

**National Building Museum and the American Planning Association
L'Enfant Lecture on City Planning and Design**

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**Sir Peter Hall: “The Sustainable City: A Mythical Beast?”
Transcript of the Evening**

- Chase Rynd, Executive Director, National Building Museum
 - Paul Farmer, Executive Director and CEO, American Planning Association
 - Sir Peter Hall, inaugural speaker of the L'Enfant Lecture
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MR. CHASE RYND: Good evening. My name is Chase Rynd, and I have the honor of being the executive director here at the National Building Museum. I'm delighted that so many people have come this evening for what is a history-making event, the start of an initiative between the American Planning Association and the National Building Museum to organize and present the annual L'Enfant Lecture on City Planning and Design.

Clearly, all of us here tonight appreciate the importance of city planning, but, sadly, there're still some poor, lost souls out there who do not.

The aftermath of the tragic disaster along the Gulf Coast and in New Orleans has dramatically brought to the nation's attention the role of, as well as the critical need for, city planning. In its own special way, the L'Enfant Lecture is intended to raise the public's consciousness of city planning. Tonight and in future years the lecture will showcase some of the most innovative ideas and thinkers in the field, and it will address topics having immediate relevancy.

To inaugurate the L'Enfant Lecture there could not be a more esteemed figure in urban planning than Sir Peter Hall and a more cutting-edge topic than sustainable cities. Although our speaker will be introduced more fully in just a few moments, I do want to say, Sir Peter, how honored the Museum and the American Planning Association are that you are here with us tonight.

The Museum is also delighted and honored to have had a long-standing, collaborative relationship with the American Planning Association. The L'Enfant Lecture is a new chapter in this partnership. When we here at the Museum were created by an act of Congress exactly 25 years ago this month, urban planning was mandated to be part of our mission. Over the years, we've fulfilled this mission with many programs and a number of exhibitions on the subject. In fact, a current example is the exhibition *Civitas: Traditional Urbanism in Contemporary Practice*, which can be found right up here on the second floor, and will be open after tonight's program — as will our Museum Shop, where you just might happen to find copies of some of Sir Peter's books. And I can guarantee you that they will make thoughtful and thought-provoking Christmas gifts. So, do your shopping — your mandatory shopping.

All of the Museum's previous urban planning activities notwithstanding, I can think of no better way to carry out this particular dimension of our mission than through the L'Enfant Lecture, and I can think of no better partner in this effort than the American Planning Association. The Museum is very much the younger brother in this relationship, because the APA traces its roots back to 1909. And I'm very pleased to have Paul Farmer, the executive director and CEO of the APA, as a colleague and a collaborator on the lecture series and other projects. Before joining the APA four years ago, Paul enjoyed a distinguished career as a professional city planner in Eugene, Oregon; Minneapolis and Pittsburgh.

And now it is my pleasure to invite Paul to the podium to extend a welcome and introduce our speaker. Thank you.
(Applause)

MR. PAUL FARMER: Thanks very much, Chase, and welcome again to all of you, our friends and colleagues, here at the National Building Museum. And you're here on this occasion to help us launch

this lecture series — this annual lecture series — and we appreciate your attendance, coming through the elements to make your way here this evening.

Our activities between APA and the National Building Museum have really been increasing over the last couple of years, and we appreciate Chase's leadership. Recently, we have worked with the Building Museum on two programs dealing with post-Katrina issues, and we continue to work on that series, as well.

We also value our partnerships around the world, and one of those partnerships is with the Royal Town Planning Institute. And, for example, the Royal Town Planning Institute was one where we learned from them, they learned from us. Three years ago, they began their own annual lecture series in London, and as I often told my city councils when I was a planning director, "Don't expect us to be first with every good idea, but shame on us if we're not a close second." And so we appreciate the RTPI's leadership, and it was part of that conversation that led us to have the conversation with the Building Museum about the L'Enfant Lecture.

Now, we have, as Chase said, created this lecture to help draw attention to major planning issues that we face not only in this country, but throughout the world. We're looking forward to Sir Peter's comments this evening. Now, not only did we copy RTPI with respect to this lecture series, but three years ago when they inaugurated their series, guess who was the first lecturer. And so we're very honored to have Sir Peter here this evening, helping us inaugurate our own lecture series.

He's the director of the Institute of Community Studies and Professor of Planning at the Bartlett School of Architecture and Planning, University College, London. From 1991 to 94, he was special advisor on strategic planning to the Secretary of State for the Environment. In 1989 to 99, he was a member of the deputy prime minister's urban taskforce, which reported in 1999. And I'm simply giving a few of the very, very many accomplishments of Sir Peter over the years.

He received his master's and Ph.D. degrees from the University of Cambridge and has taught at the London School of Economics, at the University of Reading for a number of years, where he was dean of the faculty of Urban Regional Studies, and at the University of California at Berkeley for a number of years, where he's now the Professor Emeritus of City and Regional Planning.

He's the author or editor of over 35 books, including one of my personal favorites, a book called *The World Cities*. And he's also — just to give you some of the titles — written *Planning and Urban Growth: An Anglo-American Comparison*, *Silicon Landscapes*, *Cities of Tomorrow*, *London 2001*, and *The Rise of the Gunbelt*. And with that title, I first suggested to Sir Peter that, in talking about the future of big cities here this evening, he might want to talk about something like "The Future of Big Cities in the U.S.: Evolutionary or Intelligent Design," but he — (Laughter) — he declined. We might bring him back and put that lecture on in another part of the country sometime.

But in addition to all of the writing, all of the teaching, all of the governmental positions, he's obviously been honored with a number of honorary degrees from universities in the U.K., Sweden, Canada. He was knighted in 1998 for services to the Town and Country Planning Association, and in 2003 was named by Her Majesty Queen Elizabeth II as a "pioneer in the life of the nation" at a reception in Buckingham Palace. In 2003, he received the Gold Medal of the Royal Town Planning Institute, the first to be awarded in over 20 years by the Institute. And as I said, there is a series of other awards. You can read about those on the Museum's website, as well as our own.

But he's been very, very active internationally, not just in the U.S., but throughout the world; and he's been sharing some stories earlier of work he's been doing most recently in China.

So, without any further introductions, we are most, most honored to have Sir Peter Hall with us here this evening.

(Applause)

SIR PETER HALL: Paul, Chase and distinguished members of the APA here in the front row, ladies and gentlemen, I'd like to start by stating the obvious, if I may be allowed to do so. That's how profoundly honored I am to be invited to be at this very auspicious lecture tonight in this very auspicious place. I'm deeply grateful to APA for making this possible and to the Museum for hosting it in such an extraordinary, even awe-inspiring environment.

I'd like also, if you'll forgive me, to say a personal word; and that is that I have very many fond recollections of this city, of working here and working with professional partners who became close friends — not the least, my very good, old friend, unfortunately now departed from us, Marion Clawson, with whom I co-authored that book *Planning and Urban Growth: An Anglo-American Comparison*; and also with John Herbert, who's unable to be here tonight; and with two ex-students from Berkeley, that is, Tim Campbell, who is just retired — and I find it remarkable that Tim has just retired from the World Bank — and Mark Weiss, who has set up his own venture to promote comparative urban analysis, who I'm glad to see in the audience tonight.

Now, the title of the talk recalls for some of you, perhaps, the story of James Thurber, which produced a wonderful cartoon some 50 years ago. It isn't a very politically correct cartoon, but it concerns this gentleman who, having breakfast one morning, saw a unicorn in his garden. And running up a flight to tell his wife of this was told balefully by her, "The unicorn is a mythical beast." There is, as always with Thurber, a strange twist in this tale, which I haven't time to tell you tonight, but the real question is whether the notion of sustainable urbanism is a mythical beast.

Now, in order to pursue this, I think we have to start with what has become almost conventional, even commonplace, nowadays. This is the much-quoted, perhaps now over-quoted, statement from The Brundtland Report nearly 20 years ago. We all know it almost by heart. "The real question is, in any context — not least the urban context" — which we're talking about tonight — "how to make it operational." And I think we can begin to see, through general agreement from a lot of literature over the last 20 years, that there are certain ways that you can do this. You can do it both in the buildings themselves. You can do it in the relation between buildings by maximizing accessibility without using many resources, by encouraging travel on foot and bicycle and also by public transportation, and discouraging solo driving to work and for other purposes.

You can develop, and should develop, activity centers around public transport nodes, and you — out of that, you can begin to develop the concept I'll talk about a little later, the polycentric mega-city region with multiple centers linked by transit — all easy to say and, perhaps, more difficult to do, not least, perhaps you may say, in an American context. But I'd start by saying that we've done it before, and we've done it over a very long period of time — in fact over a century, starting with Ebenezer Howard's Garden City, in particular, and his concept of the social city. We did it in the U.K., in the new towns inspired by Howard. We did it in Sweden, in the remarkable General Plan of 1952. We did it a little later on in France in the Cités Nouvelles built around Paris from the middle 60s onward, and we did it in the United States, both in the Radburn layout — the original Radburn — and followed by Chatham Village in Pittsburgh and Baldwin Hills Village in L.A., and close to this very place where we're speaking, we did it in Greenbelt, Maryland.

Now, if you look at Howard's social city, this remarkable diagram which got lost from subsequent editions of the book, but we've recently managed to reproduce it in facsimile, this, in fact, is a polycentric mega-city region with multiple centers linked by what are called an inter-municipal railway and we today call a "light rail system."

And rather remarkably, 50 years later, the new towns in England did manage to realize Howard's social city in Hertfordshire. In the foreground of this air picture is Hatfield; back of it is Welwyn Garden City, our second garden city; and then lost in the middle distance are Stevenage, New Town and the first garden city of Letchworth — all strung along the A1 Motorway and the main railway line out of London.

Then came along — I love this picture of Abercrombe. By the way, there was an Abercrombe celebration in London this past summer, and his family came over, many of them now in New Zealand; and they

couldn't definitely say who these ladies are who appeared with him, I think in front of Buckingham Palace when he was knighted. But the important point about Abercrombe was that he realized, in a sense, the Howard vision by proposing eight, new towns – in effect, garden cities – around London in his Greater London plan, and rather remarkably, these were built a few years later.

The English new towns, as I'm sure you all know in this audience, were remarkable cases of relatively self-contained and socially balanced, new communities. The most spectacular of all were the ones built in the second generation, starting in the 1960s – in particular, Milton Keynes 50 miles north of London, which has become the most famous, with its gridiron plan. Not very politically correct now, because it maximizes automobile use, but it is very well liked by the people who live in it. This is the very rectilinear town center, and that's a view on the ground, looking down the main boulevard towards the train station, and here's the inside of the trucking center. And that town is being expanded now to roughly double its size, eventually reaching as many people as half a million.

Not far away, but some way to the north and to the east, Peterborough was a town of the same generation which was built around an existing, medieval town. Still very compact, if you look at it from the air, in this air view, but built around a Norman cathedral and an ancient town into which was integrated very successfully a new shopping center.

So, we did it right. Although we never knew the word “sustainable” 50 years ago, we were planning sustainable communities in those new towns after World War II in England.

In Sweden at the same time, they developed around Stockholm a different concept of satellite towns linked by transit – in effect, a metro system. And from Vällingby the very first of 1955, through to Skärholmen in the late 60s, the standard recipe for building these was, in fact, the metro station indicated by that “T” – letter “T” – surrounded by higher-density apartments, with a pyramid of density cascading away towards the edge.

And the same principle – that's, again, Skärholmen. It's been transformed over the years, interestingly, by Turkish immigrants, who brought a kind of lively market center into what was a dead space.

And this is one of the latest of them, Mörby, which was developed from around the early 70s, where the train station is inside a shopping center, but linked outside to feeder bus routes, so that you get a very strong concentration of high-quality public transportation.

And that was then followed along the similar lines, but on a much larger scale by the five cités nouvelles, the five, new towns built around Paris after 1965 and linked by the RER, the Réseau Express Régional, the new transit system which, in fact, links every one of these five, new towns through the center. What they still haven't done is develop an orbital transportation system to link the towns themselves, but I'll come back to that in a moment.

And here is the center of one of those new towns, [inaudible], southeast of Paris, with very much the Swedish principle of higher-density buildings around well-planned public open space and close to the RER station.

But we must remember that long before all this happened, you in the United States had taken a remarkable lead at the end of the 19th century through the efforts of the Regional Planning Association of America, led by such great, heroic figures as Lewis Mumford and Clarence Stein and Henry Wright, in planning the new town of Radburn in New Jersey, with its remarkable concept of segregated pedestrian and bikeways, especially for children to reach schools and play spaces without ever crossing a vehicle street. And that provided a model not only for Chatham Village and Baldwin Hills, but also for many, many developments in Europe, where it became the norm after World War II. And just a picture of one of the pedestrian routes in Radburn. The access to the back of the house is always at the front, because, as Clarence Stein said, what they did in Radburn was to turn the back of the house to the front, the front of the house to the back, to make the pedestrian access the predominant one.

And then an equally remarkable scheme which you all know only too well, Greenbelt, the most successful of the relatively few greenbelt towns that was built under FDR's New Deal, and very much the same principle of total segregation of vehicles and pedestrians, with extremely good public spaces for pedestrians and bikes running through these vast, landscaped spaces and connected directly to a complex of schools and playing fields in the center of the complex.

Remarkably high quality of planning never, in my view, exceeded anywhere. We often forget our history, I think, in remembering that we did all these good things long ago, and are often forgotten how good they were [sic]. We need to go back and learn from what was best about them.

But let's go forward now to this year and ask, what is happening in terms of best practice in various parts of the world? I'd like first to talk about some extremely good examples out of Europe followed by a look at Latin America in terms of what you can do with buses, and then returning through to the U.S.A. and Europe in terms of looking at the new urbanism and urban renaissance, and then looking at a rather remarkable thing we're doing east of London in the Thames Gateway.

First of all, what's happening in the best examples in the Netherlands, in Germany and Switzerland? Compact, public transport-oriented cities with bicycling and walking, too; very large-scale pedestrianization of central business districts; traffic calming in the residential districts outside the CBDs; very high-quality public transportation; and very careful attention to integration of different public transportation modes, especially between heavy rail and commuter rail and light rail; restraining traffic by congestion charging.

Here are some examples of pedestrianization in Europe. Bamberg, a medium-size town in Bavaria in south Germany, Munich – this is the main shopping street in Munich, [which] was the first really large-scale pedestrianization in the world at the time of the Olympics 35 years ago, and it was rapidly emulated by all other German and then all other European cities.

Here's a very fine example, Salzburg, in Germany, and Manchester, the rebuilding after the IRA attack in 1996, which they always said rather ironically that, since that led to no loss of life and no injuries – it occurred in the middle of the night – was the best thing that ever happened to Manchester because, in fact, it destroyed an extremely ugly center and allowed the city very rapidly to create a very gracious, pedestrianized city in its place.

But outside that, in district after district in Europe, you now see this familiar sign that's become very familiar, indeed. It was less familiar when I took this picture about ten years ago, because it was only just emerging. It's the concept of traffic calming. And in this remarkable example from a small, German town on the right, you would think that this is a pedestrian zone. It's a traffic calm zone, because there is something resembling a street passing through it, but it's a street at which you have to drive at walking pace and with great care, because the pedestrians and the kids, in particular, are sharing the street space with you. There's this concept of shared space and essentially putting the car very much into second place, behind the pedestrians and the playing kids – which makes this such a remarkable concept, which has been applied very, very widely.

But this essentially goes, and has to go, with cities based on strong public transportation. These are just a couple of pictures I took in Amsterdam, a city which has, perhaps, near the summit of really effective, integrated public transportation, with virtually every mode integrated at key points.

But there are many other examples almost as good, and in recent years, the French cities, which started somewhat behind their Dutch and German and Swiss counterparts, have taken some kind of lead – particularly in developing very strong tramway systems. Here's a beautiful example from the city of Grenoble in the French Alps where, as you drive into the city, as we did that day, you're encouraged to park in these park-and-ride garages, and as you enter, the ticket for your parking is also a ticket for the tramcar, which is next door in the same structure. You simply walk out of the garage onto the tram, and within five minutes you are in the pedestrianized city center. This is one of the finest examples I've seen in Europe.

Another feature which goes along with the concept of traffic calming is the notion that many different kinds of traffic can live in a civilized fashion together, even on very busy streets. This is the city of Freiburg in southern Germany, in the Black Forest, which has been quoted again and again in the literature as one of the most sustainable European cities. It's one of the very few cities in the world that's registered an actual fall in automobile use over the last 25 years and an equivalent rise in public transportation, which has extended not merely across the city, but in the surrounding rural area. Here's what happened on Christmas Eve, when I took this picture, with the main street crowded with Christmas shoppers just threading a way between the streetcars, perfectly safe – no accidents – because everything is proceeding at walking pace.

Here's another example from Karlsruhe not far away in southern Germany. The same pattern, with pedestrians and tramcars happily sharing the same space, and even bicycles. And Karlsruhe is now celebrated in Europe as being the first city where they managed to get the railway inspector – the safety inspectors – to agree that streetcars could be run out onto the mainline commuter tracks, so that, in fact, these trams now are an intercity service running up to 30 or 40 kilometers out of Karlsruhe to surrounding, smaller towns. And that model has been followed now in a number of German cities and, now, in one place in England.

Perhaps, though, the most remarkable place of integrated transit I've seen anywhere, certainly competing for the prize with these other cities I've quoted, is Zurich, in Switzerland – the banking capital of Switzerland – where you have an integrated commuter rail system which extends far out into the surrounding satellite towns, as well as, of course, a main-line, intercity system converging on the main train station that they're interchanging with a light rail system – a streetcar, rather, system – which, all said, integrates at the main train station. And if you go down the main street of Zurich, the Bahnhofstrasse, the railway street, which is where all the big banks are, you'll find all the extremely well-paid bankers alighting from the streetcars to go into their banks, because if they are [inaudible] enough to try to drive their Mercedes to get to their bank, then they'll be held up by the traffic lights that give priority to the public transportation. So, aided by, also, an excellent ticket – integrated ticketing system, virtually everybody in Zurich uses the public transportation to get to work and for many other purposes, besides.

Coming out of this, more recently has been the concept of actually restraining traffic through charging, and there is here a rather interesting story. The first city in the world to do this, as many here will know, was Singapore in 1975. But as two of their transportation planners explained to me in an unguarded moment at a party in Malaysia many years ago, they'd actually borrowed the whole scheme from up in London, when we considered implementing it in 1973, but our politicians got cold feet and dropped it. So, as they explained, they simply wrote to the Greater London Council and asked for all the documentation and got it in a parcel and implemented it.

But they went, 25 years later, one step forward by introducing electronic road pricing, and essentially this is a development of the original scheme whereby you pay for your use of the street space in the city center by a smart card, which is inserted into a transponder on your dash, and you charge the card at a number of places, like Seven-Eleven stores, or bank ATM machines. And a very interesting development with these cards worldwide is how they can be increasingly used for other kinds of purchase[s], and that's a growing movement now in many cities in the world, and so you are getting an integrated system.

Now, the second set of places to do anything about this were the Norwegian cities in the early 1990s, particularly, but not exclusively, Oslo, which simply introduced toll gates – a very simple scheme – around the approaches to the city center. And this has worked very well, but was not initially conceived there as a system of traffic restraint.

But the most notable example, of course, is London, where our mayor, Ken Livingstone, finally decided to do what his predecessors had failed to do some 30 years earlier, and introduced the congestion charging scheme some four years ago, and it's now being increased in its charge rate and also being extended over a much wider central area. And there is a great deal of talk in England about extending this to other

cities. Edinburgh rejected it in a referendum about a year ago, but there is also a great deal of talk about a national road charging scheme which would apply universally along major highways between cities, as well as within cities, and which would be controlled by satellite technology – although that’s some time in the future.

However, the London scheme has had remarkable effects, cutting traffic in the downtown of London by 17 percent and congestion by no less than 24 percent, and this is visible to any visitor to London. There is now, in effect, a very quiet atmosphere in central London. There is very little congestion – virtually none – and the traffic is flowing both smoothly and quietly, with great benefit to even drivers, as well as especially the pedestrians.

However, that’s enough of Europe for a moment. I’d like to mention the remarkable development in Latin America which has occurred over the past 30 years in the form of bus transportation. Particularly in Brazil 30 years ago, a country which was then relatively poor, they could not afford to build elaborate metro systems; and, certainly, even their largest cities, such as Sao Paulo, are relatively underinvested in metro. But in particular in Curitiba, in southern Brazil, the money was lacking, and so they made a virtue of necessity by creating what they called a “bus-metro system.” It’s been widely hailed throughout the world and is now imitated in other cities, most notably in Bogotá, in Colombia, which has introduced a much bigger variant, and Brazilian engineers are taking the lead in spreading this technology in Latin America.

The key to it is to integrate bus service and land use. The first key was to develop highly innovative bus systems with high capacity, aided by very smart boarding and de-boarding devices – typically, this bus shelter, which was developed by engineers in Curitiba, which actually minimizes the amount of time a bus has to stop at any bus stop.

The second key was to develop three, different types of bus: an express bus, which are the red buses; the orbital buses, which are green; and the local buses, which are yellow; and then to integrate the three networks at key exchange points, so that you can go from one to the other. The buses – especially the red express buses – have very high capacities, up to 217 passengers, which approach[es] the capacity of light rail. They exchange at high-speed transfer stations like this, with the green orbital buses and the yellow, local buses.

And, finally, an essential feature of the system: land use planning has produced high-density corridors along the express bus route corridors, which occupy reserved tracts in the middle of the boulevard, as you can see in this remarkable air picture. And this works about as effectively, in terms of integrated land use and transportation planning, as a city like Singapore produces with a metro system. Here are some of the capacities of the Curitiba system. In fact, they manage, on their densest routes, as I’ve already mentioned, to carry virtually as many people as on light rail systems, but at a fraction of the cost. This diagram shows you particularly how they get a very high capacity in their system at a relatively very low cost, and this, in fact, is comparing Bogotá system, which is letter “E”, with certain light rail and heavy rail systems elsewhere. So, the capacity is very high here at 45,000 potential passengers per hour in each direction, but at a fraction of the cost of rail-based systems. And this is what it makes it attractive for cities that cannot afford the more elaborate systems.

Now, you may want to discuss the relevance of this to American cities, but busways are not a Latin American monopoly. Adelaide, in South Australia, some 15 years ago, introduced a remarkable guided bus system developed by Mercedes, and this technology has been widely copied in other cities now, including some English cities. And its remarkable feature is that the buses will run at 60 miles an hour, express, along guideways; but when they reach transfer stations, they exit onto ordinary streets and zigzag through the neighborhoods, and they claim that on this corridor of the city of Adelaide no front door is more than 500 meters, or 500 yards, from a bus stop. And I have traveled on one of these buses at the peak hour, and have seen the passengers dropping successively off these after their express ride at their local stops, and it’s a remarkably user-friendly system.

Some of you may know the unguided busway system, which is very extensive in the Canadian federal

capital of Ottawa. That's another really remarkable case of a very high-intensity system which serves a number of suburban corridors in that city.

And another Canadian city, Edmonton, in Alberta, has actually emulated the Curitiba exchange system by hubbing its buses at key hubs, so that they all arrive and leave together within a five-minute interval, and this gives a remarkably high level of service. This picture was taken – these pictures were taken at the huge West Edmonton Mall, which is the sort of place you expect to be completely car-dependent, but, in fact, has a very high-quality public transportation to all parts of the city.

So, it is possible to do bus cities, if you want to do them, and it can deliver very good service with high volumes, at very low cost.

Can that service be replicated everywhere? And, in particular, can it serve low-density, peripheral areas of metropolitan areas? Or, will the transportation problem become more car-dependent and more congested? I would like to argue that it won't, because our cities are becoming more polycentric and are developed into, in effect, mega-city regions on the original Ebenezer Howard prescription.

But before I return to that element, I would like to look at some examples of the new urbanism. Here, we find, as everyone in this room must know, a return to traditional built forms, with sidewalks, higher densities – but how dense is a question – and [inaudible] a greater potential for being served by high-quality public transportation.

I'd like to look at some of these examples, both from here in the U.S. and from what's happening in Europe, especially the U.K. as a result of the Urban Taskforce on which I was a member, and which reported six years ago, in 1999. One of the really important questions here, especially for an American audience, is, what kinds of density these new, residential areas can, or should be, developed as?

Now, here are a couple of well-known examples, one of which will be very well-known in this audience because it's Kentlands, in Maryland very near here, from Andrés Duany and Elizabeth Plater-Zyberk; and the West Coast example, the Crossings at Mountainview from Peter Calthorpe. Both remarkably high-quality developments, but with an interesting difference. Kentlands is still, as you will know, served by the Washington, D.C. metro; whereas, the Crossings is actually served by the Valley Transit, the light rail system of Silicon Valley, which gives it a plus. And I would be tempted to argue that unless a New Urban scheme has affected public transportation, then it shouldn't really be counted as a fully fledged new urban scheme.

The most ambitious of these schemes is a glorious failure, at least in the view of its author, Peter Calthorpe, versus scheme Laguna West, south of Sacramento, which he started and failed to finish as he planned it. But even this raises doubts, because although it was planned to be on an extension of the Sacramento light rail, it's not so served and, in fact, has simply two commute buses each day. By five, it's downtown Sacramento in two commute buses on the way back, and if you miss those buses, then you're in for a long and expensive taxi ride, it should be said. And, in fact, Laguna West is about as completely power-dependent as any track suburb you could find. So, it does raise the issue, again, of what is proper New Urbanism.

Many of you will know our own homegrown example, Leon Krier's Poundbury outside the county town of Dorchester in southern England. But here again, I'd have to say that this is not fully integrated with public transportation. It's in an awkward position on the edge of a small town. It is possible to walk into the center of town in about 15 minutes, but very few people do, and it's perhaps – although it's an interesting example in terms of the quality of the design, it still raises the question of how such development should be integrated into the urban fabric more generally.

Now, the Taskforce report six years ago set out principles which were hardly revolutionary, because you can find them in every textbook of planning even 50 years ago. That is, develop a strong, radial public transportation line coming out of the city center. Hub it at key points on the principle of Curitiba, or Edmonton, or, indeed, those Stockholm satellites we saw earlier, with local transportation, and link to

neighborhoods which you develop on pyramids of density, denser towards the most accessible, central areas. Again, nothing revolutionary about this, because it was exactly what they were doing in Sweden 40 or 50 years ago.

Nor is this diagram very revolutionary, because it suggests that in the center of these neighborhoods at the point of the transportation interface, you should encourage mixed use, with retail highly accessible to the transportation interchange and other kinds of services, as well as high-density residential. Nothing remarkable about that. We knew how to do it 50 years ago. We were doing it in some places then, but it's useful to remind people who may have forgotten or not read the history book how to do it.

What has happened, partly as a result of the taskforce report, but it was happening before, is a remarkable urban renaissance in the centers of our British cities. This is Birmingham, where the canals have been opened up on the edge of the city center, with a mixed-use scheme involving a convention center, shopping, offices and residential. On the other side of the city center, the new department store for Selfridges and this remarkable design by Future Systems, and the development nearby to the Selfridges store, which is here, of a new cultural center. This is the kind of thing that's happening not just in Birmingham, but in other British cities.

In Manchester, where they have a problem of housing abandonment, on the east side of the city, they are developing this remarkable, new neighborhood of New Islington, which is just starting building now a medium-density system. And nearby, the sports city center, which is an example of urban regeneration based on a sporting complex – probably the first time this has been tried in a British city. Now, these are just examples chosen almost at random.

Another is the Crown Street area of the Go-[inaudible] in Glasgow. This is a second rebuild, where the high-rise we built in the 60s proved to be massively unsatisfactory and unpopular with tenants. These are coming down and being replaced by a return to the old Glasgow tenement form which, ironically, is what was torn down 40 years ago.

But schemes like these show how British cities are being successfully repopulated, and I know that you have equivalents occurring all over American cities in the 60s, like Cabrini Green in Chicago.

But some of the finest examples of urban renaissance are to be found in the Netherlands, which we looked at very closely when we were producing the Urban Taskforce report. This is an island, formerly of warehouses, in the middle of the Amsterdam Harbor, quite close to the central train station, which has been replaced by these apartments designed according to a three-dimensional master plan that allows the individual developers of the apartments to develop varied designs, giving an interesting waterscape and an interesting internal streetscape. The center of this long, thin island is divided by this long, pedestrian and bike street, with little pockets, squares and parks off it which give open spaces for the kids to play, so you have an interesting backside, as well as a very interesting front side, to the apartment complexes on either side. There are many examples of such fine schemes in Amsterdam, in the Hague, in Rotterdam and elsewhere.

But this raises the question of what densities we should be seeking to achieve in these schemes if we're to make them fully accessible to public transportation. The taskforce report included this illustration from Notting Hill in London, from the northern estate, which is one of the finest examples of that late flowering of the Georgian and early Victorian tradition[s] with high-density terraces around semi-public open space – in effect, internal squares and [inaudible] a remarkable kind of urban design.

But if you go to the original Ebenezer Howard [inaudible] the city of Letchworth – and this is an air photo of the 1930s, with the big, central, open-space complex here – that was developed by Raymond Unwin and Barry Parker, the architects, with a uniform density of 12 houses to the acre, and works pretty well in terms of public transport access. But we contrasted Notting Hill in the taskforce report with what is only too typical of latter-day English, suburban development – this cluster of very tightly detached houses around the cul-de-sac, which gives [sic] them onto a distributor road which gets gridlocked at the morning and evening peak hours, and with effectively no possibility of being served by effective public

transportation at all.

The taskforce report called for a more permeable streetscape system. And I wouldn't argue with that, except to say that people do like living in cul-de-sacs. That is the evidence from numerous surveys, including the most recent commissioned for Architecture and the Built Environment in England. And I think we have to find a way of combining that preference with the need for a street system that is more friendly to public transportation.

This really very interesting diagram – and I've blown it up as big as I can get it, but it probably isn't big enough for many of you – is from a book by [inaudible] and David Rudland, who, together run The Urban Consultancy in England. They compare densities ranging from the very low kinds of densities we've been achieving recently in England, and these are, I'm afraid, in hectares, because we've gone metric; but basically, we're talking about densities of only about eight dwellings to the hectare, or some 20 persons to the hectare. The left-hand column is dwellings per hectare, and the right-hand column is persons. And you go all the way through, but in the middle it's interesting to know that Raymond Unwin [inaudible] density of 1912, which was the density at which he built Letchworth, was 30 dwellings to the hectare. And Howard's Garden – the city was higher than that, 45. So, these garden city planners were not planning low density; they were planning medium density. You can get satisfactory suburban environments down here in this range, at higher density, still. And, of course, London manages, as in Notting Hill to get single-family homes with even small gardens at densities of well over 100 to the hectare. So, there are all kinds of possibilities of density ranges, while providing for people's preferences in Anglo-Saxon countries for having their own house with their own, private garden space.

Now, to go on from this argument – I want to extend outwards now, in concluding, by looking at how you can bring all this together at the strategic level in terms of plans for metropolitan areas and, in particular, looking at some of the more recent developments of what I'll call “planned egg cities” and sustainable transportation corridors culminating in our U.K. plan for sustainable communities, which was brought out by our Office of the Deputy Prime Minister about two years.

And I think some remarkable things are happening principally, but not exclusively, in Europe. First of all, in Scandinavia, which has always been a pioneer, both Stockholm and Copenhagen have recently developed the concept of regional metros which go much farther out than from the city downtown, like previous metro systems. The original Stockholm [inaudible]-varna like the examples in other cities, including D.C., generally only go, at maximum, around 15 miles out. This new system is, in effect, a commuter rail system which goes 60 or even 80 miles out in a ring about the big Lake Malaren west of Stockholm, as well as serving the airport 35 miles out.

Even more remarkable is the Copenhagen system, which uses the new bridge crossing the Øresund to cross into Sweden, thus creating the world's first international metro system. It goes out through Malmö to serve the Swedish university city of Lund. In other words, you're having an integrated transit system over a very wide metropolitan area, across two countries.

In Paris, an equally interesting development is taking place, albeit somewhat slowly. Some ten years ago, they propounded the idea of supplementing the metro and the RER by a new orbital system which would not be a single, integrated system, but a series of loops including light rail and busway, running along a number of alternative routes to give access between suburbs. In effect, as you'll see in a minute, this is being used to create new linkages around the western and the north and the southern sides of Paris.

But what has also been happening simultaneously in Paris is, in effect, the creation of a new central business district – or, rather, a bodily shifting of the central business district westwards into a totally new locus. This is a direct result of the construction of the RER 30 years ago. This is a picture taken from the Eiffel Tower and looking directly westwards along the main axis of Paris to the new business district of La Défense, which is actually outside the city limits. It's on the other side of the Bois de Boulogne, and it's in the separate department of [inaudible] and, in effect, over the last 30 years, culminated in the creation of this new grand arch in 1989, for the bicentennial of the French Revolution. They have created the major business district of Paris, actually – a central business district outside the city.

But this isn't the end of it, because if you actually then follow the light rail route, which they've built, from La Défense southwards along the Seine, you pass this remarkable sight, the old Renault automobile factory, one of the biggest factories in the world, now completely derelict, which is going to be redeveloped.

And when you get to the end of the light rail line – here it is – you reach a place called [inaudible], which you've probably never heard of, and that hardly anyone's ever heard of. But it gets very interesting, because up here is another line of the RER, the line C, with its double-deck trains. And behind it, when I took this picture a couple of years ago, they were building the new headquarters for the Compaq Computer Corporation, since swallowed up in Hewlett Packard, and behind that is another whole business district which has been created in this southwest suburb of Paris – again, outside the city limits.

So, Paris has become polycentric in a new way, with a multiple, new business center right outside the city and linked by the radial RER lines and by the tramway system, the light rail, which connects them. So, that is one example of a remarkable change in metropolitan geography.

But equally remarkable on a small scale is what's happened in Amsterdam. Beginning about 30 years ago, they developed an exhibition and convention center at what were then the southern city limits, and around this grew some offices. Then some 20 years ago, they planned a new bypass expressway to the south of the city, and being the good transportation planners they are, they planned also a bypass rail line, which would be carried in the median of the expressway, rather as your D.C. metro is carried in the median of Highway 66 out through the Virginia suburbs – except that this carries intercity trains, even high-speed trains, as well as suburban trains, serving a new train station called Amsterdam South.

Very quickly after this, the pace of office construction grew, and you now have a vast transportation interchange, with high-speed trains and city trains, suburban trains, the Amsterdam metro, light rail all converging at this point. One of the Amsterdam universities, [inaudible] University, is [inaudible] to take its campus next door, so it is, again, now the business center of Amsterdam. The business center's migrated completely away from the traditional center city, which has been left – perhaps, rightly – as a tourist show. And, in fact, one of the principal drivers for this move – both in Paris and in Amsterdam – has been the desire, the need to conserve the historic fabric of the city, which you saw so clearly in that view from the Eiffel Tower in Paris, by not allowing the kind of large-scale high-rise building that is characteristic of CBDs; but, in effect, moving this building bodily to the suburbs.

The Dutch planners have pragmatically said, “Okay, this is the way we're going to go.” The new business center of Amsterdam is what they call the south axis, or “zuidas,” running from one of the suburban stations in either direction, through the Amsterdam South station and out to the Schiphol Airport, which is a third train station three miles down the line. It's a remarkably efficient and integrated business center, because it's served both by air traffic and integrated, now, with the new high-speed trains that are coming in, in a couple of years' time. So, these are remarkable examples of what's happening in Europe.

But perhaps even more remarkable is what's been happening in London. Now, many of you are aware, because many of you have visited London over the years, of how we redeveloped the London docklands starting in the early 1980s and culminating in the development of Canary Wharf. But this has now grown since 1991 into the much larger-scale idea of creating a new access to London eastwards, down the lower Thames as an extension of the docklands, as a counterweight to the growth of London towards the west, past the Heathrow Airport, which has really been the pattern of growth of the past 50 years.

And the key to this, again, is the high-speed train, the Channel Tunnel rail link shown very prominently on this map, now half open as far as this point, and to be fully opened in exactly two years' time into this [inaudible] terminus in the autumn of 2007.

Now, the key to this strategy from the beginning as it was worked out in the '90s was to create two, new train stations, one at Stratford in East London, and the other at Edgelyth just over the county border from

London in the county of Kent, as new business centers, and use these to create large-scale growth around these centers. This, in effect, is what is being done.

Not far from the Stratford station and also not far from Canary Wharf, as you can see in the background, you have this remarkable Greenwich Millennium Village designed by the late Swedish architect Ralph Erskine, based very much on water [unintelligible] out on the Thames in one direction and on an ecological park in the other, and served also a Curitiba-style busway which links directly within five minutes to the North Greenwich underground station. In effect, this is just the first development on this site to what will be a high-density, urban-style development on the Greenwich peninsula.

Before going to the rest of the Thames Gateway, I'd like to mention that we have a remarkable convergence coming from the U.K. ten years and from the U.S.A. the same year, 1993, in these two diagrams. The left-hand one is from two English planners. Alas, they're no longer with us, Michael Breheny and Ralph Rookwood, and the right-hand, which will be familiar to many of you as Peter Calthorpe's plan for transit-oriented developments, TODs. And as far as I know – and I knew both Michael and Ralph very well, and I know Peter reasonably – neither was conniving with the others. They developed these remarkably similar ideas completely independently.

But, indeed, they do correspond to earlier notions, in particular to the Swedish concept of the satellite towns of 50 years ago. The principle is a very old one in planning, of beads on a string. It's beads on a string that we are trying to develop in the Thames Gateway.

But to understand this, you have to appreciate this map, which is from a recent research study we've completed and will publish next spring called The Polycentric Metropolis. We've looked at eight regions in Europe of which this one, Southeast England, is the biggest. And we find in Southeast England that now, essentially, you have a structure, going up to 100 miles from London, of some 50 separate functional urban regions – call them, in American parlance, MSAs, metropolitan statistical areas – which are commute zones around medium-sized cities and towns, and all, of course, focused on London.

But what is remarkable is that west of London, these are densely interlinked by commute flows in all directions; whereas, east of London, this pattern disappears, and you have far more a pattern of strong radial flows – partly, of course, because the Thames estuary is a massive barrier. And, consequently, in the Thames Gateway plan, the idea is to try to promote that corridor as a corridor; but, in fact, the principle is taken further in the Sustainable Communities Plan, which our deputy prime minister, John Prescott, unveiled two years ago. In effect, the Sustainable Communities Plan calls for three corridors to be developed along main transportation lines, each of them a high-speed line, two of them north of London and one, Thames Gateway, to the east of London, as well as an isolated outlier, Ashford, along the Channel Tunnel rail link.

And this shows the three corridors, again, as you see, and relates them to the London greenbelt and other features.

And this shows how this particular corridor, Milton Keynes-South Midland, will be developed in detail; and it is the Breheny-Rookwood and Calthorpe prescription of beads on a string. Milton Keynes will be expanded. North Hampton, another new town, will be expanded. These three cities here will be expanded. So will Bedford – but all of them along the transportation corridors, and the Thames Gateway will follow the same principle.

At the first train station, Stratford – this was a huge, derelict area only five years ago and only three miles from the office towers of the city of London to the west. This is what it's planned to look like in less, now, than ten years, about the time of the Olympics – an enormous office city rather like La Défense, in fact – again, a secondary CBD astride the Channel Tunnel high-speed train station, and with high-density apartments facing out on parkland over here.

And the final element, although this came later, is our success in the competition for the 2012 Olympics, so that the Olympic stadium will be approximately here, right next to the train station, and all the

principal Olympic facilities will be in this area, including this becoming the Olympic village. So, we've managed to produce a rather remarkable integration of urban regeneration and sport here.

By such schemes as these, London is increasing its population very rapidly after decades of decline. It's gained half a million people since the 1980s, and it's expected to gain a million people in all in the next 15 years – a remarkable example of renaissance.

But a little farther out, down across the Kent boundary, this is the scene that you would still see today, except they've completed a very large shopping mall here; and coming in here is the of the new high-speed railway, and this is what is supposed to be there in little more than ten years' time, with major business development around the train station and a huge, new residential area, with a Curitiba-style busway running through the middle of it to create sustainable clusters of medium- to high-density, new, suburban development linked through to the mall here.

Now, this again shows how, in this concept, you're getting various ideas linked together. You're getting the notion of a polycentric city, particularly linked to a long, strong, public transport corridor, including the latest technology of the high-speed rail, plus busway transit, plus bringing the densities up to ensure that everyone has access to high-quality bus transportation feeding directly into the high-speed train. So, I should explain that these high-speed trains will not be merely the international trains to and from Paris and Brussels, but also the domestic commute train that will take you into central London from here in 15 minutes. So, it's being done.

So, the final question, before I finish tonight, is, could it happen here? Is America different? Are these ideas completely inapplicable to the United States?

Well, "Yes," you could say. "We have lower-density growth." But you don't have lower-density growth everywhere. Los Angeles, rather remarkably, as a number of urban observers have pointed out, is not a low-density city. It's higher-density overall as a metropolitan area than New York. Is America exceptional? Yes. Great loss of population and also, now, jobs to suburban areas, to edge cities and what are now being called "edgeless cities."

But the fact is, again, that the population and also employment is now growing again in most cities, and you are having many examples of urban renaissance in your cities. Robert Fishman, who's a very acute observer of the American scene over the years, has written a remarkable, new paper in the latest edition of JAPA – go out and read it, if you haven't managed to catch up with it yet – called "The Fifth Migration." He takes the title from a famous paper of Lewis Mumford of the 1920s, "The Fourth Migration," where Mumford argued that the people were going out into the countryside, aided by the automobile. Now, Fishman is saying they're coming back into the cities because they're welcoming an urban lifestyle again. Many people, including people you know, are saying, "We're rejecting the suburbs. We want a more urban lifestyle." It's happening here. It's happening in European cities – as I've shown you, in Birmingham and Manchester and Glasgow. It's happening in Australian cities.

Some examples: these are some data from a Bureau of the Census study in 1998, showing you what's happened in the metropolitan areas in the 1990s, and what is remarkable [is] that, although here in the East the central city growth of population is relatively modest, it is occurring. Whereas, in the West, it's actually very strong, indeed. There, the cities are growing, although they are often, you might say, suburban-type cities. And this shows how much of the strongest suburban growth is occurring in medium-size cities – not so much, it must be said, in the very largest cities. And this shows you, by the way, that the strongest-growing central cities are almost all in the West, including some cities that are showing absolutely amazing growth, like Las Vegas, over the last decade.

But even more remarkable is the latest evidence, again from the latest issue of JAPA – go and read it – that many metropolitan areas are now showing remarkable growth in jobs in the central city. It's true that there are 15 examples where the city lost jobs and the suburbs gained jobs. There is even one sad case where the city and the suburbs both lost jobs. But the remarkable is that in 58 cases, although the suburbs gained the jobs faster, the cities gained jobs; and in 26 cases, even more remarkably, the cities gained jobs faster than the suburbs. And, again, these are, interestingly, found – many of them – in the West, but are

really quite well distributed from coast to coast. So, something is happening here which is actually worthy of note.

So, let me, finally – I’ve, I think, trespassed on your patience for too long – conclude we have done sustainable cities. We’ve done them 100 years ago. We’ve done them 50 years ago. We’ve done them 30 years, and we’ve been doing them in the last decade. It can be done. It needs some money, including government money – for infrastructure, in particular. It needs power, in some cases, to carry them through, and there’re interesting examples that I haven’t time to talk about there. It needs, above all, imagination and determination.

A very big question, which we’re wrestling with in England right now, is how to combine public and private money most successfully to get urban renaissance done, and also to get the big urban expansions done along those sustainable communities’ corridors. We haven’t quite got the answer yet, but the government is working on it. It’s possible here – it looks as if it’s most possible in the fast-growing western cities, but as the last table showed, it is possible in other places, too.

What we need to do, above all, is learn from best practice, to learn from each other. And so as you’d expect me to say – because, after all, I’m an academic by trade – we need more research. We need, though, practical research which compares cities worldwide; looks at best practice; looks at how they carry out that best practice, what kinds of powers they use, what kinds of money they use; and, above all, asks the critical question: “How far can you transfer successful best practice from one city, from one country, from one continent to another?” How, in other words, do you map success and learn from other successes – as well as occasionally, it must be said, from each other’s failures?

I hope we’ll be able to continue in that mission in many fruitful discussions in the future, particularly through my own Royal Town Planning Institute and your own American Planning Association. And I conclude by thanking you most wholeheartedly for this remarkable opportunity you’ve given me to talk to you tonight. Thank you very much.
(Applause)

MR. RYND: Thank you, Sir Peter. Thank you.

We have time for a few questions. I would ask you to please use either one of the microphones, so that the rest of the audience can hear your questions. Thank you.

QUESTION 1: I have a question about social perceptions about public transportation. How do American social perceptions of public transportation impact the way that we think about both density in cities and using public transportation to affect or change density in a positive way?

SIR PETER: Thank you. I think this is a very interesting question, and I’m glad you asked it because I would have liked to have spent a few minutes on this in the lecture, but didn’t have the time.

It’s true that public transportation has a very negative image for many Americans – and I would have to say many British people also, because we are also now a nation of drivers outside our big cities; and, in particular, there has been a prejudice against bus transportation, which may suggest that it’s going to be difficult to adopt these Latin American examples in our cities.

I think the answer comes in two parts. First of all, it usually depends on the quality of the transportation, and what we’ve seen in Europe in particular is very high-quality systems, going in – mainly metro and light rail, but also in London very recently, buses. We’ve had a remarkable upsurge in bus use as new, high-quality buses have come in over the last three or four years.

And I think we may also in the future be looking to technological advances in public transportation to create new kinds of personal rapid transit. We had a big breakthrough announced only a week ago that a British system called, literally, PRT, Personal Rapid Transit, is going to be adapted for Heathrow Airport progressively over the next ten years. And when you drive your car into Heathrow to one of the parking lots, you will get your own personal vehicle and program it to go to your terminal, or vice versa. And if this is as successful as I think it will be, this could be a big breakthrough in developing new kinds of

totally personalized rapid transit, which could transform our cities in ways that we can't yet see.

But it is dependent on density, and it is, therefore, dependent on getting a higher-density – not very high-density, but higher-density – kinds of residential areas which still offer the kind of experience and lifestyle that Americans and also British people expect – that is, based on single-family homes with private space.

QUESTION 2: Thank you. I wonder if you would define for us a “sustainable city.” How are you – how do you really use that term? I find I'm a little bit confused.

SIR PETER: A sustainable city can be defined in many, many different ways; and I was only able, really, to touch on some of the features in this presentation.

I define it as a city – or, better, even, a metropolitan area – that does not rob the earth of fixed, nonrenewable resources, or, if it does, it does so at only a minimal and a decreasing rate. And to this end, it must comprise buildings – in particular, residential buildings – that are highly energy-efficient and low-energy-use. And it must have a transportation system that minimizes the need for automobile traffic and maximizes access to jobs, schools, shops, social facilities and leisure facilities without the need for long automobile journeys.

And that is why I've stressed throughout this presentation the combination of land use and transportation policies that will help secure this.

MR. RYND: Sir Peter has offered to sign some books right now, before we have the dinner. So, please go to the shop. Go to see the *Civitas* exhibition upstairs. And, again, I want to thank you very much for a very compelling lecture.
(Applause)

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