).

Boston (Massachusetts) also had a European street pattern, even more so than Philadelphia. Boston’s street network even as late as 1929 was reminiscent of a medieval city, except for Boston Common and the Public Garden (the parks close to the city center) (Capan map of Boston 1929). Jacobs (1995) describes how the street layout changed over a relatively short time period, mostly because of public redevelopment and road projects (pp. 264–265).
Possibly the most interesting street plan in North America was developed by J. E. Oglethorpe for Savannah. The settlement was founded in 1733, about 60 years later than Charleston (1670). Oglethorpe and his colonists settled about 16 miles inland from the coast, on the Savannah River (Wilson 2012, pp. 101–102). Although the street layout is a grid, the high number of squares changes the street appearance and these squares form their own wider ‘green’ grid. It made walking from square to square an enjoyment in nearly all seasons (for more details see ‘Savannah’ in Chapter 14).

Another street plan, which was quite widely imitated, was that of Washington, DC. Pierre Charles L’Enfant, a self-made engineer, designed the city at the end of the 18th century (1791). The main avenues were extremely wide and bordered with trees (160–400ft/52.5–131m) and they had plenty of space for walking (Reps 1965, pp. 250–251). L’Enfant was of French origin and his ideas were influenced by the designs of Paris and Versailles, though he had also studied street plans of other European cities (ibid, p. 247). Several other towns, for instance Buffalo, Detroit, Indianapolis, Madison (ibid, p. 325), were strongly influenced by Washington’s street plan (see Figure 13.12: map of Washington DC).

Daniel H. Burnham and Edward H. Bennett introduced a Plan of Chicago to the public in 1909; again it showed some similarities to the Haussmann Plan of Paris. It consisted primarily of wide boulevards, diagonal roads, and large squares and parks (Hines 1974, pp. 328–329). A remarkable street hierarchy was suggested and it already included elements of traffic division. Through traffic was to be separated from residential traffic. The boulevards, the widest being 572ft (188m), had been designed by Frederick Law Olmsted’s firm (Condit 1973, pp. 32, 73). The Chicago Plan stimulated similar improvements in other cities, for example Minneapolis (Heckscher and Robinson 1977, p. 22).

From the middle of the 19th century, a new movement had derived largely from English landscape gardening. The main characteristic in terms of street design was the heavily curved street, which was in total contrast to the conventional street block. Such designs were first applied for walkways through cemeteries and later parks. Frederick Law Olmsted and Calvert Vaux became well known for the design of Central Park in New York (1858). Olmsted had visited Birkenhead Park near Liverpool after the first people’s park had opened to the public in 1847. Olmsted (1852) admitted that nothing like that was known in the United States (pp. 78–79). It has been argued that Olmsted had copied Birkenhead Park with its separate footpaths and a carriageway drive when designing Central Park in New York, but the footpaths and street design in Central Park are not really comparable with Birkenhead.

He also influenced street planning in some suburban housing developments. One of the best known is Riverside, Illinois, near Chicago (1869). The street layout of Riverside includes some large green areas and a variety of street widths (Reps 1965, pp. 344–345).

Another of his plans was for a workers’ town commissioned by the Apollo Iron and Steel Company of Pennsylvania. It was named Vandergrift and is located about 30 miles northeast of Pittsburgh. Vandergrift was the second ‘New Town’ for workers around a factory in the United States. The first plots for sale were available in the town in 1896 (Vandergrift Centennial Committee 1996, p. 25).

Vandergrift was built in the large bend of the river Kiskiminetas. Olmsted’s town plan fitted beautifully into this bend. As the river so is the street network; all the
Olmsted’s original plan of Vandergrift streets are curved. Vandergrift’s streets were paved with yellow bricks, all had sidewalks and trees were planted along most streets. It had tree-lined greens and its own park (today called Kennedy Park). In addition, a green belt went through the town and although it was not a garden city, it came close to it.

Even so, it was not really a town for the working class, only the skilled and well-paid workers and the business owners could afford the prices for both the plot and the construction of a house (ibid, p. 25). The unskilled and low-paid laborers lived near Vandergrift, for example in Vandergrift Heights, which had developed at about the same time as Vandergrift. But Vandergrift Heights was not a workers’ paradise, there was no street plan and the streets were unpaved; sidewalks, if they existed at all, were made out of boards, all the luxuries of Vandergrift were missing and the plots and houses were small and without bathrooms (ibid, p. 43).

The son of Frederick Law Olmsted was even more prolific than his father. He designed Forest Hills Gardens located in New York (Borough of Queens). The construction started in 1910. The street layout consists of curved streets, a mini roundabout, small squares and two very short cul-de-sacs that feel so intimate that one hardly dares to enter. The street design looks like a mixture of German and English garden suburbs, especially Hampstead Garden Suburb in London but most houses have North American features. The station square is a particularly close replica of different continental styles. This street design discourages through traffic and reduces car speeds. In fact, Forest Hills Gardens
is an interesting example of a (very likely) unintentional traffic calming scheme developed in the early 20th century. Unsurprisingly, this small area today includes some of the most expensive and desirable streets in New York. Without any clear borders, the historic part of Forest Hills Gardens is continued with the traditional grid blocks and there the car speeds were much higher.

There were a number of other housing developments designed by Olmsted (Sr., Jr. or their firm). Hegemann (1925) mentioned Roland Park (1891), Baltimore, which used the division of roads and footpaths and the grouping of housing in the form of cul-de-sacs as part of their design (pp. 119–124). The idea of separating roads from footpaths was taken up again and developed further about three decades later.

**Housing for a Better World**

During the late 19th and the early 20th century, the United States failed to rival a number of European countries in the principles and powers of urban planning, but at the beginning of the 1920s the concept of regional planning gained momentum. It was largely caused by the desire to improve overcrowded and congested cities and the need for controlled urban growth but it also included ideas and concepts about traffic and transportation. Regional planning agencies were created in several parts of the United States, of which the Regional Plan Association of New York and its Environ (RPA), formed in 1921, was the earliest. It included most of the important planners of the time. Several other regional planning agencies were also set up (Scott 1969, pp. 192–221).

As a kind of opposition to the RPA, the Regional Planning Association of America (RPAA) was formed in 1923. It included, among others, Lewis Mumford, Clarence Stein, Henry Wright, Frederick Lee Ackerman, Edith Elmer Wood, Catherine Bauer, Alexander Bing (ibid, p. 223). About half of them were architects (Sussman 1976,
They believed in garden city principles, and they were of the opinion that these should become the main settlement form for regional plans in America. Many members had studied British and very likely German planning examples, especially the garden cities and garden suburbs.11

One of the first practical achievements of the RPAA was the formation of the City Housing Corporation in 1924. The main purpose of this organization was to build garden cities (Stein 1958, p. 19). The Corporation started to develop a derelict industrial site – called Sunnyside Gardens – for housing in the Borough of Queens in New York City. Its main objective was to provide low-cost but well-designed flats and houses. The major disadvantage of the site was that local government officials had already planned the typical grid blocks. This implied that a major through road had to remain unchanged, despite the danger of increased accidents and the separation of the community into two parts (Wright 1935, p. 37). Although Wright could prove that housing developments based on a grid layout were needlessly expensive, they could not overcome the existing street regulations (Churchill 1983, p. 212).

In Sunnyside Gardens, because of the rigid street layout, only a few cul-de-sacs could be built (Stein 1958, p. 24). During the four years of constructing Sunnyside, different forms of housing blocks emerged. Apart from private garden space, the characteristic Sunnyside block also included a communal green in its center. A network of footpaths, which connected the different family units within a housing block, accessed this green space. Although footpath connections
between different blocks existed, one still had to cross roads used by motorized traffic. By 1928, the corporation had constructed houses for 1,202 families on about 77 acres of land (ibid, p. 21). This was nearly the same design but the density was higher in the housing blocks in Europe, for instance in Berlin. The *Riehmer Hofgarten* in Berlin *Kreuzberg* was built between 1881 and 1892 (Baedeker 1986, p. 305). The whole block consisted of 20 different connected housing units constructed at high standards. The block had the size of about 87,500sqm (21.6 acres). The yard was left open and contained gardens and narrow residential streets, which joined several major streets (ibid, p. 305; Wedepohl 1970, p. 116). The *Ideal Passage* in Berlin Rixdorf (between *Fulda- and Weichselstraße*) included 121 tenement flats, which were built by a housing association in 1907/8. It had several large inside garden yards, which were connected by pedestrian footpaths (ibid, p. 124). The Ideal Passage was seen at the time as a model of social housing (Baedeker 1986, p. 326). At nearly exactly the same time as Sunnyside Gardens was built, the *Larkhall Estate* in southwest London was started (1926). It consists of 16 blocks of flats linked by five courtyards connected with arches and pedestrian footpaths. Although the green spaces behind the houses in Sunnyside Gardens are much larger, the design idea is the same as in the continental examples.

Today Sunnyside Gardens is still a remarkable place although it is difficult to find the original housing blocks since much has been changed over the years. What did strike me was that they were not as massive as the German examples (or Larkhall in England) but more like the first housing blocks built in Eisenhüttenstadt during the 1950s, one of the new towns in East Germany. The design of the houses was very creative. One can feel how the architects and the planners tried to find the best options in terms of housing style, green space and footpath design. The houses were designed so that the living rooms in Sunnyside are still facing the road (although even today the traffic along there is minimal). Some German architects, for instance J. F. Haeuselmann, had already changed the location of the living rooms so as to overlook the ‘quiet inside yards’ and not the traffic road (Haeuselmann 1916, p. 54). A very good example can be found in Berlin-*Charlottenburg* in the *Haeuselmannstraße*.

Gurlitt (1929) pointed out that the president of the City Housing Corporation (*A. M. Bing*) mentioned that Sunnyside Gardens was modeled on a German settlement (p. 27) though he did not say which community he had in mind. Visiting Sunnyside Gardens, I could not really see any similarity with German building styles. There is no proof in the literature I studied that this was actually the case.

Sunnyside Gardens was a financial success, and the City Housing Corporation wanted to build a garden city and chose a site only 16 miles from New York in *Fair Lawn*, New Jersey. They soon had to abandon the idea of a *Green Belt* and also could not attract any industry in or near to the site (Stein 1958, p. 39). It was planned to build three neighborhoods for about 25,000 people (Bamberg 2011, p. 45). Each of them was to have its own school and shopping center (Christensen 1986, p. 58). Since the construction of Sunnyside Gardens, the members of the Corporation had developed their ideas further.

*Radburn*, a small neighborhood within Fair Lawn, contained an uncommon street layout. The street hierarchy consisted of:
HISTORY

- a separate network of over eight miles of pedestrian and bicycle paths
- service roads for direct access to the houses
- collector roads around the housing blocks
- distributor roads.

Over- or underpasses were constructed to enable pedestrians to cross roads safely (Schaffer 1982, p. 7). All housing blocks were grouped together around large greens and parkland.

As Stein (1958) had pointed out, none of the ideas were specifically original. The separation of different transportation modes in the form of independent roads or paths with over- and underpasses could already be seen in Central Park in New York (p. 44) or in Roland Park in Baltimore (also designed by Olmsted). There is no proof of whether the idea of functional division of roads was a copy of Olmsted’s street layouts, or was borrowed from Britain or Germany. In Germany, functional division of streets was common at that time, and it had already been well established in the British garden cities and garden suburbs. Several authors and Stein himself suggested that Parker and Unwin’s street layouts were in a sense the parent of Sunnyside Gardens and Radburn (Jackson 1985, p. 152). Wright (1935) wrote that the cul-de-sacs used in Radburn were derived both from the current English practice and from their own experiment in Sunnyside Gardens (p. 42). According to Bamberg (2011), the cul-de-sacs were loosely based on Unwin’s Hampstead Garden Suburb (p. 47).

Like Sunnyside Gardens, Radburn showed many similar features to German street layouts, particularly the ones used by Hermann Jansen. It is interesting to note that in the 1925 version of the Radburn plan, the garages were grouped together, something commonly used during the late 1920s and 1930s in Germany. But later in Radburn the garages were built adjacent to the houses. In the later housing developments, such as Chatham Village and Baldwin Hills Village (see below), they were grouped together as originally had been planned for Radburn.

There is evidence that a detailed design for Radburn was already shown to a wide audience of British and German planners during the International Town, City and Regional Planning and Garden City Congress in New York in 1925. Gurlitt (1929) wrote about Radburn that it was built like a European village with the design standards that had been common in Germany before the First World War. He continued that by German standards it was far too old-fashioned and it would not be admitted at any international or national planning competition. He was wondering why in a country as technically advanced as the United States, Radburn was seen as an expression of modern times and as an example of urban culture (p. 30).

Although Gurlitt was not impressed by Radburn’s housing design – neither was Stübben – he was certainly interested in the new street layout. In the United States it had become evident that although modern technology can create miracles, it also potentially creates many negative effects, such as the high number of accidents, especially involving children. He praised the equal treatment of all transportation modes and concluded that Radburn was an escape into old times, the period when there was still peace in the streets. He hoped that the Radburn layout would also have some influence on German settlement planning.