

The Death of the Walking City: Killing the Rights of Pedestrians

by

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In most cities around the world today, apart from in selected pedestrianised or traffic calmed centres, or in some exceptionally progressive European cities, we see an almost inexorable trend towards squeezing out non-motorised modes in favour of private motorised modes. This happened with extraordinary speed in Australian and North American cities in the post-World War Two period and is happening at an even more alarming rate today in developing cities, especially in China. This paper provides a brief overview of the longer-term historical evolution of cities, outlining the historical development of automobile dependence in cities. It then examines some of the specific factors in urban and transport planning that have led to a significant erosion in the rights of pedestrians (and cyclists) and the role of walking and cycling in urban systems. The situation in developing cities is specifically highlighted. The paper also hints at some of the positive changes that can occur to promote a reversal of pedestrian fortunes in cities, though it makes no attempt to elaborate on these ideas.

Walking Cities

Urban life extends back some thousands of years and over this long period of time all cities were basically dependent on walking for their circulation needs (Kostof, 1991). Many walking cities were also walled cities and all growth had to be accommodated by increasing densities and intensifying the mixture of land uses. In Europe, the Walking City was dominant up until around 1850 when walking, or at best horse drawn transport, were the chief means of movement. These were slow forms of transport and in order for the city to remain accessible, all destinations had to be available within about half an hour, travelling at about 5 km/h. The cities therefore remained small and dense with highly mixed land uses (Newman and Kenworthy, 1999).

The walking city was characterised by narrow, often winding streets and provided for an inherently egalitarian transport system. Some people had horses and carriages, but the advantages afforded by this were more related to comfort than any major accessibility benefit. No one in a walking city was locationally disadvantaged in a transport sense, which cannot be said for cities today, designed around the automobile. In automobile cities, many people who live in

the outer suburbs and urban fringe in order to find cheap land, discover that their access needs are difficult to meet by any mode apart from the car. Such people live with enforced car ownership due to their location within the city and are especially disadvantaged with respect to walking (Newman, Kenworthy and Vintila, 1992).

Transit Cities

The Transit or Public Transport City emerged in the industrial world after around 1850 with the advent of new transport technologies, namely the revolutionary steam train and electric tram. Preceding these modes were the horse drawn tram operating on wooden tracks and the steam tram, pulled by chains, which were powered from a stationary steam engine. These modes facilitated faster travel (on average a jump from about 5 km/h to 15 km/h) and hence bigger cities, though all urban development had to remain within an easy walk or bicycle trip of the tram stops or rail stations. These cities therefore still had quite high densities of land use and there was a well-defined 'edge' to urban settlements (nodes around rail stations and tight corridors around tramlines). A high density, mixed-use urban form also meant there were still a very large number of trips that could be conveniently accomplished on foot or bicycle and the public environments of cities (their streets, squares and other places) were still very people-oriented (Newman and Kenworthy, 1999).

This type of city gained ascendancy in the industrial world and during the period from about 1850 to 1940 it tended to be the dominant type of city form in industrialised countries. In other less developed parts of the world where new technologies did not take off in the way they did in the western world, the Walking City remained dominant. These cities have had a less well-defined period of public transport development, if any. Certainly most of them have not been shaped significantly by a period of extensive and enduring urban rail development (trains or trams), although some, such as Bangkok did have these modes (Poboan, 1997; Barter, 1999). Rather, in recent years (from about the 1970s onwards) they have tended to develop directly from pedestrian-oriented cities with some bus-based public transport systems, into cities where motor cycles and cars have begun to take the upper hand. In the process, the rights of pedestrians and cyclists have been trampled on through the removal of footpaths for widened roads, the severance of neighbourhoods by freeway and toll road infrastructure, and the creation of a hostile, highly dangerous public realm dominated by traffic (Kenworthy, 1997).

Automobile Cities

The automobile facilitated the uninhibited outward expansion of the city because people and businesses were no longer constrained to the fixed track public

transport systems or walking scale environments of earlier times. Development became footloose and could occur anywhere that a section of black top could be laid down. The automobile's much greater speed allowed the city to get much bigger again, and densities of development dropped dramatically. Through the exercise of modern town planning principles, land uses became segregated into zones and travel distances for all trip purposes increased dramatically. The car began to displace public transport and non-motorised modes and today achieves modal shares for all daily trips in the range of 80% to 95% in automobile cities in North America and Australia. This type of city became the dominant form in the US and Australia and to a slightly lesser extent in Canada from the mid-1940s onward (Newman and Kenworthy, 1999; Kenworthy and Laube, 1999).

Many countries in other parts of the world such as Asia, whose cities have traditionally had high density walking-oriented urban forms, are developing their own characteristic style of automobile city forms, particularly in outer regions. This is especially true where there is little planning to control the use of cars and indeed little effective public planning control over urban land uses (eg in Bangkok and Kuala Lumpur). In the high density, mixed use parts of the city, where land uses would normally facilitate high levels of walking and non-motorised transport, these modes are so unattractive due to lack of facilities, noise, fumes and danger, that they have been, or are being, decimated. Such cities suffer particularly high levels of transport deaths, many of them non-motorised mode users (and also motor cyclists) (Barter, 2000).

Killing the Rights of Pedestrians and Cyclists

The European Parliament in 1988 adopted "The European Charter of Pedestrians' Rights." It comprehensively outlines the needs of pedestrians, but it also highlights how far short of the ideal circumstances is life in most cities.

This pedestrian charter is reproduced here:

(http://12ghosts.de/walkers/charta_en.htm, accessed July 16, 2002).

I. The pedestrian has the right to live in a healthy environment and freely to enjoy the amenities offered by public areas under conditions that adequately safeguard his physical and psychological well-being.

II. The pedestrian has the right to live in urban or village centres tailored to the needs of the motor car and to have amenities within walking or cycling distance.

III. Children, the elderly and the disabled have the right to expect towns to be places of easy social contact and not places that aggravate their inherent weakness.

IV. The disabled have the right to specify measures to maximize their independent mobility, including adjustments in public areas, transport systems and public transport (guidelines, warning signs, acoustic signals, accessible buses, trams and trains).

V. The pedestrian has the right to urban areas which are intended exclusively for his use are as extensive as possible and are not mere pedestrian precincts' but in harmony with the overall organization of the town, and also the exclusive right to connecting short, logical and safe routes.

VI. The pedestrian has a particular right to expect:

(a) compliance with chemical and noise emission standards for motor vehicles which scientists consider to be tolerable;

(b) the introduction into all public transport systems of vehicles that are not a source of either air or noise pollution;

(c) the creation of 'green lungs', including the planting of trees in urban areas;

(d) the fixing of speed limits and modification to the layout of roads and junctions as a way of effectively safeguarding pedestrians and bicycle traffic;

(e) the banning of advertising which encourages and improper and dangerous use of the motor car;

(f) an effective system of road signs whose design also takes into account the needs of children;

(g) the adoption of specific measures to ensure that vehicular pedestrian traffic has ease of access to, and freedom of movement and the possibility of stopping on, roads and pavements respectively;

(h) adjustments to the shape and equipment of motor vehicles so as to give a smoother line to those parts which project most and to make signalling systems more efficient.

(i) the introduction of the system of risk liability so that the persons creating the risk bears the financial consequences thereof;

(j) a drivers' training program designed to encourage suitable conduct on the roads in respect of pedestrians and other slow road users.

VII. The pedestrian has the right to complete and unimpeded mobility, which can be achieved through the integrated use of the means of transport. In particular, he has the right to expect:

(a) an ecologically sound, extensive and well-equipped public transport service which will be meet the needs of all citizens, from the physically fit to the disabled;

(b) the provision of facilities for bicycles throughout the urban areas;

(c) parking lots which are sited in such a way that they affect neither the mobility of pedestrians nor their ability to enjoy areas of architectural distinction.

VIII. Each Member State must ensure that comprehensive information of the rights of pedestrians and on alternative ecologically sound forms of transport is disseminated through the most appropriate channels and is made available to children from the beginning of their school career.

The sentiments expressed in this charter are far from the reality in many cities today. The marginalisation of the role of walking (and bicycles) within urban transport systems has been achieved through a combination of changes in the

way urban planning is conceived and practised, as well as a range of other forces, such as the influence of vested interests in shaping urban transport systems. Some of the key trends that have worked against pedestrians and their basic rights of equal access to the circulatory systems and public space of cities, can be briefly summarised as follows.

- Modern town planning practises that have spread urban land uses out into very low density, highly zoned precincts with most trips beyond walking distance, have meant that trips normally undertaken on foot and bicycle, have been replaced with car trips. In other words, ‘accessibility’ has been replaced by ‘mobility’ (Engwicht, 1992). In the process, this has exponentially increased the use of resources such as energy and the generation of pollutants in urban transport systems. It has also killed off any possibility that a trip to the shops and many other destinations, even school, might also involve some form of meaningful social exchange that helps to forge community and reduce crime rates. Such civilised exchanges have been replaced by road rage.

- The urban planning profession for decades has been obsessed with what might be termed “two-dimensional planning.” Planning has been reduced to coloured maps which show appropriate land uses within urban regions and local areas. Local area planning through town planning schemes has been reduced to zoning tables that purport to show which land uses or mix of land uses are appropriate on particular parcels of land. Together with this, planning has been regulated by a complex series of planning standards, such as required levels of parking provision for retail and commercial establishments, but few if any requirements about how to site the parking so as not to interfere with pedestrian access. Certainly the needs of pedestrians have not featured significantly in most planning decisions, and yet at least the beginning and end of every trip requires pedestrian access (Calthorpe, 1993).

Only rarely does urban planning concern itself with the three-dimensional results of its dictates (in other words, the actual built environment and how private space relates to public space and how accessible a place is for pedestrians). As a consequence, there has been little consideration of urban design in planning and it is urban design that largely determines the quality of the public realm of cities. Without good urban design many of the critical factors identified in the European Charter of Pedestrian Rights cannot be achieved (Gehl and Gemzøe, 1996). Only now is the New Urbanism bringing such concerns back to the forefront of planning doctrine. However, incrementally transforming endless tracts of suburbia into something that vaguely resemble a walkable environment, will be the dedicated work of a new breed of urban and transport planners, for at least half a century, as demonstrated in Gehl and Gemzøe (2000).

- The urban transportation planning process (UTP), which originated in the 1950s, essentially attempts to predict motorised traffic volumes and to work out the road (and notionally public transport) infrastructure requirements to meet predicted traffic levels. Planning for the needs of pedestrians and cyclists in this process, which has operated almost unchanged in cities since its inception, is essentially non-existent. The basic structure of the computerised land use-transport models, and their underlying technical assumptions, do not permit non-motorised trips to even be seriously considered. The models are optimised for examining the needs of private motorised transport and therefore disregard potential policy initiatives aimed at building up the role of non-motorised modes and eliminating some automobile travel (Kenworthy, 1990). Each successive stage in the transport evolution of cities through walking, transit and automobile urban forms, has seen the role of non-motorised modes diminished. Road systems have become progressively more hostile to people on foot and bicycle and there are frequently only meagre, if any facilities provided for pedestrians and cyclists.

- One of the problems with the dominant approach to transport planning is that the potential for walking and cycling is influenced by local factors that are not taken into account in large scale metropolitan computer modelling. Nevertheless, these local factors, which have been investigated in detail and quantified by Holtzclaw (1994) and shown to be important in reducing automobile dependence, can be improved through physical planning policies, which can in turn alter the picture of future travel demand in particular areas. This missing perspective on local factors can be summarised as follows:

- (a) Localised density factors do not show up in the data used in the transport models because the zones are too coarse. These models therefore do not show the effects of, for example, providing focussed higher density housing and mixed land uses along transit routes with high service frequencies. The increase in population or jobs merely shows up as having a tiny impact on overall zone density and therefore no effect on reducing car use in the future (Kenworthy, 1990).
- (b) Mixed land use factors referred to by Holtzclaw as the "neighbourhood shopping index" are unable to be considered. There is no provision at all in the transport models for distinguishing between areas of mixed and zoned land uses and therefore no possibility of showing how mixed land uses might reduce automobile dependence in the future through increasing walking and cycling trips.
- (c) There is no consideration of the conditions for pedestrians such as availability and quality of footpaths, the location of buildings with regard to pedestrian facilities (eg across a car park or direct entry from the footpath), the hostility of the traffic environment etc, (summarised in the "pedestrian accessibility index"). These factors

are all important to pedestrians in the same way that a properly connected road system and adequate parking are important for motorists, but they do not feature at all in conventional transport modelling (Holtzclaw, 1994).

(d) The frequency and quality of transit services and distance to the nearest stop is not dealt with in the UTP process. These factors mainly influence the use of transit itself, but good transit nearby to other activities also increases walking to and from stops (as opposed to park-and-ride or kiss-and-ride facilities). This walking trip is often used to perform other functions, which would normally have required a separate car trip (eg dropping into a shop on the way). Planners refer to this as the 'transit leverage effect', whereby one kilometre travelled on transit can replace perhaps up to twelve kilometres of driving (Neff, 1996).

(e) Cyclists too have specific needs if they are to gain access to their day-to-day needs. Cycling in automobile cities tends to be viewed by some transport planners as only a recreational pursuit rather than a genuine mode of transport. As a result, cycling routes are often planned in a very circuitous way, rather than as direct, short routes between A and B. However, in many cities cycling performs a significant part of the overall transport task (eg Copenhagen, Amsterdam, Groningen, Tokyo). For cycling to do this, facilities must be provided such as safe, direct cycling routes, special consideration at intersections such as separate traffic lights, advanced stopping lanes, secure storage facilities and facilities at destinations such as showers. To be really effective, streets also need to be designed so as to provide shade in hot weather and road surfaces that are not hazardous to the cyclist. These latter requirements also apply to pedestrians and require, for example, attention to continuous verandahs along footpaths in commercial centres, dropped kerbs etc.

- On a deeper level there has been a gradual and largely unchallenged transformation in the way that streets are considered in urban societies. Traditionally the street has been considered social space (Mumford, 1961). In the first half of the 20th century and before, streets were considered as places where a significant part of the public life of the city was transacted. They were places where children played, where people talked, where community was forged (Jacobs, 1961). This was because their transport function was benign, being mostly pedestrian and cyclist traffic, with very few cars. Now streets are almost totally seen as movement space, the sole province of relatively fast moving traffic. This is despite piecemeal attempts around the world to create "living yards" in residential streets (the Dutch Woonerf), Wohngebiet in Germany or simply traffic calmed areas, where cars are expected to be "civilised" and to travel at near walking pace. Such schemes, which are accompanied by physical changes to road geometry and attractive landscaping and street furniture, attempt to change the whole psychology of street use in favour of pedestrians. Where they can be implemented on an area-wide basis, they can have a dramatic effect on the quality of the pedestrian experience (Pharoah and Russell, 1989; Pharoah, 1990).

- Part of the process of turning streets into traffic sewers, has been the takeover of street design and operation by the traffic engineering profession. This profession does a good job at controlling road design standards for motorised traffic and optimising safety for motorised road users. However, they perform badly in wider thinking about the city and its social meaning and the important role that pedestrians play in keeping streets safe and turning neighbourhoods into genuine communities. The presumption that street design standards and the accompanying road hierarchies should be mainly shaped around motorised traffic, has been an important factor in the creation of vast suburban areas where the pedestrian is an anomaly (Schneider, 1979). The endless cul-de-sacs, fenced distributor roads with no active frontages, controlled access highways and high-walled, pedestrian access rights-of way, fondly known in the urban design profession as RPOs (rape and pillage opportunities), make walking for any real purpose, almost an impossibility. Fortunately, the New Urbanism, with its requirement for urban design principles based upon the 'walkability' of urban development, is gradually changing the traffic engineering and town planning professions (Morris and Kaufman, 1996).

Developing Cities

A special mention needs to be made of the current situation in many developing cities, especially those in our own Asian region. Cities such as Bangkok, Jakarta, Kuala Lumpur, Surabaya and Manila have traditionally been highly orientated to non-motorised modes. Indeed, most cities in developing countries still rely heavily on these modes, including animal-drawn transport. Cities in China still use foot and bicycle for a majority of trips, though it is changing at a rapid rate.

Most developing cities are very dense and highly mixed in their land use and are ideally suited to non-motorised modes because of the short trip distances required to satisfy most needs (Barter, Kenworthy and Laube, 2002). However, with rising wealth a number of factors are seriously undermining the potential of these modes to continue contributing to travel needs. These can be summarised as follows:

- *Policy neglect due partly to a perception by many politicians and decision makers that these modes are old fashioned*, eg the mayors of some Chinese cities such as Guangzhou (Canton) have called for the banning of bicycles from their city roads and yet without bicycles such cities would collapse. Fortunately, this view is being challenged, often by imported European planners who have seen and experienced the potential for walking and cycling in increasingly wealthy societies (Kenworthy, 2001).
- *The rush by the increasingly wealthy middle class to buy cars* (ie in the absence of strong economic disincentives and attractive alternatives to cars such as in Singapore, the appeal of motor cycles and cars for independent mobility is very seductive).

- *The tendency to produce new housing areas on the urban fringe, which although much denser than the average American or Australian suburb, include little fine-grained mixing of land uses (apart from perhaps formal child care centres or the odd business which operates out of some houses).* Because of higher densities, distances to friends, relatives and centralised shopping areas in the new Asian housing areas are shorter than in western cities. However, many new housing areas in Asian cities seem to be built on an assumption that everyone will have access to a car or motor cycle. In many cases only a skeletal and ineffective bus service is provided.
- *The increasingly hostile and dangerous road environments in developing cities.* Most developing cities and especially those in Asia, were not designed around the car. The very tight road space filled with cars and trucks makes it almost impossible to walk or cycle without being subjected to extreme levels of noise, fumes and traffic danger. This is one of the chief reasons why Bangkok has such poor rates of walking and cycling and a similar process is occurring in most developing Asian cities.
- *The tendency of many developing countries to make car manufacturing for domestic consumption, a pillar of their industrialisation policies.* This is true in China and Malaysia but it also occurs in Brazil and other countries. On the other hand, the Japanese have built their own car industry around export markets and even their big cities like Tokyo and Osaka retain extremely good conditions for pedestrians and cyclists and have very high modal splits in favour of non-motorised modes (Kenworthy and Hu, 2000; Kenworthy and Laube, 2001).

In summary, non-motorised modes are literally being forced off the road in many developing cities. As suggested above, Tokyo the wealthiest of all Asian cities, maintains one of the highest rates of walking and cycling in the world (42% of all daily trips). There are thus increasingly loud calls being made by non-government and other organisations to consider the rights and needs of pedestrians and cyclists in planning and transport decision making in Asia and other parts of the world. This call is being made on equity, economic, safety and environmental grounds.

Conclusions

Since the advent of mass car consumption and the ascendancy of the automobile city in many parts of the world, the needs of pedestrians and cyclists have been increasingly overlooked in urban and transportation planning. Only since the move to pedestrianisation of city centres in Europe in the late 1960s, and in the last decade or so, the New Urbanism, has walking and cycling been seriously considered in physical planning. Physical planning which recognises walking and cycling as genuine modes of transport with special needs, and which strives to improve the potential for walking and cycling in local areas, can help to reduce automobile dependence. The provision of

such facilities is very cost-effective, requiring only a tiny fraction of the resources required to provide car and public transport infrastructure. However, planning for pedestrians requires detailed attention to urban design parameters, which is not often seen as being part of the urban planning brief. All planning and development decisions that affect the capacity and comfort of people to walk to and from a destination or a public transport facility, or to gain access into a place, need to be tested against a range of pedestrian needs and standards. This is as fundamental as the increasing and long overdue trend to ensure that the needs of people with disabilities are considered in transport and development decisions.

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