
Land Use Challenges of Urban Transport Retrofit.

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Abstract

Land use planning plays an integral part in public transportation. Many cities are currently implementing new transportation infrastructure. Local and national governments all over the world are turning to mass transport as a means of diminishing climate change, pollution, and as a way to activate economic intensity. However, this is provided with little or no land use adaptation. Planning focuses on transport routes rather than a modification of building or street blocks to allow for easier access to new transport connections. In many places, new public transport must exist within the burden of an urban form often largely designed or adapted for the private automobile. In order for new transport to be successful, land use redesign and transport must be integrated. There is a gap in contemporary literature on the relation of land use and urban form in mass transport. This paper looks at classic literature and international case studies of intervention in land use for examples of how to change the geometry of cities. Research from contemporary sources, news, and informational interviews are aggregated to suggest possible guidance for the question of how we can make major spatial change in our cities, and importantly how we can change the geometry of our cities back, from an urban form for driving cars to an urban form for walking.

Introduction

It has become clear that transport plays a major role in resource consumption, greenhouse gas emissions, local pollution, urban regeneration, and social life. Mass transport lines are expanding all over the world and in places like Los Angeles, are being generated from scratch in order to meet environmental protection emissions targets. Current trends in urban development prioritize strategic planning over master plans (Beauregard and Marpillero-Colomina, A., 2011). Planning has become subordinate to economic development and therefore Mega-projects persist while holistic plans seem unfeasible due to their potential to constrain economic growth (Beauregard and Marpillero-Colomina, A., 2011; Fainstein, 2009). In recent years the city has become an entrepreneurial business that must encourage and facilitate growth in the private sector (Beauregard, 2011). In between master planning and strategic planning exists contemporary transport planning. With new heavy or light rail, bus rapid transit lines, and bike routes, complex strategic planning approaches a linear process of master planning in many cities. Transport planning can affect large swaths of a city and its organization through new lines of mass transport and the succession of transport stations across neighbourhoods and districts. Transport systems as mega-project and master plan merits intense study because of their position in current planning and governance to affect large scale urban change. This paper looks at the challenges that planners face in implementing mass transport and land use change, and presents cases of major land use intervention in cities.

Growth and Sprawl

Peter Hall has written extensively on the growth of world cities and the general spatial trends of outward expansion (1966). His work explains the sprawling state of urban form, across governments, geography, politics, and population in such detail that it is not unreasonable to conclude that sprawl and growth may be constants of city form evolution. In 1966, Hall argued that "In every major modern city for which we have precise statistical data, the frontier of building is being pushed outwards; the newer suburbs at the fringe show more rapid growth than the more densely populated inner districts" despite attempts to limit growth and despite varying contexts (p. 234-5). Hall explains that the frontier is always being

pushed outwards and this is because modern transportation systems have evolved to connect people faster and faster (1966). The expansion of the streetcar and railways after 1870 allowed a sprawling linear development. This was especially prominent in the common example of sprawl, Los Angeles, which had an extensive streetcar system. During the beginning of polycentric Los Angeles, the streetcar system had hubs in downtown Los Angeles and the nearby San Bernardino. These street car lines in combination with land development led to the sprawl that Los Angeles is most often criticized for today. The successors of the streetcar were the bus and then the private car that allowed this stretching development to fill in after 1920 to the large spread of urbanization that we see today (Hall, 1966). Hall's writing shows the longevity of the challenge of sprawl and land consumption (1966).

Hall suggests a planner cannot stop sprawl or growth because it happens all over the world across cultures and planning regimes. The characteristics and building typologies may differ but the planner can only determine the size, density, and distribution of centres. The city planner can encourage or funnel growth along certain lines or patterns but not stem it entirely (Hall, 1966). Ebenezer Howard championed the polycentric with the garden city. The unhealthy urban cores during and after industrialization were and remain a motivating force for outward growth (Fishman, 1998). In 1949 Patrick Geddes explained the promise of dispersed development with "We are making no plea for over-centralization; on the contrary, we are inclined to think that many ganglia may be needed to maintain the health of so vast and multi-radiate a body politic." (Geddes, p. 1949)

In a more recent study of Barcelona on identifying optimal urban growth, it was discovered that most people want open space and low-density development (Garcia & Riera, 2003). Garcia and Riera were looking at the specific context of Barcelona, which was high-density at 8000 persons per kilometre. However, the study presented that people would pay extra for suburban housing with more open space at the expense of preserving landscapes (Garcia & Riera, 2003). If people's choices aren't limited by geography or some other constraint many people will choose a spacious life style. The study found that people preferred more green space per person than preserving green space, much like the single-family homes of the American Dream where the landscape is consumable by the individual. Arguably, there have been many cases in history where government has failed to protect the reserved landscapes in its possession or under its stewardship. Garcia and Riera conclude that compact city policies should be assessed for an appropriateness of context at the local level (2003). If people want dispersed developments for legitimate reasons, what can planners and designers do to make those choices more sustainable, social, and well connected to urban centres? Speculation is difficult but we have the resource of history, and the lessons of cities that have dramatically addressed land use to inform current planning efforts.

City Form, Growth, and Density

In the *Pattern of the Metropolis*, Kevin Lynch presents different models of city shape. These range in density from centrally concentrated cities to sprawling dispersed development (1961). The typologies he presents are based on the relationship of open space to buildings, such as a star pattern of buildings that allows green stretches into near the centre, or a ring pattern like a donut that provides open space in the middle and outside of development (Lynch, 1961). The two extreme examples are the compact centrally organized city and the expansive urban sprawl model. These are the two models of contrasting academic debate. Lynch lists three component factors of a city's magnitude and pattern for all typologies of city form. They are structural density, circulation, and location of fixed activities that draw people. Lynch speaks on the importance of circulation and urban transport "Circulation and intercommunication perhaps constitute the most essential functions of a city, and the free movement of persons happens to be the most difficult kind of circulation to achieve, the service most susceptible to malfunction in large urban areas." (1961, p. 80) From this approach, the spatial pattern of the city is determined by fixed activities and patterns of circulation.

Peter Hall and Kevin Lynch describe the advantages of low-density development including, flexibility, greater choice of housing, participation in local governance, and reduced congestion (Hall, 1966; Lynch, 1961). It also allows for many environmental and health

amenities such as open space, sunlight reaching the street, trees, and rain accessing the water table with less interference from impermeable surfaces such as concrete. The benefits of low-density living were reasons for the flight from the industrializing city and the proximity of houses to pollution. However, low-density housing is expensive, includes long travel distances, and has not provided for accidental social contact between people (Lynch, 1961). At the other extreme, high-density development allows for spontaneous communication, ease of accessibility, short travel times, and a strong sense of community (Hall 1966; Lynch 1961). Drawbacks include, a poor range of housing types, and being uncomfortable (Hall 1966; Lynch 1961). These are all important considerations that must be weighed when discussing or determining optimal urban densities and forms.

The compact city is an agenda that has been pushed recently in academic literature and in city governance. While most cities hope to slow the growth of sprawl and the use of resources while channelling that growth to infill projects, it is hard to imagine the concept of the compact city being of much use for existing mega cities like Los Angeles. Hall and Lynch both make the point that high-density models, and subsequently the compact city theory, would be very hard to graft onto cities with a contrary condition like the Anglo-Saxon urban forms (Hall, 1966). These comments remain true today as they correlate with the evidence from Barcelona of user preference for low-density development.

Hall states that in countries with a varied free market housing condition, such as the United States, the majority of people with a choice would choose a single-family home at low or medium densities (Hall, 1966). Furthermore, Urban forms are expressions of cultural and social mores. Beyond land use traditions and inevitable growth, city planners face the Sisyphean challenge of overcoming cultural housing and land use preferences (Hall, 1966).

The Central Business District

In his book *The World Cities*, Peter Hall describes the importance of the central business district in the determination of urban form, growth, the transfer of information, and as the locus of transport (1966). The central business district has outlasted the telephone, the internet, pollution, over crowding, and a slew of other challenges. There are still central business districts despite technological advances that make long distance travel or communication possible and they continue to be a major force of gravity on transport use. As Peter Hall explains, the ideas industries will remain in the centre (1966).

Despite a variety of technological innovations and predictions of the demise of the central business district, they have remained the centres of exchange. Central business districts have survived the inventions of the telephone, the internet, and mail. In fact, Peter Hall argues that these inventions have only increased "... the hold of the central business district" (1966, p. 241). Cities have always been the centre of trade and existed for trade. What has survived various technological advancements is the need for professionals to produce, process, and trade intelligence in a more rapid world of information exchange and a multiplying number of contacts that one has access to. Highly skilled professionals continue to need or want to be in close proximity to transmit their ideas readily and economically (Hall, 1966). Over time these information centres have pushed out other activities such as goods manufacturing that do not justify the high rents of the centre. It appears that any industry that can be moved from the centre, such as government or education, will be pressured to move outwards by the increasing rent prices that decision dependent industries will pay to stay in the centre.

Peter Hall suggests "Very few centres of the world will be able to compete. The economic life of the world will be concentrated in a few centres." (1966, p. 240) We can see this trend in the loci of media in large cities such as Delhi, Los Angeles, New York, and London as well as the loci of world financial centres. World cities continue to be the centres of political power, trade, central banks, great airports, and the focus of roads and railroads (Hall, 1966). These centres also provide the major gravitational pull of workweek mass transport. In cities with one major centre, this poses an increasing problem of accommodating for more and more transport riders. As the city grows, so does the amount of people moving into and out of the centre on a daily basis. This requires a physical growth of transport infrastructure and a growth of service provision that is difficult in an existing city. Hall explains that the increase of employment at the centre of the city is one of the largest problems that cities face (1966).

Fundamentally important to urban form is the distribution of employment. Nodes of employment determine the daily trips to work and traffic throughout the week (Hall, 1966). This presents a problem when tracking decentralized traffic flows. Ridership numbers often justify mass transport expenses, however in a polycentric urban condition with multiple business centres ridership numbers are as dispersed as everything else. As cities grow in a multi centre fashion, transit riders often make cross trips from satellite node to satellite node without moving through the city centre. The cities with the largest ridership numbers tend to have the most centralized and largest central business districts like Manhattan, New York. Paul Mees has dedicated substantial effort into understanding density and mass transport ridership numbers. He finds that density figures are often from central municipalities that result in elevated figures because the central areas are the densest (Mees, 2010). He claims that mode shares correlate more to economic activity in the central business district than they do to density (Mees, 2010). Mees uses a variety of case studies to show the incongruity of urban form to transport use, with low-density high ridership cities and high-density low ridership cities (2010). Public transport ridership numbers are complicated when looking at the success of a public transport system because the spatial organization helps determine the routes of traffic and possibly the intensity of use. Even more complicated is the introduction of social factors such as employment destinations and cultural behaviours that also determine transport use.

Los Angeles differs from many cities because its downtown is not at the centre of a radial plan. LA is a series of rectilinear grids that developed over time (Hall, 1966). Los Angeles remains a contrast to the processes of a single centre city. It has been hypothesized that with the flexibility of the private car, access across Los Angeles will mirror the effects of close proximity of the central business district. This technological innovation seems to have gone the way of the telephone and the internet as congestion has increased and increased in Los Angeles to the point where travel times via the freeways are excessive and costly. This extreme congestion has motivated a transport upheaval by the city and planners of the Los Angeles, resulting in new transport infrastructure such as light-rail, subway, bike lanes, and the largest bus system in the United States. Furthermore, the dispersed nature of Los Angeles and its history of long distance access made possible by the private car may have dispersed land prices so that the land prices of the suburbs resemble the land prices of the central areas. Of course all cities are some mixture of polycentric form, centralization, and sprawl (Hall, 1966).

Reid Ewing challenges the benefits of Los Angeles style sprawl. He also describes the evolution of cities towards a polycentric condition, claiming "Monocentric development is an anachronism, as downtowns have become just one of many centres in large metropolitan areas." (1997, p. 107-108). This phenomenon can be seen in London as well as Los Angeles, as the creative and media industries congregate in different districts than the financial, architectural, or law professions. Ewing describes the form of urban sprawl in three typologies, leapfrog or scattered settlement, commercial strip development, and expansive low-density or single use development (Ewing, 1997). He calls for an attention to sprawl with the use of indicators in policy as well as definitions. These specific indicators of sprawl include poor residential accessibility, poor destination accessibility, a lack of functional open space, and the difficulty of reserving open space in a sprawling system of land consumption. In contrast to Kevin Lynch and the Garden Cities movement, Ewing takes a predominantly negative view of sprawl (Ewing, 1997).

Intervention in Urban Form

The aftermath of the Great Fire of 1666 in London saw a radical approach to urban retrofit. This was predicated on the importance of life safety and fire abatement. Central London properties were shuffled into the hands of owners or tenants that were willing or capable of rebuilding. Owners that refused to rebuild were compelled to sell and their properties were resold to owners that could afford to rebuild (Lynch, 1972). The outcomes of this effort were wider streets, fireproof buildings, and the embellished riverfront embankment.

The rebuilding took place over many years with the first new houses and inns constructed for construction workers. Even this was a lengthy process and by 1668, only several hundred had been built. The effects of this rebuilding were wide ranging and continue to demarcate

social class in London today. The expensive rebuilding of fire preventative buildings moved property into wealthy hands and many poorer people moved away from the central areas after the fire. The rebuilding also took so long that many people had settled elsewhere by the time the city was rebuilt. Finally, poorer residents could not afford the new brick houses to resettle in the area (Lynch, 1972).

In contrast to the exercise of authority and power that London exhibited, Cuba has struggled with the control and finance of urban spatial reforms. The revolution of 1959 left the country without a large portion of its middle class. The new government ceased the land speculation market by pegging real estate prices to a low level and cutting rents in half (Lynch, 1972). However, newly constructed social housing was expensive and the concentration of urban poor caused social problems (Lynch, 1972).

These policies in London and Cuba reveal the power and dangers of government to make spatial change. A planned economy has one major actor in national economics and distribution of capital. If the government is struggling or fails to predict a need, there is no market or other actors that may adjust or balance that deficiency. Centralized ownership in historic England describes another drawback of such systems. An encouraged care for the land is too easily a vehicle for exploitation. When planned economy governments or royals need money, resources are easily attained and consumed because they are already owned (Lynch, 1972).

These aren't stories that are confined to the past. The lack of advertisements in Cuba marked its revolution and Brazil has also had a history of upheaval but recently, as a reaction to the overwhelming number of billboards, the city of Sao Paulo established an advertisement ban. The ban titled Cidade Limpa or the Clean City Law, was enacted in 2006 by mayor Gilbert Kassab (Burgoyne, 2007). The law achieved success by including visual pollution along with other types of pollution such as air pollution or water pollution. The government has clearly wrested control of advertising in the city, predominantly from large and even multi-national corporations. Billboards have been removed, fliers are outlawed, and even storefront signage has been reduced (Burgoyne, 2007). While, most believe the city has become more beautiful, the advertising industry, along with its jobs, has been greatly diminished. Certainly advertising executives plan to circumvent the Clean City Law or develop new modes of advertisement. Curiously, there are suggestions that the city is open to having advertising in certain areas (Burgoyne, 2007). It remains to be seen if the government really represents the visual health of the people, or if this is a means of industry acquisition by an opportunistic elite political class.

Kevin Lynch addresses environmental policy in his book *What Time is this Place*, stating that refuse, scrap, and disused cars are a kind of pollution that should be addressed by their users and not the heirs of their waste (1972). A policy that epitomizes this concept is Article 182 of the Brazilian constitution that states that a building has a social function and must fulfil that social obligation (Budny, 2007). It requires buildings to fulfil a use or function so that it does not detriment the city with blight and disuse. It is unlikely this policy can be used in the extreme like the methods of property acquisition and development that London practiced after the great fire. However it does insert the authority of the state into the realm of the private owner and their property.

Other built environment policies in Brazil include the Estatuto da Cidade (Law of the City), a federal law of 1988 that requires new master plans including a public participation component (Budny, 2007). Article 183 provides ownership rights to squatters who have settled on a small lot for over five years (Budny, 2007). This article has made some improvements to favelas by providing upgrades such as sewage systems and paved roads. However, critics have claimed that this legitimizes the slums and the lower standard of living of the residents (Caldeira, 2007). In combination these policies represent a government control and interference in the built environment, a moral decision on the life of the city. Time will tell if the government represents the well being of the people or in historical Brazilian fashion, these policies are a means of power grabs by elites over space and the economy. One thing is certain, the removal of billboards from the city has revealed shantytowns formerly hidden by advertisements. With visibility it is possible these favelas and the poverty within them will be addressed.

Land use problems also result from the inability of building stock to adapt to changing economies or populations. Tourism centres like Bath in the United Kingdom may have a homogenous building stock that makes it difficult for them to change or adapt to new economic requirements for office or commercial space (Lynch, 1972). Many central business districts all over the world have an intensity that is contributed to by tourism. Tourism is an industry dependent on an economy external of the destination. It is unclear how the intensity and vibrancy of some cities centres that are largely contributed to by tourist investment and activity. In fact, in the study of city planning many of these intensely tourist city centres are held as exemplars of active and successful cities. However, these cities could appear more active than are self-sufficient.

China initiated partial reforms in 1978, experimenting with special economic zones on its coasts (Lu, 2006). The China form of government is transiting from a centrally planned economy to a market economy with some Chinese characteristics (Lu, 2006). The result of fiscal decentralization has been materialized in the landscape with a rise of the land leasing market and municipal entrepreneurship (Lu, 2008). Migration regulations have been relaxed, and many workers have moved to cities like Beijing, yet this remains an interstitial social conflict as immigrant workers build houses in their old villages for their children and grand children. This is because migrant worker's children do not have the right to go to school in Beijing. In this example, migration patterns and social processes result in a changing built form in small villages as well as large cities.

Dell Upton and Duanfang Lu are two of the proponents of the idea that the identity of the building and the use of space is created by the viewers and only partially created by the architect, government, or client (Lu, 2006; Upton, 1991). In China, this concept is especially perceptible. Lu describes the fitness craze and its transformation of empty spaces for dancing, martial arts, and socializing (Lu, 2006). This is one example of culture activating empty modernist spaces. Without this cultural drive though, many modernist spaces in the United States have dramatically sat vacant for decades despite the best efforts of city planning. Use and public participation can change the built environment with activation and the adaptation of space.

Contemporary Land Use Change

Wegener and Furst create a framework for looking at the rate of change of cities (2004). At the slowest rate of change are the transport infrastructures, communications networks, and the land uses. The workplaces such as shopping centres, warehouses, and office buildings are the next slowest to change. The built environment is more fixed than the people that use or inhabit it. Employment is fast to change. Firms can open and close with rapidity while households form, grow, decline, or relocate (Wegener and Furst, 2004). Related to the private car and demand, the transport of goods is quick to adjust. Travel patterns are also immediate to change as drivers anticipate and adjust to traffic conditions. These rates of change are important to realize when studying or attempting land use change. Travel patterns can be changed easily and quickly, employment and public participation can also be changed fairly fast. By manipulating these factors, a city can make steps towards the longer-range changes such as the built form, transport infrastructure, and land use.

Rob Adams describes the intentional change of Melbourne's central business district into an activities district in *Lessons from Melbourne* (Adams, 2004). Since 1985, there are an additional 8000 households, 400 sidewalk cafes, as well as additional open space and cultural programming (Adams, 2004). This was done over time with a variety of initiatives, not the least of which is public participation in space. Adams points out that Barcelona has a high density with mid-rise buildings, dispelling the myth that high density must be uncomfortable and in high towers (Adams, 2004).

Many cities in recent history are experience a shrinking economy and population. Thorsten Wiechmann's research shows that one quarter of the world's cities shrank in the 1990's. However, these are not the world cities that Peter Hall has written about. These are predominantly medium sized cities in Japan, Europe, and the United States rustbelt as manufacturing has been exported and the industries of these cities have changed. In fact, from Wiechmann's work it appears that people are moving to the nearby major city. Paris,

London, Madrid, and Dublin all still have growing populations (Wiechmann, 2008). Dresden is highlighted for the strategies of suburban demolition, an investment in technological industries, and an investment in the historic city centre that turned a declining population into a growing population more intensely connected in the compact centre (Wiechmann, 2008).

Bogota and Curitiba are often the examples of successful transport revival. Bogota had a similar urban form to Los Angeles, with a landscape evolved from the automobile (Cervero et al., 2009). The city consisted of a uniform density with a mixed land use composition. Facility designs swayed non-motorized travel and not the land use attributes of the neighbourhoods (Cervero, 2009). Bogota's major incorporation of cycle paths, and bus rapid transit, was aided by the mild climate that made it acceptable to ride a bicycle most times of the year and the traffic congestion that made driving slower than biking (Cervero et al., 2009). Grid street networks like in Bogota and Los Angeles can increase biking and walking by reducing trip distances and offering separate paths than cars to the same destinations. Rob Adams proposes that linear city development, as in Curitiba, allows for streets into the city adjacent to green landscapes that would improve the health of the city (Adams, 2004). While land use is an opportunity, many in Bogota simply have no alternative to biking or walking and the mayor's office wisely catered to them with bike paths and road closures to automobiles.

The City of Los Angeles is practicing retrofit in a similar form of street lane reclamation for bike paths. The City and County of Los Angeles have both produced bike master plans to incorporate bike routes into their transport networks (City of Los Angeles, 2011; County of Los Angeles, 2012). This comes at a minor cost to automobile lanes and represents a shift from the automobile as the dominant mode of transport, to a system of multiple modes of transport. The Los Angeles Metropolitan Transportation Authority (LA Metro) is a key proponent of transit-oriented design. The LA Metro is a continually expanding network of bus, light rail, heavy rail, and bicycle paths. New lines are usually accompanied with landscaping and environmental improvements. Emerging bus rapid transit lines begin to reserve road lanes for busses, diversifying the modes of transport on the streets of Los Angeles (LA Metro, 2010). LA Metro has developed many transit oriented developments about new stations and acquired ownership of the regional city hub Union Station (LA Metro, 2012). The LA Metro is moving into the development of property and land use change as the transport system grows through public-private partnerships. Ownership allows for the provision of affordable housing, income, and a control over the land that the transport system is dependent on.

In New York and Los Angeles there have been recent reclamations of streets to create pedestrian spaces. Broadway Street in Manhattan was closed and redesigned, allocating lanes as seating and pedestrian passage. Broadway is a diagonal street that runs counter to the rectilinear grid that determines Manhattan's Midtown urban form and traffic flow. It has been suggested that the removal of portions of the diagonal street have improved auto circulation. Traffic and congestion near Broadway has been reduced but it is not clear if this is because of discrimination against the car or if the system actually is working better (Grynbaum, M., 2010). Los Angeles has begun experimenting with similar albeit smaller cases of repurposing streets or alleys for pedestrian use. In the Silver Lake community near downtown Los Angeles a park has been doubled by the addition of an adjacent small street that abuts a café and restaurant. This is a particular case of community and local government cooperation. The city has paid for improvements and a community association manages the street furniture (Bloomekatz, 2012).

Discussion

From the cases presented in this paper, it is clear that governance and city planning must be agile when it comes to dealing with social and environmental problems. The built environment can be daunting and expensive to change but land use and urban form plays a critical role in the health and life of our cities. As Kevin Lynch says, "Open-ended change will continue to frighten us until we have the attitudes that make it seem natural and comfortable." (1972, p. 113) Peter Hall points out, land use and urban patterns are likely to reflect the pluralism of society. Spatial organization is likely to follow cultural and the determined social organizations. Hall argues that one constant is transportation because transportation costs will never be reduced to zero (1966). This makes the study of transport

and its change a lynchpin in city governance. Cities cannot continue with the same old built form that caters to the automobile when we must attempt to overcome the ills of the private car such as social disconnection, land consumption, and the costs of physical dispersion. Existing in a city set up for the car will hinder the success of any new public transport. Land use retrofit should be an option for collaboration with new transport systems. To overcome the growing challenges of climate change, pollution, social disaffection, poor economics, and long travel times we may need radical policy solutions or extensive urban retrofit in some places. These are incredible if not global problems that will require herculean countermeasures. We may have to stop looking at the cities in distinct types of urban forms, with problems capable of being solved with half measures, and start from the complex and varied world with all of our tools, including land use change.

References

- Adams, R., 2004. Lessons from Melbourne. *Australian Planner*, [online] Available at: <<http://www.tandfonline.com/doi/abs/10.1080/07293682.2004.9982340>> [Accessed 16 November 2012].
- Beauregard, R. and Marpillero-Colomina, A., 2011. More than a master plan: Amman 2025. *Cities*, 28(1), pp.62–69. [online] Available at: <<http://linkinghub.elsevier.com/retrieve/pii/S0264275110001319>> [Accessed 11 August 2012].
- Budny, Daniel Nogueira, 2007. *Democracy and the City: Assessing Urban Policy in Brazil. [internet] Comparative Urban Studies Project and Brazil Institute*. Available at: <<http://www.wilsoncenter.org/publication/democracy-and-the-city-assessing-urban-policy-brazil-0>> [Accessed 26 February 2010].
- Bloomekatz, A., 2012. Silver Lake Gets an Unusual New Park Space. Los Angeles Times, [online] (last updated on 11th March 2012) Available at: <<http://articles.latimes.com/2012/mar/11/local/la-me-silver-lake-space-20120311>> [Accessed on 30 October 2012].
- Burgoyne, Patrick. 2007. Sao Paolo: The City That Said No To Advertising. Bloomberg Businessweek, [online] (last updated 18 June 2007). Available at: <<http://www.businessweek.com/stories/2007-06-18/s-o-paulo-the-city-that-said-no-to-advertisingbusinessweek-business-news-stock-market-and-financial-advice>> [Accessed 15 November 2012]
- Caldeira, T., 2007. *Worlds Set Apart*. [pdf] Available at: <<http://lsecities.net/media/objects/articles/worlds-set-apart>> [Accessed 16 November 2012].
- Cervero R. et al., 2009. Influences of Built Environments on Walking and Cycling: Lessons From Bogota. *Journal of Transport Geography*. [online] Available at: <<http://www.tandfonline.com/doi/abs/10.1080/15568310802178314>> [Accessed 16 November 2012].
- City of Los Angeles Department of City Planning, 2011. *Bicycle Plan*. [pdf] Available at: <http://planning.lacity.org/cwd/gnlpln/transelt/NewBikePlan/TOC_BicyclePlan.htm> [Accessed 27 October 2012].
- County of Los Angeles, 2012. *2012 Bicycle Master Plan*. [pdf] Available at: <http://planning.lacity.org/cwd/gnlpln/transelt/NewBikePlan/TOC_BicyclePlan.htm> [Accessed on 29 October 2012].
- Ewing, R., 1997. Is Los Angeles-style sprawl desirable? *Journal of the American Planning Association*, [online] Available at: <<http://www.tandfonline.com/doi/abs/10.1080/01944369708975728>> [Accessed 16 November 2012].
- Fainstein, S., 2009. Mega-projects in New York, London and Amsterdam. *International Journal of Urban and Regional Research*, [online] Available at: <<http://doi.wiley.com/10.1111/j.1468-2427.2008.00826.x>> [Accessed 28 August 2012].
- Fishman, Robert, 1998, Howard and the Garden, *Journal of the American Planning Association*, [online] Available at: <<http://journals.cambridge.org.libproxy.ucl.ac.uk/action/displayAbstract?fromPage=online&aid=3197440>> [Accessed 16 November 2012].
- Garcia, D. & Riera, P., 2003. Expansion versus Density in Barcelona: A Valuation Exercise. *Urban Studies*, [online] Available at: <<http://usj.sagepub.com/cgi/doi/10.1080/0042098032000116040>> [Accessed 13 November 2012].
- Garfield, Bob. 2007. NPR's On the Media from WNYC Radio. Adbusters [Internet] 03 August 2007. Available at:

<https://www.adbusters.org/magazine/73/Sao_Paulo_A_City_Without_Ads.html> [Accessed 11 April 2010]

Geddes, P., 1949. *Cities in Evolution*. London: Williams and Norgate.

Grynbaum, M., 2010. Broadway Is Busy With Pedestrians, If Not Car Traffic. *New York Times*, [online] (last updated on 5th September 2010) Available at: <<http://www.nytimes.com/2010/09/06/nyregion/06broadway.html?pagewanted=all>> [Accessed 16 November 2012].

Hall, P., 1966. *The World Cities*. London: Weidenfeld & Nicolson.

Los Angeles Metropolitan Transportation Authority, 2012. Los Angeles Union Station Master Plan. [online] Available at: <<http://www.metro.net/projects/LA-union-station/>>

Los Angeles Metropolitan Transportation Authority, 2010. Frequently Asked Questions. [online] Available at: <http://www.metro.net/projects/wilshire/wilshire_faq/index.html> [Accessed 16 November 2012]

Lu, Duanfang, 2006. *Remaking Chinese Urban Form: Modernity, Scarcity, and Space*. New York: Routledge.

Lynch, K., 1961. The Pattern of the Metropolis. *Daedalus*, [online] Available at: <<http://www.jstor.org/discover/10.2307/20026641?uid=3738032&uid=2129&uid=2&uid=70&uid=4&sid=21101382167341>> [Accessed 16 November 2012].

Lynch, K. 1972. *What Time Is This Place?* Cambridge Mass: MIT Press.

Mees, P., 2010. *Transport for Suburbia*. London: Earthscan.

Upton, D., 1991. Architectural History or Landscape History? *Journal of Architectural Education*, [online] Available at: <<http://www.jstor.org/stable/1425140>> [Accessed 14 November 2012].

Wegener, Michael and Furst, Franz, 2004. Land-Use Transport Interaction: State of the Art, [online] Available at SSRN: <<http://ssrn.com/abstract=1434678> or <http://dx.doi.org/10.2139/ssrn.1434678>> [Accessed 16 November 2012].

Wiechmann, T., 2008. Errors Expected — Aligning Urban Strategy with Demographic Uncertainty in Shrinking Cities. *International Planning Studies*, [online]. Available at: <<http://www.tandfonline.com/doi/abs/10.1080/13563470802519097>> [Accessed November 14, 2012].