



2nd Edition

Oliver Schwedes

# Urban Mobility in a Global Perspective

An international comparison of the possibilities and limits of integrated transport policy and planning

LIT

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# Mobilität und Gesellschaft

herausgegeben von

Weert Canzler, Stephan Rammler  
und Oliver Schwedes

Band 9

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## Preface

The impetus for this study goes back to 2007, to a commission from the Institute for Transportation Design at the University of Fine Arts in Braunschweig. The commission was prompted by a United Nations report which stated that, for the first time in human history, more people were living in cities than in rural areas and that this process of global urbanisation would continue. At the same time the question arose as to what form of transport people would use in the future, in the rapidly growing urban agglomerations. Was it conceivable, not to mention desirable, that the megacities in the emerging countries would also pursue a mass motorisation dependent on the automobile, following the pattern set by the developed industrial nations?

The task was to carry out a systematic review of global urban and transport development, in the hope of discovering indications for alternative paths of sustainable urban and transport development. Before long, however, the project had gone beyond a simple description of the various models of urban and transport development and had moved on to examining the reasons behind them. But this opened a veritable Pandora's Box, because in order to understand the reasons behind the different paths of urban and transport development in the global context, the overall social conditions had to be examined and the historically specific social, political, economic and cultural conditions taken into account (cf. Oliveira 2016).

Over the past decade, the manuscript has demonstrated its worth in a seminar on international transport planning and policy in the Department of Integrated Transport Planning at the Technical University Berlin. In the course of intensive discussions with the students, the findings have been repeatedly put to the test, updated and developed further. Since to my knowledge there is still no comparable synopsis of „planetary urbanisation“ (Brenner/Schmid 2014) that focuses on transport planning and policy, I decided to have this study translated into English in order to make it accessible to a wider readership<sup>1</sup>.

The study is not solely of academic interest; it is also of decidedly political interest. Today we quite justifiably speak in terms of the new geological

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<sup>1</sup> I owe much to the work „Third World Cities in Global Perspective“ by David A. Smith as well as „Cities in the International Marketplace“ by Hank V. Savitch and Paul Kantor.

## Preface

age of the Anthropocene, an era shaped and influenced by human beings like none other before. In deciding the future of planet Earth, human beings have their fate in their own hands to an unprecedented degree! This makes the Anthropocene the first truly political era. In light of the two global megatrends of urbanisation and mobility, the future of human history will be decided by whether human beings worldwide are able to organise their urban mobility in a sustainable fashion. The present study is intended as a contribution to exploring the possibilities and limits of political influence on urban and transport development.

Berlin, April 2022

Oliver Schwedes

# 1 Introduction

*Urban development and traffic are inseparable. One without the other is inconceivable. There is no city without traffic. Human settlements are established at every traffic nodal point. Cities determine the lines of force that traffic has to follow, while traffic shapes a city and influences its appearance. It is futile to set priorities: if one is subordinated to the other when assessing a given situation or when planning new facilities, one of the two will come off badly (Leibbrand 1980: 5).*

„This book opens with a city that was, symbolically, a world: it closes with a world that in many practical aspects has become a city“ (Mumford 1961: xi). This first sentence from Mumford’s classic history of the city and urban studies still serves as an apt encapsulation of present-day civilisation, which is now more than ever an urban civilisation. Cities have always been the laboratories of social modernisation and motors of civilisational development. At all stages of human civilisation, cities have been a widespread if not always dominant form of human life. But only with the beginning of industrial modernity and the associated rapid proliferation of the spatial, social and mental processes of urbanisation did the urban way of life come to occupy the absolute centre of society’s forms of habitation and production.

The city has become the forum and medium of the industrial economic system per se – with all the known drawbacks and the tendencies to cultural erosion and neglect. In this sense, the city is a „machine“: a gigantic wheelwork of interlocking systems, infrastructures and functions serving the gratification of social and individual needs. Today, this development has reached an apogee. Population growth in the years to come will be concentrated almost entirely in the urban regions of the world. In 2007, the United Nations reported that, for the first time in the history of mankind, more people lived in cities than in rural areas, and there is no end to this trend in sight (cf. UN-DESA 2014). Living in urban agglomerations will therefore be the typical form of existence for the majority of the world’s population in the 21st century.

This means that the question of the sustainable development of society will be decided chiefly in the cities of the future. Since the early 1990s the concept of „sustainability“ or „future viability“ has defined the socio-political debates concerning the right path to the future. The global political movement „Local Agenda 21“, which emerged from the first crucial summit on climate and sustainability in Rio in 1992, placed the city at the centre of efforts towards social sustainability. Today the city is just as likely to be the place where prob-

blems arise as the place where problems are worked out. Cities cause ecological, economic and social problems which become manifest in an often strikingly diminished but at the same time socially unequal „quality of life“. The city is also the place where these problems are managed politically. The search for ways to integrate the economic, environmental and social dimensions of the objectives of sustainable social development is accordingly played out in the midst of tensions arising from the re-adjustment of basic municipal functions. In the vision of a „sustainable city“, mobility, a reliable energy supply, healthy living and healthy food, security, social and cultural participation are provided for, minimising as far as possible the negative external effects on the environment and society (cf. Keiner et al. 2006).

Globally, the initial conditions for this vision are extremely poor: in the highly industrialised countries of North America and Europe, urbanisation is stagnating at a high level, quantitatively speaking, and is characterised qualitatively by suburbanisation, which is dependent on exceptionally high energy consumption. At the same time, cities in certain regions in Asia, South America and the Middle East are being modernised and experiencing rampant, often directionless and unplanned growth. While in the foreseeable future the industrialised North has to deal with massive demographic decline and ageing populations, as well as all the closely related problems of preserving the welfare state and systems of municipal public services, the regions undergoing rapid urbanisation are faced with the challenge of setting up just such systems and making sure they remain functional in the long term. The ecological and energy policy problems are similar in many ways, as is the issue of social exclusion and poverty-related neglect and crime, as well as a massive decline in values and traditions, but there are sometimes enormous differences in the initial conditions between North and South, in particular concerning the issue of political regulation and intervention (cf. Mitlin/Satterthwaite 2013).

For in keeping with the statement from Leibbrand quoted at the beginning of this introduction, the city and traffic, immobility and mobility are not irreconcilable; rather, they are intertwined and develop a highly specific, interdependent dynamic. Accordingly, the history of cities is also – or perhaps above all – the history of their traffic and transport systems (cf. Kostof 1992). The latter constitute the bloodstream and neural pathways of the city conceived as a body, and are of fundamental importance for any further developments. Precisely in light of this historical experience it is more than appropriate today to rethink the city from this specific point of view. Global population growth, especially in the metropolises of Asia and South America, makes it essential to reflect on the passenger and freight transport of the future. The urban mobility of tomorrow is a core issue that requires thorough discussion and new

solutions in order to advance to an overall, tenable conception of sustainable urban development.

Processes of urbanisation are still today commonly understood as civilisational progress and are pursued and promoted by governments worldwide. Urbanisation and mobility are considered to be a clear indication of social modernity. In developed capitalist societies, 80 to 90 percent of the populations live in cities, which is the highest level compared to other societies. More than ever, the city promises most people on Earth the opportunity to share in the development of general social prosperity. This prospect has resulted in more people than ever before making their way to the city, in ever larger sections of the population freeing themselves from restricted rural living conditions, in search of new perspectives in urban agglomerations. Associated with this mobilisation is of course an increase in traffic volume. The problematic combined effects of increases in urbanisation and traffic volume are, however, often not perceived or not addressed. An awareness of the negative effects of urbanisation is to be found particularly in those developed countries able to look back on the historical experience of a dynamic process of urbanisation that occurred in the context of industrialisation in the 19<sup>th</sup> century. This era of upheaval is similar in many respects to the current situation in the developing countries, which have been experiencing rapid urban development in recent years, but the rapidity and the scope of these new developments far outstrip the urbanisation process of the 19<sup>th</sup> century.

„Contemporary urban growth and rural-urban shifts in the South are occurring in a context of far higher absolute population growth, at much lower income levels, with much less institutional and financial capacity, and with considerably fewer opportunities to expand into new frontiers, foreign or domestic“ (UN-Habitat 2001: 3).

In this regard, the first issue to be clarified is whether the developed industrial countries are indeed the appropriate ones to consult when it comes to assessing and evaluating current processes of urbanisation and developments in transport, which are occurring under completely different historical conditions. We are dealing not only with a quantitatively new dimension – the phenomenon of rapidly developing urbanisation and increasing traffic in the developing countries also involves qualitatively new aspects. Against the backdrop of historical experience in industrialised societies where the city and transport fulfilled a different function than in post-industrial society, it is to be expected that the new social requirements will also have an impact on the shape of present-day cities and the modes of traffic and transport that they adopt. In addition to the different economic foundations, which point in the direction of a different kind of urban and transport development it has to be taken into account that current developments are taking place in the global context. While urbanisation in the



19<sup>th</sup> century could still be dealt with on a national level, today we are faced with the question of globally operative forces of development and the possibilities of shaping these developments on the level of the nation-state. Moreover, these global developmental dynamics encounter very different circumstances nationally, regionally and locally. Alongside rapid growth processes, one often finds parallel processes of shrinking, spatially and temporally concurrent. Ultimately, processes of urbanisation and suburbanisation often overlap in manifold ways, which also applies to processes of counter-urbanisation and re-urbanisation – all of which makes for a thoroughly complex mix (cf. Champion 2001).

Therefore, before an assessment of current and future global developments in urbanisation, traffic and transport can be made, in order to establish possible fields of action and concrete design perspectives, a necessary first step is to present a topography of the different processes of development in urbanisation, transport and traffic. The present book constitutes an attempt to draw up just such a map of developments in urbanisation, traffic and transport. An elucidation of several fundamental aspects of the relationship between cities and traffic (Chapter 2) is followed by a comparative survey and evaluation of the current situation internationally (Chapter 3). The focus is on the different paths of development within the highly industrialised nations, Latin America, Asia and Africa. A final chapter examines the future challenges in international urban and transport development and attempts to extrapolate some concrete approaches to transport policy and planning (Chapter 4). Finally, I would like to point out one limitation of the study with respect to trade that will be discussed only in passing. Instead, the focus is on traffic in everyday life, which must be changed in the sense of sustainable transport development. The same is true of trade, of course, but the importance of transport in the capitalist economy is a special topic that should be dealt with in another book (cf. Schwedes 2022).

## 2 Traffic and the City – A Difficult Relationship

### 2.1 Traffic and the City as Antithetical

Today more than ever, the city and traffic appear to be incompatible Antipodeans, with criticism directed mainly against motorised private transport (MIV). Complaints come from all sides, to the effect that MIV destroys city structures and thereby urban life in manifold ways (Monheim 1991; Knoflacher 1993; Feldtkeller 1994). Still serving as a benchmark for this criticism is a traditional conception of the European city as an ideal type, delineated by Max Weber (1986). According to Weber, unlike Oriental and Asian cities, the European city is distinguished primarily by its political independence and its emancipatory character. The European city is clearly marked off from the countryside around it and grants its inhabitants special liberties, which the peasantry under feudal rule did not enjoy. With the ‚sworn fraternity‘ (*Schwurgemeinschaft*) formed by the bourgeoisie (*Bürgertum*), a special social class emerged that shaped life in the city in a distinctive way. Firstly, the citizens established municipal institutions of public law, to which they all freely submitted; secondly, as private individuals they expedited trade beyond the city limits, which is why the marketplace is considered to another key characteristic of the European city: it was where individuals met in order to exchange goods, but also to exchange views with each other in public.

The post-war urban sociologist, Hans Paul Bahrtdt (1989; 1998/1961), considered the tension between „private“ and „public“ that developed from the marketplace as the nucleus of city life as the sign of urbanity par excellence. In addition to the marketplace, he saw the street as one of the key places where strangers are able to meet and come into contact with each other. As Bahrtdt views it, urbanity is thus distinguished by the many potential opportunities to enter into social relationships, which – unlike the close social relationships found in village communities – are free of obligation or coercion:

„In a society with a public sphere we thus find a large degree of variability in social contacts – for example, contacts of great psychological complexity, but also completely objectified contacts [...] Despite all the casuistry of permissible topics, a flirt can develop out of simply asking for directions“ (Bahrtdt 1998/1961: 47).

The American architect, Louis I. Kahn, used the metaphor of the assembly hall to illustrate the central function of the street as a meeting place in the constitution of urbanity in public spaces:

„If you think of the *street* as a meeting place, if you think of a street as being really a community inn that just doesn't have a roof. And if you think of a meeting hall, it is just a street with a roof on it. If you think of it in terms of meeting. And the walls of this meeting place called the community room, the street, are just the fronts of the houses, and the streets were dedicated by the houses to the city for their use“ (Kahn 1962, quoted in Giurgola 1979: 95f).

But both Bahrtdt and Kahn saw the balance between the public and private sphere as threatened by the latter, with automobile traffic posing a special danger (Bahrtdt 1989). Private automobiles were described as perforating public space like projectiles and, moreover, through their sheer presence as space-consuming „stationary vehicles“ [*Stehzeuge*<sup>1</sup>], seen as robbing it of its original function as a meeting place. Unlike collective public transport, where encounters between strangers are not only possible but absolutely necessary, people encase themselves in their private automobile and traverse urban space in their protective armour, following the assigned conduits.

„Today, streets are disinterested movements not at all belonging to the houses that front them. So you have no streets. You have roads, but you have no streets“ (Kahn 1962, quoted in Giurgola 1979: 95f).

Kahn was voicing a perception that was widespread at the time. The new phenomenon of mass private transport was perceived as a serious threat, which was repeatedly depicted in drastic terms:

„Now, 16 years after the end of the war, the cities are again free of their ‚injuries‘, they are seemingly blossoming, and yet they are still threatened by chaos. In the same way that swarms of locusts descend on the fields, automobiles are seizing control of the streets and public squares, encroaching on parks, on green spaces and the last remaining groves of trees, and with insatiable greed demanding more and more space. City planning, glorified by idealists with dreamy simplicity in their fantastic designs, is giving way to the expansion of traffic; people are simply being pushed aside, almost literally steamrollered“ (Zellner 1961, quoted in Först 1962: 15).

While in the 1950s the „car-friendly city“ (Reichow 1959) was still seen as an ideal model, with planning thus taking its lead from the United States, in the 1960s the negative consequences of the extensive development of private transport became ever more evident (cf. Schildt 1997). In light of this situation, the Association of German Cities opted for an unusual measure in order to draw attention to traffic problems in the cities. Early in 1961, fifty journalists from the press, radio and television were invited to join a flight to eight major cities in the Federal Republic over a three-day period in order to gain an impression of traffic engineering problems (cf. Först 1962). For one thing, the journalists

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<sup>1</sup> *Stehzeuge* („stationary vehicles“) as opposed to *Fahrzeuge* („moving vehicles/vehicles designed to move“).

## 2.1 Traffic and the City as Antithetical

deplored the fact, mentioned above, that people are pushed aside by automotive traffic. The dominant orientation of urban planning to the requirements of private transport meant a blatant neglect of local public transport, which was significantly more efficient.

„A one-sided preferential treatment of motorised transport in the planning and re-designing of cities is therefore not only unjustified but also absurd. All the empirical data demonstrates that even the most generous street-widenings cannot meet the demands made on space by private transport, which includes parking space for temporarily parked cars“ (Lönnecke 1961, quoted in Först 1962: 31f.).

Whereas up until shortly before this private transport in the USA had been considered emblematic of the personal development of the individual in a free society, Europeans now showed themselves shocked by the vast wasteland of American cityscapes.

„The American, ‚concrete landscapes‘ have become a nightmare for Europeans, whose idea of a city is something other than a collection of apartment blocks placed on left-over stretches of land, spared by oversized traffic thoroughfares.“ (ibid.: 32)

This addressed the second major objection to mass private transport raised at the time. In addition to the destruction of the city centres, a further result of the increasing mobility, namely the suburban sprawl encroaching on the relatively unspoiled outskirts of the city, also came under fire. In both cases, observers schooled in the ideal of the European city saw the latter's urbanity under threat. While the inner cities colonised by the private automobile were commandeering the street space that had originally served as a public forum, thus upsetting the strained balance between the public and the private, the suburban settlements on the outskirts of the cities were bereft of any public character from the outset.

The effects of restructuring inner cities in the postwar period in accordance with car-oriented urban and transport planning is impressively documented by the case of Berlin (cf. Stimmann 2002). The „Black Plans“ published by the Senate Department for Urban Development make it possible to track the changes in the building structures from before the Second World War until the present day (cf. Fig. 1 and 2). One is surprised to discover that adapting the city to the requirements of street traffic had an even more marked and lasting impact on the city structure than the war that preceded it. In the post-war period, significantly more buildings fell victim to road construction, since the buildings that were damaged during the war were in the main rebuilt.

„The Black Plan shows the impact of demolition and reconstruction on the city structure, on the ‚text‘ of the city's layout. The totality of the destruction now supplants the historical *totum*. Whereas the plan dating from 1940, with its intensive, expressive

## 2 Traffic and the City – A Difficult Relationship



*Fig. 1: Berlin in 1940: Black Plan of the Inner City (Scale 1:10,000)*

*Source: Stimmann 2002*



*Fig. 2: Berlin in 1989: Black Plan of the Inner City (Scale 1:10,000)*

*Source: Stimmann 2002*

density, is reminiscent of the cross-section of a healthy, intact brain, the picture from 1989 shows metastases of the annihilation. We see a devastation that brings to mind cross-sections of the brains of Alzheimer patients. Large areas of the city have in fact been completely obliterated, and replaced by crude, ahistorical configurations which are only discernible from a bird's eye perspective [...] So-called 'car-friendly' streets, dynamic and spacious in their layout, traverse the centre in wide arcs, thus effacing the primacy of right angles and acute angles, which characterised the Baroque city and the metropolis of the 19<sup>th</sup> century. Berlin becomes a city of obtuse angles or a city of 'Klegin corners' [named after an employee in the city administration] as the spaces between two corner buildings are known. [...] The Black Plans demonstrate that the deplorable consequences of post-war urbanism are not just confined to mistakes, exceptions or isolated transgressions. They show that the destruction was directed at the city as a whole, that it was programmed to lay claim to the city in its entirety – and that the most radical destruction only began once the bombardments were over" (Hartung 2002: 34).

While Berlin offers a particularly striking example of the internal disintegration of a city as a result of motorised traffic, the second phenomenon that is characteristic of modern urban development, namely encroachment onto the rural periphery, came to a temporary halt in this case, due to the exceptional political circumstances and the resultant island-like nature of the city. In this respect, though, Berlin remained an exception. Generally speaking, the development of cities in modern capitalist societies is characterised by a high level of suburbanisation (cf. Harris/Larkham 1999; Harlander 2001). This began in the late 19<sup>th</sup> century when, in the wake of explosive urbanisation, private investors laid the first railway tracks to more rural areas on city outskirts, in order to provide convenient public transport to the city for the upper middle classes, who were fleeing to the green peripheries in order to escape the inhospitable conditions in the industrial cities (cf. Fisch 1997).

When at the beginning of the 20<sup>th</sup> century factories increasingly came to be located on the outskirts of cities, workers were also forced to travel greater distances to work. In order to be able to use the – at first – exclusively privately-operated tram lines, the workers were initially reliant on government subsidies. It was only with the extensive nationalisation of private railways that it became possible to establish a public transport system, thus facilitating greater mobility for broad sections of the population. But this also fuelled the process of suburbanisation: the attractive residential areas on the rural outskirts of the urban centres were now also within reach of civil servants, white-collar employees and workers. Large cooperatives and public housing associations created new residential complexes for this clientele along the railway lines, which extended far into the green belts of the cities.

These centrifugal forces attained a completely new dynamic in the 1950s and 1960s as a result of the increasing automotive traffic (Kuhm 1997). Individual automobile ownership made it possible for broad sections of society to switch from public to private transport and thus settle in areas that are remote from public transport. On the one hand, thanks to the systematic opening-up of green areas on the urban fringes to automotive traffic by means of fast-tracked, state-sponsored road-building (cf. Klenke 1993. Südbek 1994), more and more people literally came closer to their dream home. On the other hand, this led to an extensive suburban sprawl that in subsequent years increasingly came to be seen as problematic. By combining the requirements of individual dwellings and mobility in this way, a dynamic developed which has had a negative effect on the old city centres. In addition, for quite some time now, the earlier migration from the countryside to the cities has also been reversed: cities are emptying out and becoming less important because their inhabitants are moving to communities located on the peripheries. And the automobile has

been identified as the central component of this development. Accordingly, the critics of automotive transport link the private car with an array of negative attributes.

„A provisional list of such adjectives would include the following: polluting, isolating, destructive, eroding, possessive, individualistic, and antidemocratic. A hard set of words, indeed, yet each is an accurate description of the car“ (Purcell 2000: 348).

Since in this respect the city and traffic are fundamentally incompatible, they can actually be seen as mutually antagonistic. The concept of ‚urban traffic‘ would thus be an oxymoron, since phenomena that seem to be contradictory are forced together conceptually.

### 2.2 Traffic and the City as a Single Entity

One comes to a different conclusion if the relationship between urban development and the development of traffic is considered from an historical standpoint. At first sight, though, the conflict between the city and traffic, between mobility and immobility appears to be confirmed, since the unanimous opinion is that, if we go back to the beginnings of human history, the transition from nomadic to sedentary life can be regarded as one of civilisation’s fundamental achievements (cf. Gellner 1993).<sup>2</sup> It was only with the „agrarian revolution of productive forces“ that a socialised division of labour and the development and refinement of cultural skills became possible (cf. Grünert 1989: 168ff.). The emergence of cities was an expression as well as the basis of this development. Accordingly, the critics of an – in their view – excessive (auto-)mobility invoke the transition to a sedentary way of life as a progressive, civilising step when they warn against the ever-increasing traffic and even describe this *hyper-mobility* as a retrograde development in human civilisation (Knoflacher 1993; Virilio 1993).

However, this stark confrontation between the city and traffic or the city and mobility often leads to their close interdependence being overlooked. The role of cities as hubs of trade was apparent as early as the 4th millennium BC, when the first towns were established in the plains of the Nile, the Tigris and Euphrates: „The rivers, the access to the sea and the flat terrain which was favourable for transport connections all facilitated an intensive exchange of goods, news and information“ (Benevolo 2000: 22).

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<sup>2</sup> The sole exception here is the ethnologist Hans Peter Duerr, who interprets the supposed path to civilisation – the transition from „the nomad to the Monad“ – as an error in human history. The title of this chapter is thus an allusion to Duerr (cf. Duerr 2002).

## 2.2 Traffic and the City as a Single Entity

As a result of agricultural overproduction – with the surplus being absorbed by cities –, increasingly differentiated urban societies developed, with growing divisions of labour. In turn, these societies produced culturally refined products and distributed them over ever greater distances. The city developed into a particularly dynamic locus of advances in civilisation, but from the outset found itself doubly dependent on transport and traffic – necessary for agricultural production on the one hand, and for exchanges with trading partners on the other hand.

Empirical proof of the dependence of urban development on agricultural land use was first provided by the economist Johann Heinrich von Thünen (1783-1850), with his model of the „isolated state“ (Thünen 1826). Through his ring model, he was able to show how the radius of the urban market, and thus of urban development, changes in relation to the transport and traffic situation (cf. Fig. 3). Subject to transport costs, certain systems of farming emerged, forming rings around the autonomous urban market.



## 2 Traffic and the City – A Difficult Relationship

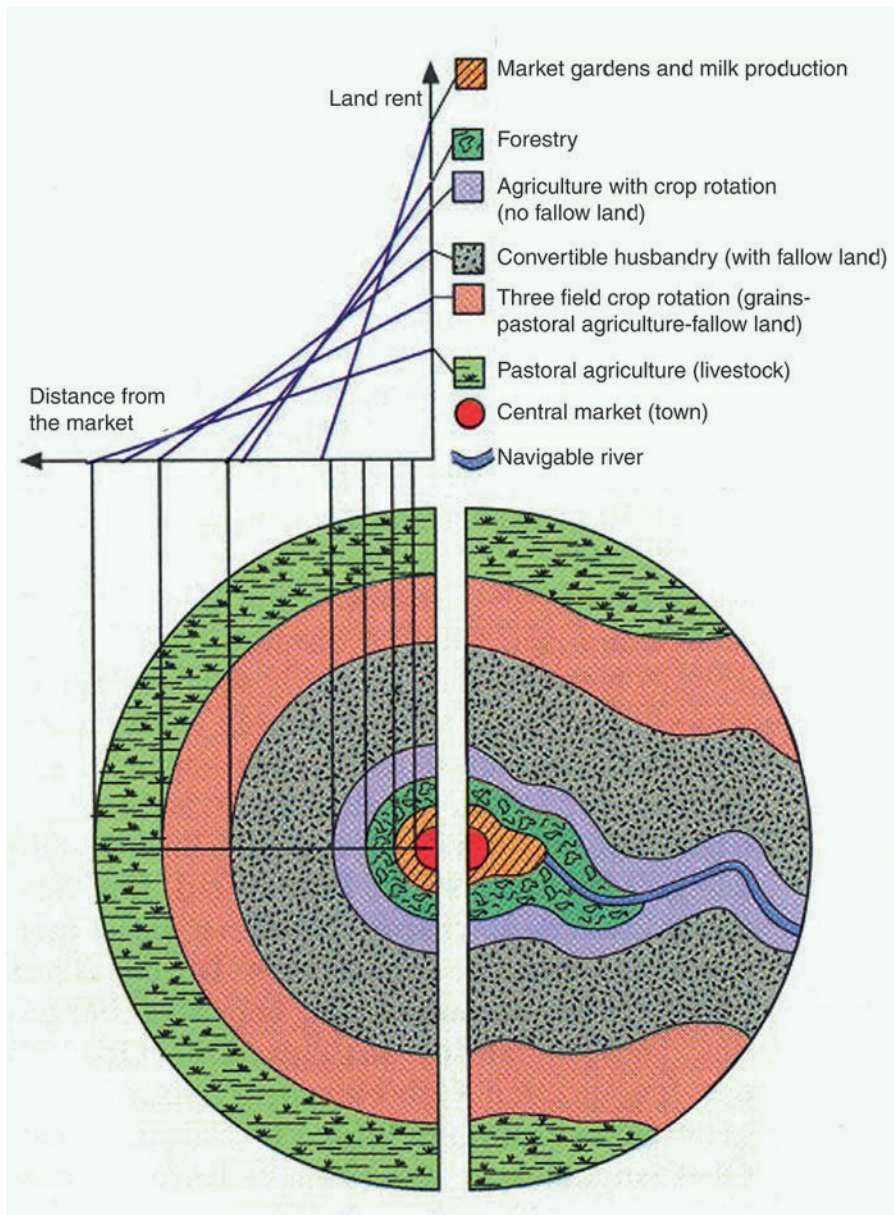


Fig. 3: Thünen's Model of the „Isolated State“  
Source: Meyers 2003: 7531

Starting with the primary sector and viewing the city centre as a fundamental locus of consumption, Thünen developed a theory of location, which was based on the economic importance of the agricultural sector and thus corresponded to the economic situation of his time. When – thanks to the expansion of the road system and the establishment of the railway – a revolution loomed in which space as a factor would be overcome, Thünen’s model suggested that urban development would not remain unaffected by it. Ultimately, in the wake of the industrial revolution, a fundamental change occurred in favour of the cities. The concentric perspective, with the city as a market, gave way to an ex-centric perspective, with the city as the central site of production in the midst of the surrounding countryside. So it was only logical that, in light of urban development, Thünen’s model was expanded in the following years. In the early 20<sup>th</sup> century, Ernest W. Burgess (1925) adapted the model to the new economic conditions (cf. Fig. 4). Unlike Thünen, Burgess no longer centred his model on agriculture, but instead presented the growing service sector as the defining element of urban development.

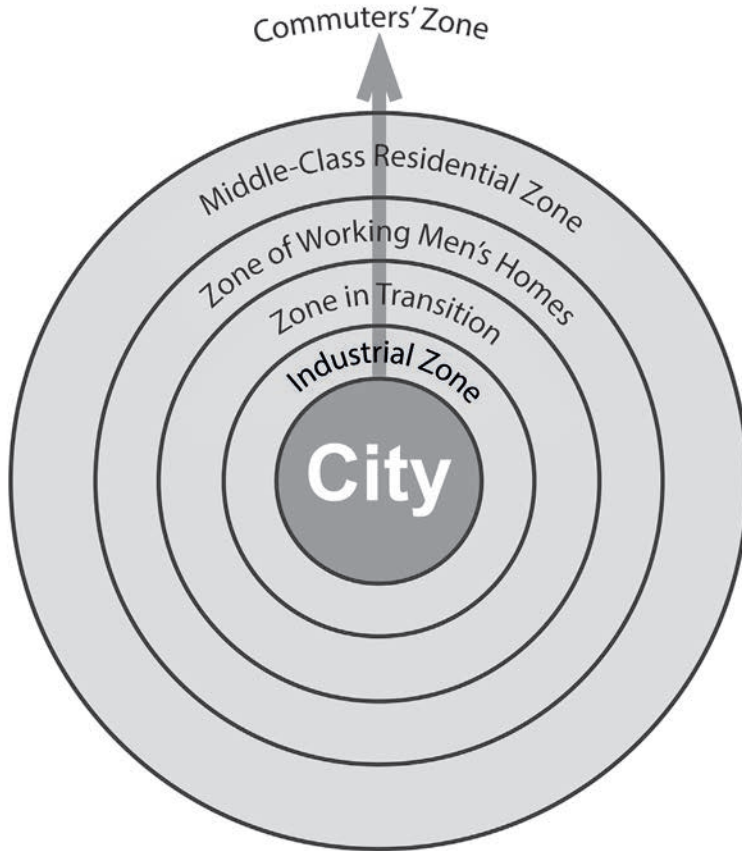
Burgess’s proposed model of concentric zones of urban development has in the meantime been overtaken by real developments. With his model of the „Zwischenstadt“ (literally the „in-between city“<sup>3</sup>), the architect and urban planner Thomas Sieverts (2011) has endeavoured to do justice to the now much more differentiated and more confusing reality. He points out that far more people now live in urbanised areas than in the city centres and that the latter have largely lost their original residential function. Sieverts advocates recognising this as a powerful, irreversible trend and bidding farewell to the myth of the old European city:

„For want of a better term, we shall call these structures – which consist of ‚fields‘ assigned to various uses, of construction forms and topographies – *Zwischenstädte*. They take up large areas, and they have both urban and rural characteristics. The *Zwischenstadt* stands between the individual, special place as a geographic-historical event and the ubiquitous, almost indistinguishable establishments of the global division of labour; between space as an immediate living environment and the abstract traversing of distance which is only measured in terms of the consumption of time; between the Old City which retains its effectiveness (also as a mythical entity), and the Old Cultural Landscape, which still remains deeply anchored in our dreams“ (Sieverts 2003: 2; translation modified).

Traffic was therefore always recognised as a constitutive element of modern urban development. The city is subject to constant functional change, in which traffic plays a major role. Given this, it seems problematic to talk in terms of

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<sup>3</sup> The term „Zwischenstadt“ is a neologism that denotes „the interpenetration of city and countryside“ (Sieverts 2011: 20), the blurred continuum between the city and the countryside, where the latter distinction or contrast is held to be no longer valid [translator’s note].



*Fig. 4: Burgess's model of concentric zones*  
*Source: Lichtenberg 1991: 57*

a „misused city“ (Feldtkeller 1994), as if the city had a specific task assigned to it. From an historical standpoint, one discerns a continuous functional transformation of the city. But if it is true that the functions of the city change depending on economic conditions and the traffic situation, it seems questionable for city planners to go on using an historical urban ideal as a normative basis for assessing contemporary urban development (cf. Becker et al. 1998). By contrast, a properly sociological approach would require an examination of the altered social conditions, where one can assume that the relationship between urban development and the development of traffic does not remain unaf-

fectured by these changed conditions; thus, the relationship can only be grasped as dynamic, rather than static (cf. Hall/Hesse 2013).

### 2.3 Traffic and the City as a Social Configuration

When examining the relationship between urban development and the development of traffic, researchers have mostly used as a basis a conception of urban space as a container (cf. Schubert 2000). According to this conception, discrete objects that initially seem to be formally independent are brought together to create an ensemble whose physical form constitutes the context for social relationships. From this perspective, people move around *in* spaces that correspond more or less well to their specific needs. By contrast, the sociologist Georg Simmel pointed out long ago that social spaces are socially constituted, describing fixed localities in social space as „pivotal points of social relations“ (cf. Simmel 2000: 147). According to this definition, the form taken by social spaces and the function they fulfill are crucially dependent on historically specific social relations. Consequently, Simmel’s investigations always start with the social constitution of modern man, who increasingly distinguishes himself by his ability to create social proximity by means of spatial distance (cf. Simmel 1989). According to Simmel, on the one hand the traditional relations of close spatial proximity are dissolved, on the other hand, modern man thereby gains the opportunity to independently establish new social relationships that go far beyond the narrow horizon of the family or the community and which can prove to be emotionally more intense than purpose-oriented community relationships based on physical proximity.

Simmel described the behaviour of people living in modern metropolises at the beginning of the 20<sup>th</sup> century (Simmel 2010). The starting point of his reflections is the imposition that consists in big-city dwellers having to live together in a confined space. He examines the strategies that city dwellers employ in order to deal with the resulting sensory overstimulation and to temper its effect on „emotional life“ [*Nervenleben*]. In order to be able to actually use urban anonymity as a personal space, modern big-city dwellers are in the first place forced to protect themselves against the intrusiveness of their fellow human beings. Unlike provincial community life, city dwellers can no longer take an interest in the fate of each and every individual because otherwise they would be hopelessly overwhelmed. But neither does the city dweller *want* to take such an interest, precisely because the special attraction of urban social life lies in being freed from collective social constraints. Accordingly, Simmel describes the characteristic blasé disposition [*Blasiertheit*] of big-city dwellers as simultaneously a curse and an opportunity for modern man. While on the one

hand the necessary distanciation towards other people contributes to alienation, on the other hand it opens up new „spaces of opportunity“ for the individual (Canzler/Knie 1998).

Modern man's tendency to move apart is necessarily linked to growing mobility, because in order to be able to take advantage of the new spaces of opportunity, one first has to reach them. This proves to be ever more difficult to achieve, since through the ongoing process of labour differentiation in modern capitalist societies the sought-after destinations are multiplying and spread over a large area. As a result, the networks of available routes are becoming more complex and are actually getting longer. But this also means that the freedom of choice has increased:

„For example, with one's apartment as the main place of residence, ever more and ever more distant destinations are now within reach: workplaces, educational institutions, shopping and leisure facilities, as well as holiday resorts. This choice of spheres of activity (households) and areas of the market (businesses) is in turn divided into two sub-aspects. On the one hand, we have the longer-term choice of the place of residence and the choice of certain places of activity, also over the longer-term (e.g., the workplace, school and kindergarten, sports club and circle of friends) as well as market relations (procurement and sales markets). And on the other hand, we have the more „spontaneous“ choice of event locations and market relations. In the case of private households, these are places to which one is not at all or only weakly bound in the long term, such as shopping facilities, cultural events, leisure facilities and holiday destinations. While the choice of a stable place of residence and places of activity predetermines much of one's spatial interaction and everyday movement from place to place, the spontaneous choice of event locations entails an equally spontaneous use of the roads“ (Schmitz 2001: 189).

Against this background, the social constitution of modern man in capitalist societies points in the direction of a growing centrifugal dynamics of mobilisation and urbanisation in the future (cf. Rammler 2001). This development can be expected to combine with meeting the increasingly differentiated requirements of individual mobility and housing.

### 2.4 Traffic and the City Today

The big-city dweller of today is confronted less and less often with the taxing conditions described by Simmel. Since public urban space functions more and more as a transit space, its function as a place where strangers encounter each other is progressively on the decline. In this respect, modern man is only rarely still in need of the cool intellect „as protection for the subjective, inner life against the assault on the senses [*Vergewaltigung*] characteristic of the metropolis“ (Simmel 2010: 104). Instead, contemporary man shields himself

against the hostile environment using the protective carapace of his automobile. Simmel thus allows us to view urban automobilisation as a liberation from the impositions of public transport and as an expression of individual emancipation.

Similarly, in modern societies, the confined living conditions based on collective neighbourliness have given way to individual living arrangements (cf. Häußermann/Siebel 2000). As part of the marked differentiation between workplaces and places of residence and the resulting separation of the public and private spheres, the private apartment has assumed an ever more prominent position. Like the private automobile, the private apartment offers a private shelter (cf. Stöbe 1990). That the private apartment is increasingly sought-after, to the same degree as individual mobility, can be discerned in the trend towards continuous increases in the size of apartments.

Thus, right up to the present day, cities have bound immobility and mobility together and hence constitute an almost ideal embodiment of the fundamental – and at the same time fundamentally different – principles of human development. This is still reflected in debates on modern architecture, which oscillate constantly between the motifs of the settled way of life/home (Heidegger) and vagabondage/foreignness, advocated by Le Corbusier:

„The modern city dweller, who lives in houses like tents (the *Maison Domino*), in houses like cars (the *Maison Citrohan*) or more radically, in homes like airplanes (the *Maison Voisin*), was the leitmotif of a society that (as envisaged by Le Corbusier, following the Futurists), was literally constituted by mobility“ (Vidler 1992: 208).

Corbusier's concept of mobility as translated into architecture was radically at odds with the prevailing ideology of having one's own piece of land. In the post-war period, Martin Heidegger took up this idea of being rooted to the soil in his philosophy of architecture, which he explicitly opposed to the vision of total mobility à la Corbusier (cf. Heidegger 1951). Still current today are debates that range between, on the one hand, predictions of the decreasing significance of urban structures in the ever more rapidly flowing stream of the „Cyber City“, and the plea for reflection on the values of the European city on the other hand (Hoffmann-Axthelm 1993; Castells 2010a). Modern cities therefore find themselves in a paradoxical situation: on the one hand, they are meant to cater for the ever-increasing differentiation of urban societies, and on the other hand, to provide for a socio-spatial integration that has to be continually re-established (cf. Löw 2002).

Still today the appeal of vagabondage consists in the fundamental openness to everything new, while the settled, sedentary way of life represents the constant recurrence of the same. Conversely, however, the home and one's home

place [*Heimat*] also epitomises a positive feeling of security, while foreignness essentially entails insecurity. In political terms:

„We might refer to the distinction, drawn by Deleuze and Guattari in their *Traité de nomadologie: La machine de guerre*, between ‚state‘ space and ‚nomad‘ space. A sedentary space that is consciously parceled out, closed, and divided by the institutions of power would then be contrasted to the smooth, flowing, unbounded space of nomadism; in Western contexts, the former has always attempted to bring the latter under control“ (Vidler 1992: 214).

Viewed in this light, one should not allow oneself to be guided by a normative point of view when analysing current developments relating to cities and transport; one should rather endeavour to get to the bottom of the ambivalences in these processes. Power and powerlessness, security and insecurity are just as much part of these developments as wealth and poverty. Unlike Bahrtdt (1998), who examined the surface phenomena of public and private contacts and saw urbanity as guaranteed, we have to ensure a balanced representation of public and private interests. „The preservation of the city requires the re-establishment of equilibrium between interests in the decision-making process so that the physical setting and the social body can also achieve a balanced co-existence“ (Benevolo 1993: 219-220). This will serve as the guiding principle in the following international survey of urban and traffic development.

### **3 Urban and Traffic Development in International Comparison – A Survey**

Urban and traffic development in recent decades in Western Europe, the US and Japan display a number of similarities. Despite all the differences in detail, the industrial cities in these three regions of the world have followed a certain path of development, which is why they are grouped together here in one chapter. The situation in the countries of Latin America is different, and they are the subject of a separate study in the second chapter. Asian cities have taken still another course of development, and they are dealt with in the third chapter. In the fourth and last chapter, I examine the situation in Africa, which is seemingly isolated from global developments, and where one finds a quite specific form of urban and traffic development.

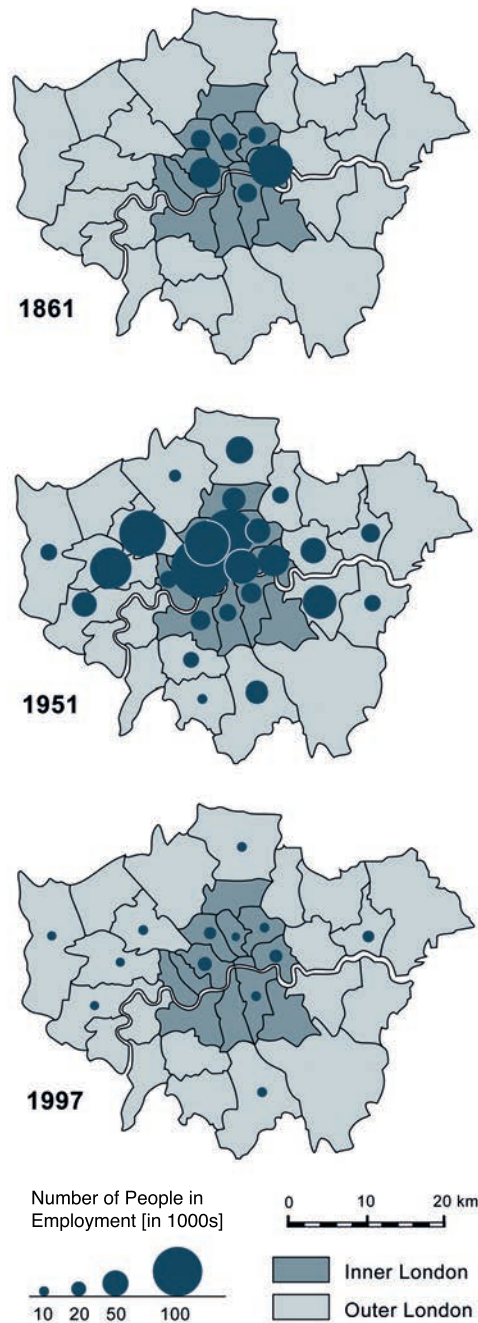
#### **3.1 The Advanced Industrial Countries – From the Metropolis to the Metropolis as a Region**

Since the 1970s, cities in the developed industrial nations have undergone a transformation from industrial centres to service-industry centres. This profound urban structural change can be described as a process of formation of a „new urbanism“, characterised by four phases of development (cf. Häußermann/Siebel 1987). First, by the tendency to *de-urbanisation*, the term used to designate the changing spatial equilibrium of population and jobs in urban and rural areas in favour of the latter. Due to increasing de-urbanisation, the initially unidirectional trend towards migration to the city has been at least partially reversed.

„The structural transformation of the economy and the suburbanisation of the population foster a process of decentralisation, at least in the sense that the old pattern no longer applies, where the peripheral regions continuously lose population and jobs, with a corresponding gain for the urban agglomerations. Processes of growth and contraction are now spread in a more decentralised fashion. The importance of urban agglomerations compared to non-agglomerations is thus decreasing, and within the urban agglomerations, the importance of the central cores is decreasing compared to surrounding areas“ (Häußermann/Siebel 1995: 98).

This development process is well illustrated by the example of London, beginning with industrialisation in the 19<sup>th</sup> century and continuing until the present day (cf. Fig. 5). With the shift in importance within the urban agglomerations,





*Fig. 5: Greater London: Numbers of Workers in Industrial Sector. From the first stages of industrialisation in the central city, growth and de-industrialisation (1861, 1951 und 1997)*  
*Source: Office for National Statistics, taken from Gaebe 2004: 185*

### 3.1 From the Metropolis to the Metropolis as a Region

we come to a second characteristic aspect of these developments, namely the process of suburbanisation. In the course of this process, and in the wake of economic tertiarisation, the number of jobs in city centres is declining as a result of firms relocating to the peripheries, which in turn means a decline in the number of residents, who are likewise increasingly moving to the green belts of the urban agglomerations. Unlike the process of de-urbanisation, which affects entire urban regions, the processes of contraction caused by suburbanisation affect city centres. At the same time, the losses experienced by the city centres are compensated by gains in the region, or even more than offset by people moving into the area from outside (cf. Gaebe 2004: 153).

Thirdly, running counter to the processes of de- and suburbanisation, a process of re-urbanisation is taking place in the city centres. This concept refers to the establishment of new, highly specialised consultancy services in the city centres (cf. DIW 2003). The economic functional change associated with this process creates a demand for young, well-educated, high-income, professional couples without children.<sup>1</sup> This special clientele of „new urbanites“ takes up residence in certain areas of the city, which gradually leads to gentrification and, frequently, long-time residents are forced out.

„In the course of this gentrification, islands of luxurious city living are established, in the immediate vicinity of rundown neighbourhoods, which (for the moment, at least) miss out on the investments in property improvement, and in which lower-income immigrants, along with those forced out of the ‚better‘ areas, have to find accommodation“ (Häußermann/Siebel 1995: 106).

Thus, the primarily economically determined re-urbanisation in the cities of the developed industrialised countries is accompanied by a more or less pronounced socio-spatial polarisation. This phenomenon of the refurbishment and gentrification of inner cities along with the simultaneous displacement of socially disadvantaged sections of the population to the urban fringes is known as the European „doughnut effect“,<sup>2</sup> in order to distinguish it from the opposite development in North American cities.

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<sup>1</sup> Dinks: double income, no kids

<sup>2</sup> As we know, the American „donut“ is a round pastry with a hole in the middle. The American „donut effect“ refers to the emptying out of city centres as a result of higher-income earners moving to the periphery. Unlike in Europe, where the city centres are frequently redeveloped and properties refurbished, in the United States the dominant trend is one of deterioration and depreciation, since only the poor remain behind in the city centres. The European development variant is thus referred to using the British spelling „doughnut“, in order to distinguish it from trends in the USA (cf. chap. 3.1.2 on urban development in the USA).

Fourthly, the development processes of de- and re-urbanisation as well as sub-urbanisation are overlaid by a *hierarchisation* of the urban regions. Comparable with the former spatial concentration of industrial production in certain urban agglomerations, a regional clustering is now under way in the services sector. Certain cities benefit from this development, while others – such as the former industrial centres – are largely excluded from it (cf. Oswalt 2004).

The basis for the establishment of the increasingly dispersed settlement structures and at the same time the driving force behind them has to be seen in the automobilisation of the developed industrialised countries: it was only the mass availability of cars that made it at all possible to cope with the new space-time dimensions that came to prevail in the regional metropolises. Conversely, the increased mobility constitutes an enduring impetus for ever more spatial expansion – with all the documented negative consequences (cf. Newman/Kenworthy 1999). To the extent that urban and traffic development in the developed industrial nations are on the same level of economic development, on the one hand we find that the development goes in an essentially comparable *direction*; on the other hand, it can be said that one and the same *path* of development has brought about significantly different manifestations of urban and transport development.

#### **3.1.1 Europe – Suburbanisation and Hybrid Traffic**

Europe can look back on a centuries-old urban history, in which significantly different stages of development can be discerned. Apart from the first towns founded by the Greeks 2000 years ago (e.g., Naples and Marseille), it was primarily the Romans who up until the 5<sup>th</sup> century founded almost all the major European towns (e.g., Trier, Cologne, Mainz, Koblenz). Throughout history, these towns were, however, repeatedly subject to profound changes. For instance, in the 12<sup>th</sup>-13<sup>th</sup> century, in the course of an explosion in urban development, they were reshaped by structures of the bourgeois *burgher* and trading/market town (Engel 2005). This period also saw the founding of most European towns. A distinctive feature was the absolutist or ideal – planned – towns, built between the 16<sup>th</sup> and the 18<sup>th</sup> centuries for the purpose of prestige, to demonstrate the personal omnipotence of secular rulers (cf. Krufft 1989). The starting point was mostly a palace or a stately residence, around which the residential development was then symmetrically laid out (e.g., Dresden, Potsdam, Karlsruhe, Mannheim).

European towns underwent a further profound transformation in the 19<sup>th</sup> century as a result of industrialisation. As more and more factories were set up, the medieval town of the bourgeois *burghers* developed into an industrial city,

### 3.1 From the Metropolis to the Metropolis as a Region

which required more and more workers. In this way, a process of urbanisation was initiated, which created an unprecedented dynamic (cf. Reulecke 2005). Towns that up until then could generally be traversed on foot within an hour expanded in just a few decades into ever larger and ever more complex agglomerations (cf. Fig. 6). A fundamental prerequisite for this spatial expansion

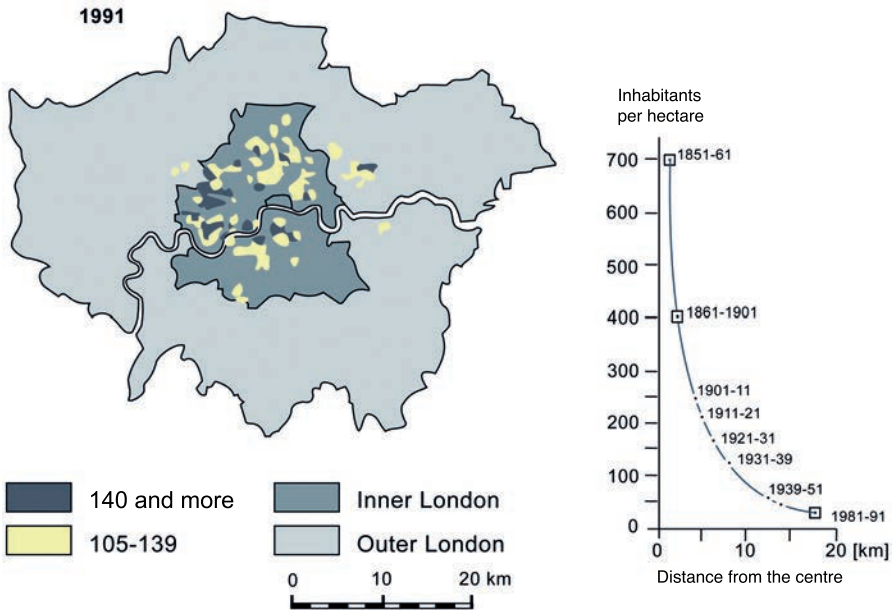


Fig. 6: Development of Population Density in London 1851/1861–1981/1991

Source: Mogridge/Parr 1997: 105

of the settled area was the rapid succession of innovations in transport in the 19<sup>th</sup> century. The different means of transportation making it possible to cover the ever greater distances expanded rapidly – starting with the horse-drawn cab, then the horse-drawn omnibus, the horse-drawn train, the steam tram, the electric tram, and finally buses and underground rail.

Over the same period, a functional differentiation of urban structures into residential areas and workplaces occurred. While up until the middle of the 19<sup>th</sup> century living and working spaces largely coincided spatially, from that point on the two functions were systematically detached from each other spatially and moved further and further apart. The increase in traffic and the associated increase in the mobility of urban dwellers were prerequisites not only for urban growth, but also for the progressive differentiation of the various spheres of activity. Conversely, however, it is also the case that the spatial separation of different spheres of activity was a direct cause of more traffic. This

mutually-reinforcing causal framework, where spatial expansion results in increased traffic, continues to this day and is now increasingly being problematised because of the negative side effects (cf. Apel et al. 2000). The frequently criticised decentralisation of population and employment is by no means a new phenomenon: its origins go back to the second half of the 19<sup>th</sup> century. Since then, however, the population density and employment density in the city centres has contracted further, by a factor of three-quarters to four-fifths. At the same time, a functional transformation took place, in which the city as a residential space was transformed into the Central Business District (CBD) and the commercial centre.

As a result, this process of industrial urbanisation has changed the social conditions of urban life so fundamentally and so swiftly that urban structures that developed over centuries have now retreated fully into the background and have barely any influence on the current development processes (cf. Fig. 7). In the 20<sup>th</sup> century, urban and residential development became increasingly detached from the original core city. Thus, in the transition from the industrial to the service city, all over Europe mono-functional housing estates – „green-field“ developments – arose on the urban peripheries, which were in part intentionally conceived as independent, discrete new towns (cf. Hannemann 2005; Schöller 2005a). But businesses also settled further and further outside the city limits, where more favourable site conditions were to be found (cf. Brake et al. 2001). The dispersed spatial structures that resulted from this development could only be negotiated with the automobile – which was also the vehicle that made it possible to advance ever further into the intermediate urban spaces (*Zwischenräume*).

Recent urban and traffic development in Europe has been characterised by two interdependent secular trends: on the one hand, by the level of economic development, on the other hand by the demographic development. Both trends – a high level of social prosperity and a declining birth-rate and population – are demonstrably interrelated (cf. Ehmer 2004.). Accordingly, the growth rates of the European population (excluding Eastern Europe) have steadily declined since the 1960s (cf. UN-Habitat 1996: 55) and in international comparison have long been the lowest (UN-Habitat 2013). But the second source that fed urban growth in the past, namely immigration from rural areas, is now also threatening to dry up. With 80 percent of the population in Europe already living in urban areas and with the populations in rural areas in some instances displaying even lower fertility rates than urban areas, a revival of urban space cannot be expected from this side (cf. Statistisches Bundesamt 2006). Using Germany as an example, Klaus Zehner has provided an exemplary synopsis of this urban development process in Europe in recent decades (cf. Fig. 8).

### 3.1 From the Metropolis to the Metropolis as a Region


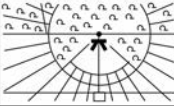

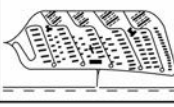
Period of development	Typing criteria	Ground plan	Focal point of the settlement	Transport system	Miscellaneous characteristic features
Medieval period (8th – 15th centuries) <b>Bourgeois burgher and trading/market town</b>			<ul style="list-style-type: none"> <li>- Church / Monastery</li> <li>- Castle</li> <li>- Market place / town hall</li> </ul>	<ul style="list-style-type: none"> <li>- Trade roads for wagons, oriented around the settlement focal point</li> <li>- Narrow, meandering lanes and alleyways for animal-drawn carts or hand-carts</li> </ul>	<ul style="list-style-type: none"> <li>- Walls, mostly with moats</li> <li>- Dwelling and work place under one roof</li> </ul>
Absolutism (16th – 18th centuries) <b>Seat of royal power</b>			<ul style="list-style-type: none"> <li>- Palace</li> <li>- Seat of royal power</li> </ul>	<ul style="list-style-type: none"> <li>- Avenues for carriages</li> <li>- Planned structures</li> <li>- Main axis oriented around the seat of royal power</li> </ul>	<ul style="list-style-type: none"> <li>- Parks and gardens geometrically laid out</li> <li>- Vaubanesque bastions</li> </ul>
Industrialisation (19th century) <b>Industrial town</b>			<ul style="list-style-type: none"> <li>- Industrial complex</li> <li>- Railway station</li> </ul>	<ul style="list-style-type: none"> <li>- Railway</li> <li>- Grid-style street network</li> </ul>	<ul style="list-style-type: none"> <li>- Tenements</li> <li>- Neighbourhood of mansions</li> <li>- By and large, spatial separation of dwellings and work places</li> </ul>
Present day (20th century) <b>Large-scale residential area / new town</b>			<ul style="list-style-type: none"> <li>- Supply centre</li> </ul>	<ul style="list-style-type: none"> <li>- Well-structured road network</li> <li>- Commuter traffic</li> </ul>	<ul style="list-style-type: none"> <li>- Diverse forms of dwelling and living</li> <li>- Clear spatial separation of dwelling and work</li> </ul>

Fig. 7: Overview of Urban Development in Europe

Source: Korby 2004: 17

Thus, the demographic developments are merely reinforcing the trend towards shrinking cities, which is already taking place in the context of economic structural change and which, as described above, is resulting in the exodus of populations from city centres. So far, however, it is primarily the former industrial centres in Europe that are affected by these real processes of contraction, meaning that, on the global level, we are dealing with a relatively marginal phenomenon.<sup>3</sup> Generally speaking, many cities and regions are still able to cope with the structural change, albeit with varying degrees of success.

<sup>3</sup> The G-7 states comprise only roughly 10 percent of the global population.

### 3 Urban and Traffic Development in International Comparison – A Survey

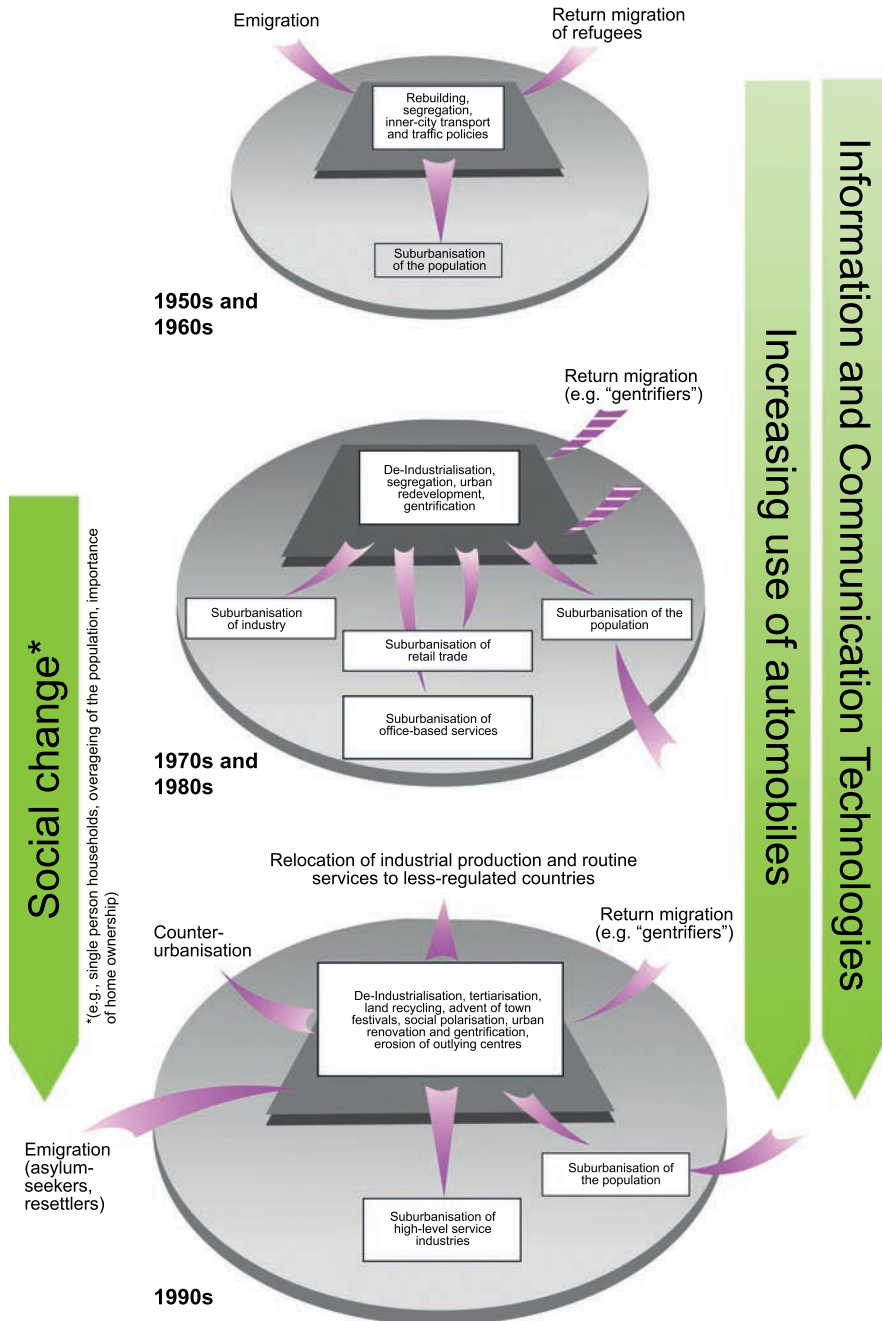


Fig. 8: Processes of Development in Urban Agglomerations in Germany  
Source: Zehner 2001: 137

### 3.1 From the Metropolis to the Metropolis as a Region

Developments in Germany serve as a particularly good illustration of just how complex and prone to counter-trends the processes of urban development are in general (cf. Fig. 9). Especially conspicuous here is the sharp distinction between West and East Germany. So far, shrinking cities have been an almost exclusively East German problem. While in West Germany 2.6 percent of all towns and municipalities (0.6% of the population) are affected by processes of shrinking, in the East, 53.5 per cent (39% of the population) are struggling with them (cf. BBSR 2011).



### 3 Urban and Traffic Development in International Comparison – A Survey

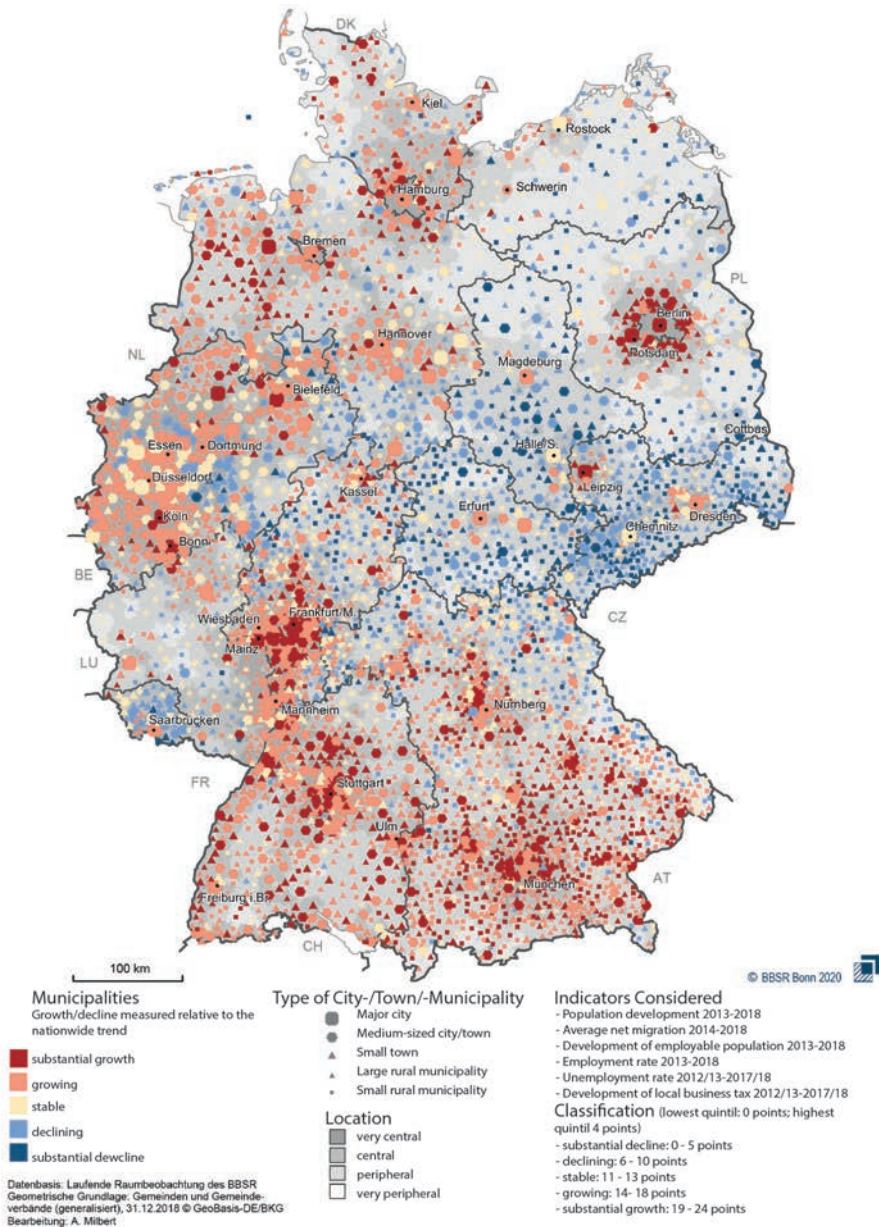


Fig. 9: Shrinking and Growing Towns and Cities

Source: BBSR 2020: 6

### 3.1 From the Metropolis to the Metropolis as a Region

#### ***Moscow: Excursus***

*In the European East Bloc countries, Moscow was undoubtedly the most important city. In the 1930s, it developed into a „mega-city of socialism“ (cf. Neutatz 2006). In just three years, from 1930 to 1933, the population increased by 1.2 million to more than three million. Due to this sudden population growth, which was triggered by Stalin's land reform, the traffic conditions in the city were dramatically exacerbated. The tram system, which had already been expanded several times, had now reached the limits of its capacity. Given the narrow streets of the city, further expansion was not possible. The city freed itself from the traffic congestion by building one of the world's most noteworthy underground rail systems, of which the first two lines were put into operation in 1935.*

*With the opening of the country in the early 1990s and the integration of Moscow into the world market, a further phase of dynamic urban development began. Since then, the city population has grown from nine to just on 13 million people. Some 15 million people live in the Moscow conurbation, most of whom commute to work in the city. The attendant catastrophic traffic conditions are reminiscent of the 1930s. Seemingly just as radical in their way as the underground rail system was in its time are the present-day freeway projects, by means of which the city administration is trying to free the city from its traffic chaos. In 2000, mayor Dmitry Grubyy initiated a transport reform from above, based on the idea of the European City. This included the development of a bicycle infrastructure, car restrictions such as parking fees, car and bike sharing, wider sidewalks and new public spaces, separate bus lanes, night transport and the first integrated fare system. Moscow currently has the largest fleet of electric buses of any European city (cf. Ponomarev & Schwedes 2022). After trying to make up for lost time and transforming itself into a car-friendly city by imitating the development in Western European cities in the 1960s, Moscow's capital has since taken the European path of urban and transportation development.*

The Federal Institute for Building, Urban Affairs and Spatial Research (BBSR) understands shrinkage and growth as a multi-dimensional process that is measured on the basis of six indicators: population growth, total net migration, job development, unemployment rates, real taxable capacity and purchasing power. The six indicators are correlated and, depending on their specific values, they form spirals of growth or contraction:

„Shrinkage in this context means a negative circularity in urban development. Population decline is caused by losses to migration, high unemployment by major job losses, with a decline in population and jobs leading to a decline in purchasing power and real taxable capacity. Decreasing private and public funds cause declines in investment in private enterprises and public infrastructure, which in turn reinforces the shrinking processes in population and jobs“ (BBSR 2015a: 8).

According to the calculation basis of Siedentop et al. (2003), since the late 1990s more people in Germany live and work in suburban areas than in the central city areas. Currently, though, on the basis of population and job gains, in the great majority of cities and municipalities one finds a growth spiral that is running counter to the shrinkage trend. But according to the demographic calculations for 2020, this is not expected to last (cf. BMI 2011.): while two thirds of the population currently live in urban growth regions, by 2020 the proportion will have dropped to less than 50 percent (see Fig. 10). However, in light of the negative experience with long-term projections of social trends, possible breaks in the trend should be borne in mind (cf. Ehmer 2004). If it can be assumed that the economic structural transformation is not yet complete, then it is also not yet clear whether a new growth momentum might not develop on the basis of a new production regime. For instance, the new service sectors are expected to settle mainly in central city areas (cf. Brake/Herfert 2012). In the wake of such a period of prosperity, a population increase through immigration would be conceivable, as was the case in Germany at the height of urbanisation (cf. Teuteberg 1983). Finally, there are indications that, once their children have left home, at least some sections of the new generation of older people will increasingly move back to the cities in order to take advantage of the wealth of cultural offerings (Brühl et al. 2006). All these possibilities are perfectly conceivable and would counteract the current trends in de- and suburbanisation, as well as the processes of shrinkage, from which the central city areas would then ultimately benefit. These trends are being given conceptual support by politicians and researchers via the model of the „city of short distances“ (cf. Gertz 1998), which can be considered as an alternative to the urban sprawl encouraged by the subsidisation of privately-owned homes in the green belts. This model envisages special encouragement for compact settlements with their own infrastructure, which can be traversed on foot. This is also intended to facilitate efficient connections to public transport, in the hope of alleviating dependence on the private automobile.

However, these concepts are still not underpinned in Germany by a comprehensive socially and politically-based spatial development policy. Although Germany has a long tradition of regional planning, the power to influence and shape development nevertheless remains limited. The reasons for this have been succinctly summed up by Dietrich Fürst: „The basic organisational problem of spatial planning (spatial and regional planning) is that it is a ‚cross-departmental‘ portfolio in an administrative structure that is organised vertically and according to sectors: It is entrusted with the task of coordination, but it has no political clientele or resources to call its own. In addition, it comes up against sectoral policies endowed with a strong political clientele, consid-

### 3.1 From the Metropolis to the Metropolis as a Region

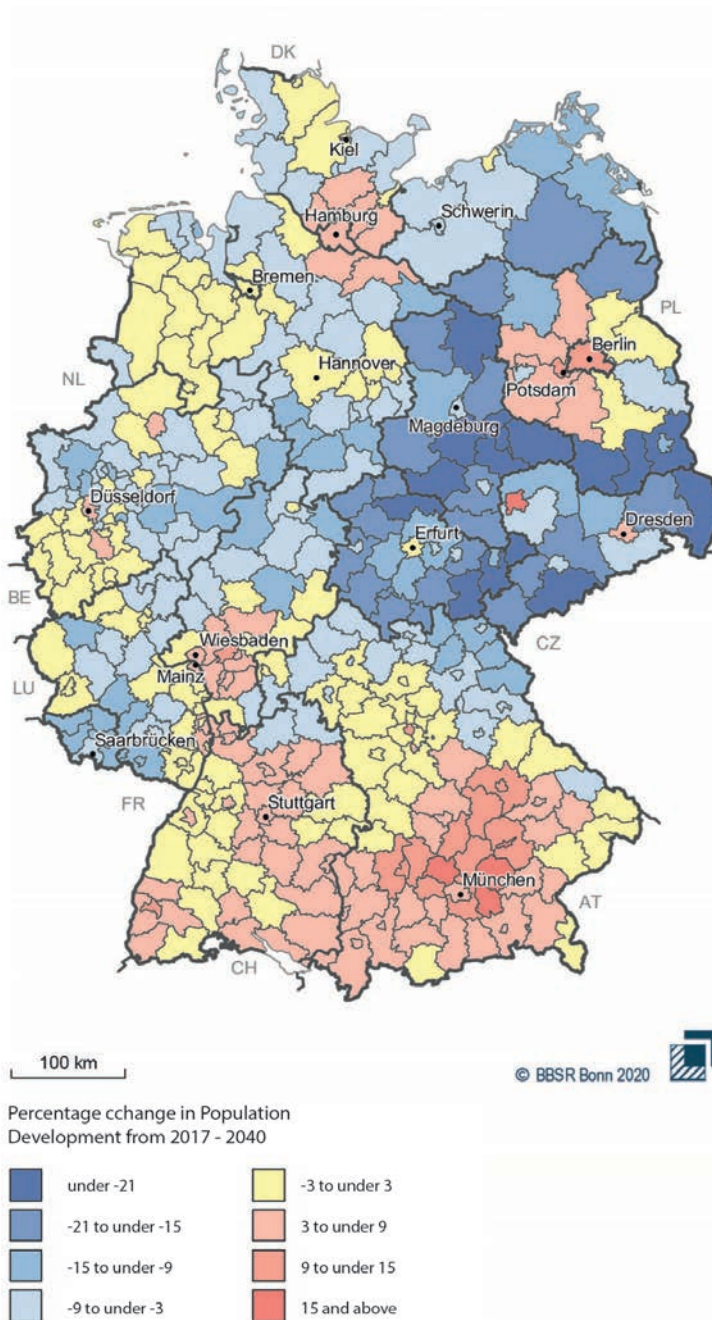


Fig. 10: Population Development from 2015 to 2030  
Source: BBSR 2021

erable resources and generally speaking also with their own legal norms. Such ministries, however, are scarcely open to influence from spatial and regional planning, especially since they always have good reasons not to stray from their adopted policy paths (which are legally protected, backed up by political decisions, defended by a political lobby and their own parliamentary committees)“ (Fürst, 2010: 63; BBSR 2015a).

Even if the urban agglomerations can hold their ground as important functional centres, given the lack of controls in politics and planning it is highly unlikely that the path of increasing decentralisation pursued since the 19<sup>th</sup> century will be abandoned completely. On the contrary: the latest settlement development indicates that current residential construction in Germany is taking place in the suburbs (BBSR 2016). And thus in addition to suburbanisation around urban centres, we also find signs indicating the development of autonomous hinterland areas, suggesting that the region is establishing itself more and more as a sphere of activity.<sup>4</sup>

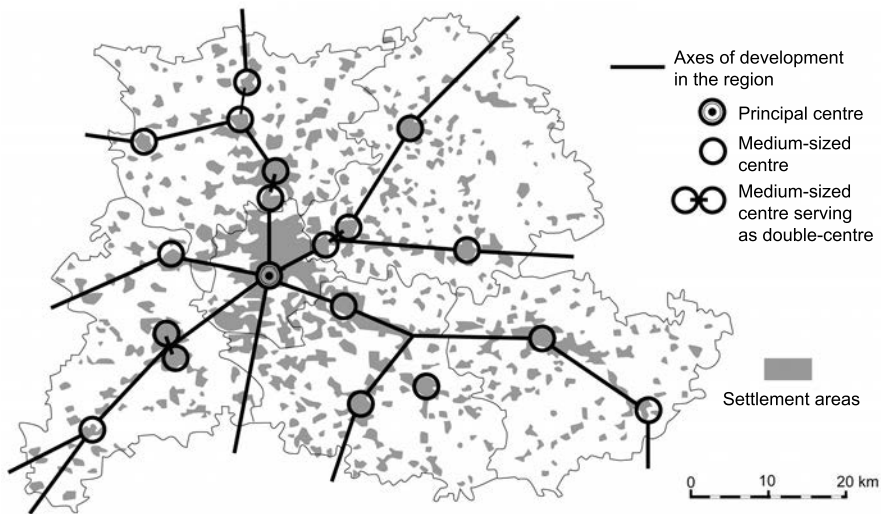


Fig. 11: System of Centres in the Stuttgart region 2002

Source: Verband Region Stuttgart, Wirtschaftsministerium Baden-Württemberg, taken from Gaebe 2004: 184

„Functional specialisation reinforces the regional division of labour. Both in polycentric systems of regional settlement with established centres (for example, the Stuttgart region [Fig. 11 and 12]) and which display stronger growth in outlying areas than in the central urban area, as well as in new, multi-modal, functionally specialised systems

<sup>4</sup> On developments in Europe, cf. Couch et al. 2007

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of settlement with residential, industrial and commercial areas, shopping centres, retail warehouses, office and technology parks, freight and logistics centres, the regional networks are becoming denser, and the relations between the urban core and surrounding areas are becoming relatively weaker“ (Gaebe 2004: 183).

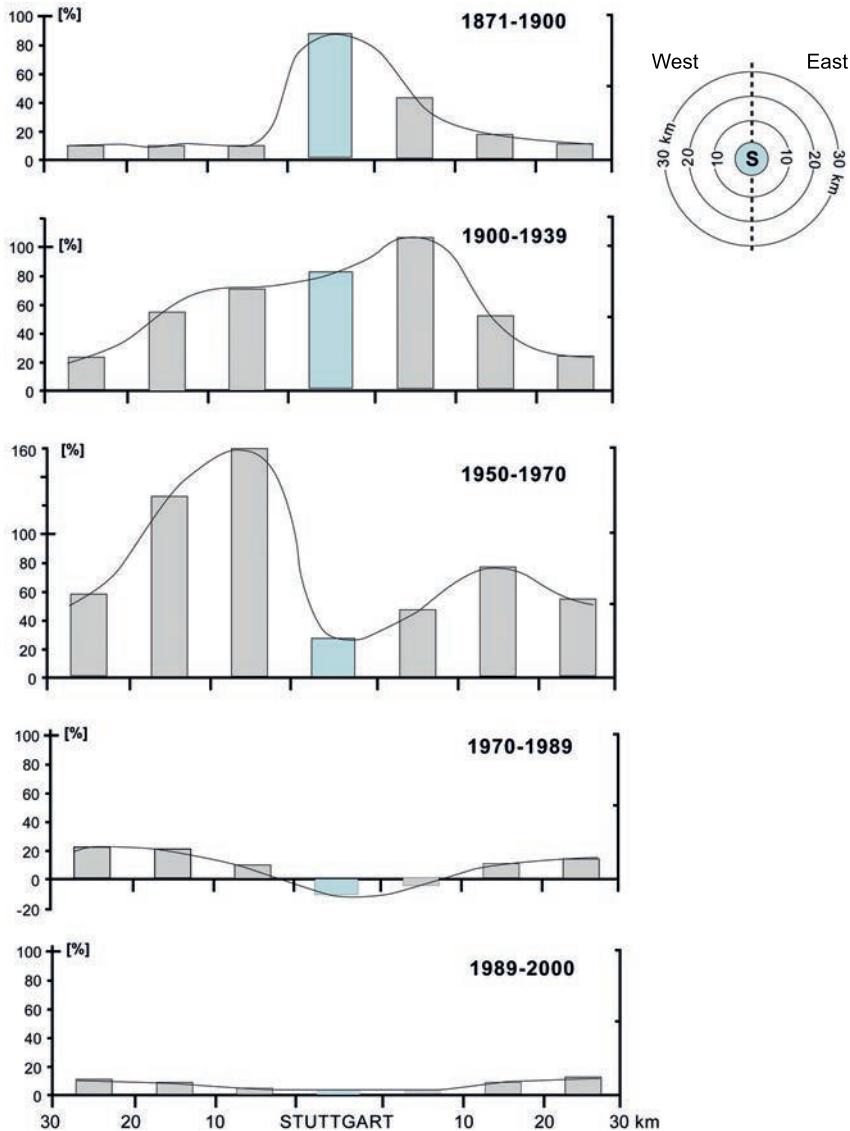


Fig. 12: Population Development in the Stuttgart Area 1871–2000

Source: Statistisches Landesamt Baden-Württemberg, taken from Gaebe 2004: 184

Even if it is true that the core city as the main locus of commerce is presently suffering only a relative loss of importance, the trend nevertheless seems to be clearly indicated (cf. Milbert/Sturm 2016). It can be described as suburbanisation with hybrid forms of transport, that is, with offerings that selectively integrate individual and collective transport (cf. Cervero 1998: 211ff.).

This realisation has established itself at the European level and has led to the strategic concept of „European regional metropolises“.

„According to what we know about the ‚geography‘ of the ‚globalised new economy‘, the importance of cities is not decreasing but rather increasing. As hubs of the global network economy, they have in a sense become the latter’s territorial skeleton – a skeleton that, as a kind of functional equivalent, has taken the place of the traditional territorial order of nation states and economies. The new global economy is not simply unbounded and de-territorialised but leads to a new ‚geography‘, the contours of which, however, have so far emerged only in outline“ (Blotevogel 2000: 165).

The background to the European debate on greater regional cooperation between the member states was the perception of a growing inequality in conditions for development within the EU. The central European growth zone was described using the so-called „Blue Banana“ (cf. Fig. 13). It denotes a pentagon with the vertices London-Paris-Milan-Munich-Hamburg, which comprised 20 percent of the surface area of the – at the time – 12 member states, where more than 40 percent of the population lived, and which generated 50 percent of the GNP. In order to counter the increasing decoupling of entire regions from the growth areas, the European Community launched an initiative known as the European Spatial Development Perspective (ESDP), which was aimed at enhancing cooperation within the so-called metropolitan regions (cf. COM 1999). The original motivation of the European Commission to deal with an issue like urban policy – which, according to the subsidiarity principle, does not actually fall within its jurisdiction – was to combat the negative environmental and social effects that began to emerge in the context of urban development increasingly driven by economic criteria (cf. COM 1990). This included land use that involved an inexorable urban sprawl on the periphery of European cities as well as increases in traffic due to the dispersed settlement structures (cf. COM 1994). In addition, in the light of 50 million poor and marginalised people, the European Commission drew attention to a growing socio-spatial polarisation that was not compatible with the image of socially inclusive European cities (cf. COM 1993). Initially, the European Commission thus focused in particular on the environmental and social aspects of urban development, in the framework of a sustainability strategy. The goal was to curb the destruction of European cities and the general trend towards American conditions by creating close-knit networks based on solidarity between cities, in



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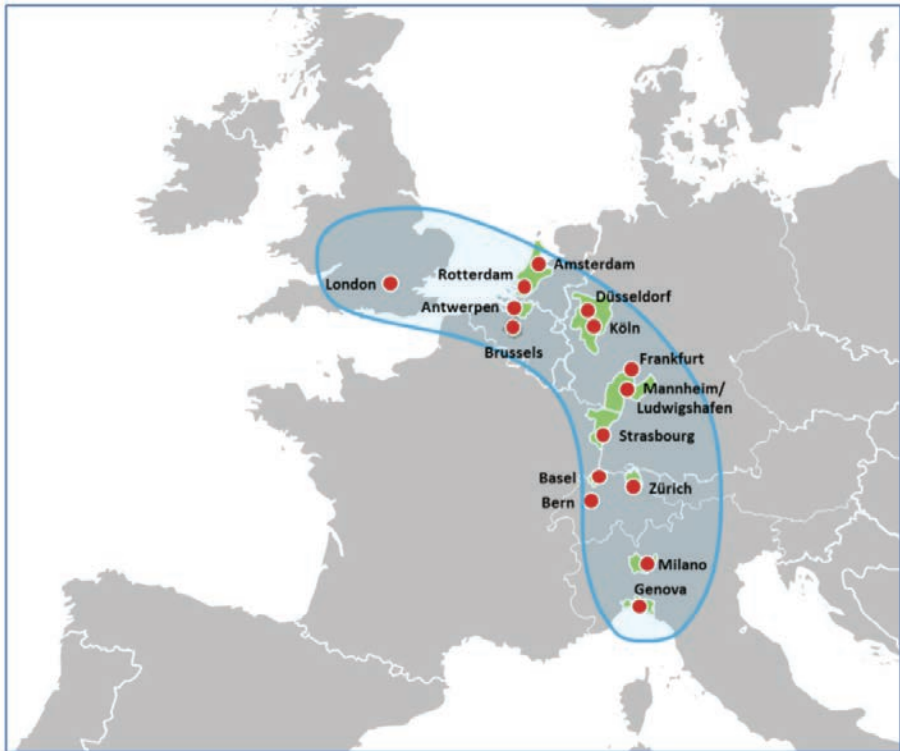


Fig. 13: Centres of Growth in Europe (The „blue banana“)

Source: Wojciechowski 2016: 6

which cities would no longer compete but rather cooperate with each other. In light of global challenges, earlier failures resulting from competitive friction were to be converted into synergy effects. Initially, Europe's chances of being able to use the framework of regional metropolises contain the highly dynamic processes of urban development in a globalised world were highly rated.

„Its historical development with the emergence of a large number of nation-states has led to a differentiated ‚cityscape‘ with a considerable variety of nationally and internationally important centres. This provides a fundamental opportunity to steer the momentum of the development towards many different poles and to bring about a spatially balanced development“ (Göddecke-Stellmann et al. 2000: 646).

But observers soon recognised the danger that the former competition between individual cities would now – under the primacy of economic imperatives – merely be shifted to the level of competition between city networks (cf. Leitner/Sheppard 1999; Hooghe/Marks 2001). The fear was that the city networks would fail to rectify socio-spatial inequalities, since the optimisation of these



networks was also subject to purely economic considerations of efficiency. It became evident that this apprehension was not entirely unfounded when, in March 2000, the European Council adopted the so-called „Lisbon Strategy“, meant to make the EU „the most competitive and dynamic knowledge-based economy in the world, by 2010“. The EU statements indicate that the priorities were clearly being shifted in favour of business interests: „In keeping with this strategy, a strong economy creates jobs and promotes social and environmental measures, which in turn ensure sustainable development and social cohesion“ (EU 2005).

But it is not just through its structural policy in the framework of European metropolitan areas, but also through a transport policy of trans-European networks that the European Commission demonstrates that its primary aim is economic growth. The transport policy model of the „city of short distances“ was summarily neutralised and tacitly extended to a model of an „urban region of short distances“. As the urban sociologist Susanne Frank points out, central insights of European urban policy of the 1990s thereby take a back seat:

„[...] Such as the widely established fact that economic growth is not a panacea against poverty and exclusion, but under present conditions it actually goes hand in hand with them, indeed even produces and reproduces them. The same applies to the political insight that it is also precisely our very own economic policies regarding growth and competition that are contributing to the increase in social and spatial disparity, which is why the fight against them has always understood as a question of social morality and solidarity. The shifts in question will have consequences for those ‚disadvantaged‘ or ‚problem-laden‘ cities, neighborhoods and social groups, which will produce more costs than benefits for the European economy“ (Frank 2005: 318).

The same applies to European transport policy, which is now primarily understood as a central component of a policy for economic growth (cf. Schwedes 2011). As a result, the social cleavages within the European Union have deepened further in recent years. In 2019, 92.4 million people in the EU-27 were affected by poverty; this is equivalent to roughly 21 percent of the population (cf. Eurostat).<sup>5</sup> The goal of integrated transport policy and planning also currently seems more remote than ever (cf. EEA 2015).

The USA serves as an illustration of the effects that an economically-driven sociopolitical orientation has on urban and transport development.

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<sup>5</sup> The E.U. defines those who are living on less than 60% of the median income as threatened with poverty.

#### 3.1.2 USA – Splintering Urbanism and Car Traffic

Although urban and transport development in the United States has generally gone in the same direction as it has in Europe, there are major differences in the way it has been implemented. Similarities exist to the extent that urban and transport development in the USA is also on a course of spatio-temporal expansion. Settlement development is also moving deeper and deeper into suburban areas and beyond, even more so than in Europe. Accordingly, the tendency to break away from the core city is more pronounced in the USA than in Europe.

In the USA, this development did not encounter the forces of inertia of the centuries-old city structures which belong to the historical heritage of Europe (cf. Chudacoff/Smith 1994). This is one reason why the economic transformation from the industrial city to the services city is reflected in the USA in a spatially much more differentiated city structure than in Europe. The developments in Atlanta are exemplary in this respect and hold true for most American cities (cf. Fig. 14). Here, business enterprises were able to freely settle in the surrounding region without regard to traditional, historical structures. In addition to the business enterprises, the residential population was also increasingly drawn to outlying rural areas. Today over 60 percent of the American population live in suburbs around urban centres (cf. Lucy/Phillips 2000). The residential and commercial areas have developed into a mosaic in the outlying areas, which has led to the term „splintering urbanism“ (cf. Graham/Marvin 2001).

The pre-condition and motor for this sprawling settlement development – areas which can no longer be served by rail-based forms of transport – was the fast-tracked development of the private motor vehicle (cf. Newman/Kenworthy 1999). As a result of this tight symbiosis between the automobile and expanding settlement development, today 40 to 50 percent of settlement areas in the USA are utilised by motor traffic, whereas in Europe it is less than 20 percent, due to its compact settlement structure, which is served by a dense network of state-subsidised public transport (cf. Apel et al. 1997).

This clear, qualitative difference in urban and transport development between „old Europe“ and the USA cannot be explained solely by the comparatively unrestricted initial situation in the USA. An additional factor is that the American social model is based on a different conception of society and socialisation. Unlike European states, which as a result of absolutism attach a high importance to the state, in the USA, the local municipality is accorded a special significance, which also extends to the way that citizens see themselves. Accordingly, the „Founder States“ are deemed to be the cradle of American society, a view that to this day sustains the founding myth of an identification

### 3 Urban and Traffic Development in International Comparison – A Survey

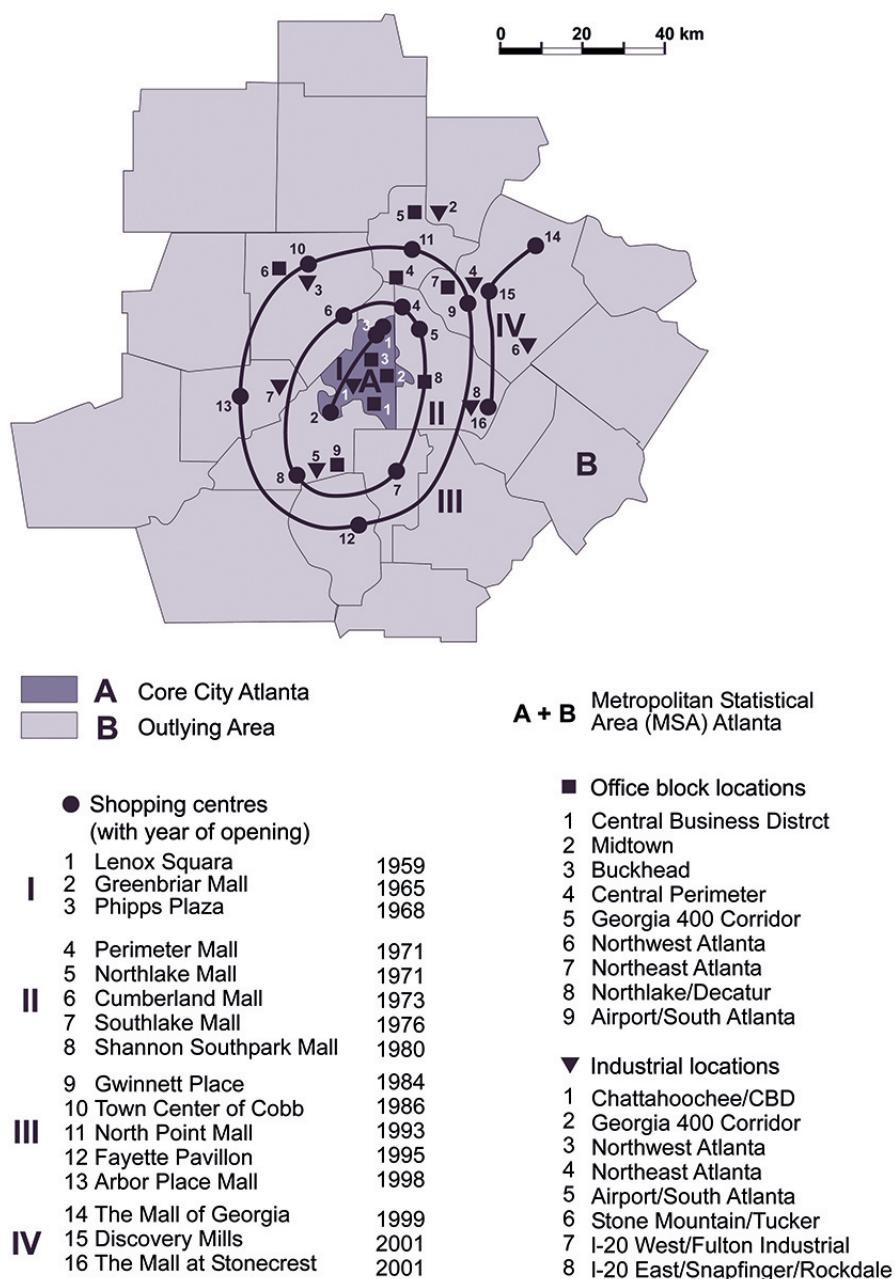


Fig. 14: Major Shopping Centres, Office Blocks and Industrial Locations in the Metropolitan Statistical Area (MSA) Atlanta

Source: Gaebe 2004: 226

### 3.1 From the Metropolis to the Metropolis as a Region

with „America“ as the community of the free and the equal (cf. Kallscheuer 1994). The starting point is the individual who, by pursuing his or her personal goals, simultaneously provides the greatest benefit for the community. Lewis Mumford (1961) suggested that it is this attitude that, in conjunction with early religious beliefs, developed into a precursor of neoclassical economic theory that to this day determines the social conditions in the United States: „[...] the belief that a divine providence ruled over economic activity and ensured, so long as men did not presumptuously interfere, the maximum public good through the dispersed and unregulated efforts of every private, self-seeking individual“ (ibid.: 452).

Accordingly, open competition mediated by the market is still held to be the best form of socialisation for all members of society – „the market knows best“. Government intervention, on the other hand, is accepted as a last resort at best, in order to assist individuals who have failed to withstand the market. This belief in the market and the skepticism towards the state remain formative influences on American urban policy (cf. Orfield 2002; Dilworth 2009).

„Cities are viewed as having been created by average Americans whose demands for such things as autos and single-family houses have forced developers, builders, and industrial executives to respond“ (Feagin/Parker 1990: 6).

This means any form of urban and transport development is self-legitimizing, since it is the appropriate expression of the wishes and interests of all members of society. The consequences of such a viewpoint can be illustrated using the example of the economic structural changes in the USA. When in the 1970s the early industrial cities in the north and east, in the so-called ‚rustbelt‘ (New York, Philadelphia, Pittsburgh, Chicago, Detroit), rapidly slid into crisis, the US government commissioned a study to develop proposals on what to do with these cities in the future (cf. The President’s Commission 1980). In the study, the migration from the rustbelt in the north and east to the sunbelt in the south and west of the country was interpreted in accordance with the philosophy „the market knows best“ as a consumer decision, with which the economy complied, and to which the people in the former industrial metropolises would simply have to submit. Therefore, the government was advised not to provide further support for the rustbelt cities and to encourage people there to move to the sunbelt cities.

This specifically political way of dealing with financial crises and the associated spatial inequalities differs significantly from the European tradition of social equalisation and compensation administered by the public sector. While in Europe both at the national level (inter-state fiscal adjustment – *Länderfinanzausgleich*) and at the European level (e.g., structural funds) there are models

of financing and agencies devoted to redressing unequal regional living conditions, in the United States there is no equivalent of planning on a regional level. State intervention of this kind is not envisaged, due to the country's cultural and political tradition (cf. Rietveld/Stough 2005; Bühler/Kunert 2008). Instead, spatial disparities and unequal developments are generally accepted as market adjustment processes. American urban development thus follows much more closely the dynamics of economic development than is the case in Europe (cf. Fig. 15).

An example that has recently often been mentioned because of its dramatic dimensions is the former „Motor City“ Detroit (cf. Sugrue 2004). Since the 1960s, more houses have been demolished there than newly built, year after year, with the result that Detroit is now less densely settled than the surrounding area and the former industrial metropolis has „become a suburb of its suburbs“ (Plunz 1995: 2013). Detroit can be considered a representative example of both industrial restructuring in developed capitalist countries generally and of an American rustbelt city in particular (cf. Sinclair 1994). It is nonetheless also a very special case, because in no other city has the change been so radical. In addition, Detroit also exemplifies urban policy in the USA since it epitomises the economic freefall of a metropolis where there was no political intervention to attenuate the damage.

The „car city“ Detroit flourished in the mid-1950s, when the companies based there, General Motors, Ford and Chrysler, were responsible for about 90 percent of US car production and more than 50 percent of global car production. It was however precisely this gigantic mono-structure that was behind the city's downfall, beginning with the profound structural change in the 1970s (cf. Denison 1987). Triggered by the oil crisis, increasingly tough Japanese competition and low productivity, 40 of a total of 126 manufacturing sites were initially closed, with 40,000 of the total 64,000 jobs lost or transferred to lower-cost locations in the US or abroad. The result was an increase in unemployment from seven to 20 percent (cf. Deskins 1996). The number of inhabitants in the central city area fell from 60 percent of the metropolitan area in the 1950s to 23 percent in the 1980s, while the population in the outlying areas increased accordingly, due to extensive suburbanisation.

These spatial migrations proceeded in a socially highly selective fashion. While the black as well as the white middle-class households left the inner city area, the underprivileged, largely black population remained behind. Their proportion of the population rose from 16 percent to nearly 80 percent, bringing the poverty rate – which has risen to a total of 25 percent of all households –

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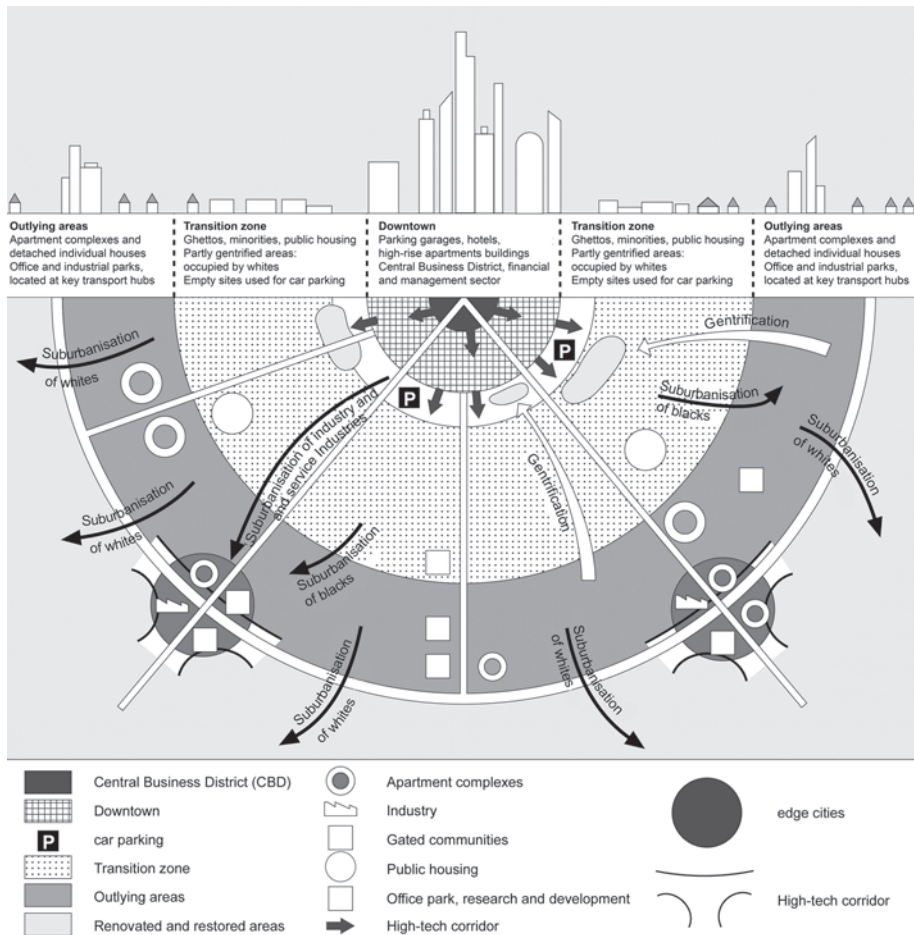


Fig. 15: Schematic Representation of a US-American City

Source: Own representation based on Hahn 2002: 44

in some districts to over 40 per cent (cf. Fig. 16). This situation is referred to as the American „donut“, in contrast to the European „doughnut effect“.

These processes of segregation were given added impetus by the spatial settlement structure of the regional metropolis Detroit, which developed in the wake of the structural changes (cf. Hahn 2002: 149f.). Finally, in the 1990s, knowledge-intensive service enterprises moved to the city, but located mainly in the suburban areas. The residential population settled on the outskirts, at an even greater distance from the city centre. As a result, the number of jobs in the suburban county of Oakland now exceeds those in the core zone of Detroit, both in the services as well as in the manufacturing sector. In turn, the highest

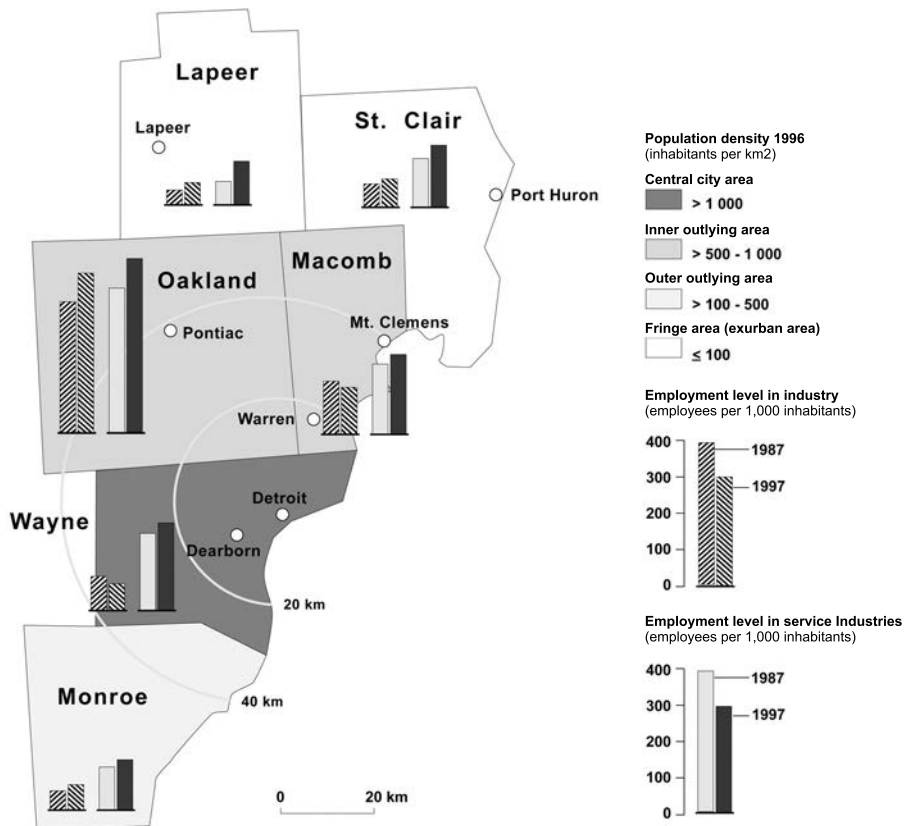


Fig. 16: Detroit Metropolitan Area: Spatial Segmentation and Employment Levels by Sector, 1987 and 1997

Source: Hahn 2002: 148

level of housing construction is to be found in the neighbouring Lapeer County. This has resulted in a highly fragmented, socially segregated settlement structure, both in the central city area and in the surrounding areas. Since the 1970s, there have been numerous attempts to initiate a renaissance in the city centre, which has effectively meant that financially strong developers select certain neighbourhoods for refurbishment, a continuing process which involves the displacement of poorer residents. This is giving added impetus to the division of the central city area of Detroit into rich and poor neighbourhoods.

„On the one hand, major new projects in the downtown area and, on the other hand, segregation, poverty, physical decay in the inner city areas. The suburban zones including the counties of Oakland and Macomb have now achieved far greater economic power and dynamism than the core city; edge cities, research, office and industrial parks, as well as socio-economically differentiated residential areas create an

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impression of fragmentation, including the outlying areas. The ex-urban outer zone is dynamic, with a low population density. The concept of the ‚galactic city‘ is used to illustrate the mosaic-like structure of the area as a whole“ (Hahn 2002: 152).

The process of social segregation described for Detroit applies to American cities as a whole. This has led to an ever-increasing degree of social and ethnic polarisation, which is reflected in highly segmented urban structures. Socially disadvantaged groups end up concentrated in ever larger urban areas, which in some cases extend to 40 to 50 percent of the inner-city area (Washington D.C., Atlanta) and because of their scale, which far surpasses the traditional ghettos limited to individual neighborhoods, they are referred to as hyper-ghettos (cf. Schneider-Sliwa 1996; Wacquant 2006). In turn, life in these neglected or abandoned areas has a discriminatory effect on the residents.

#### ***A Case in Point: Education***

*The fragmented urban structures in the United States have a correlative in an equally fragmented school system. A Federal law passed in 2002 (No Child Left Behind Act) required the individual states to introduce minimum standards and, by means of nation-wide annual tests, to assess the extent to which pupils achieve the standards. It was hoped that this measure would encourage performance competition between schools, and secondly, that it would detect weaknesses in the school system and, thirdly, motivate political decision-makers to eradicate the existing shortcomings. To date, only one of these objectives has been achieved, namely a detailed list and description of the nation-wide problems in the school system: in Connecticut, for example, 68 percent of white pupils meet the standards, but only 27 percent of blacks and 30 percent of Latinos. It is unclear to what extent these results contribute to productive competition between schools and whether politicians are thereby induced to eradicate the failings, but skepticism is more than likely called for. Finally, the tests in recent years have merely once again confirmed what had been repeatedly demonstrated in previous studies. However, past attempts to rectify the situation failed because poor schools are concentrated in deprived neighbourhoods, while good schools are primarily located in districts where the population is better off: „In Westport, a district not far from New York populated by hip bankers, 93 percent of eighth-graders managed to complete the syllabus in mathematics, while in New Haven, home of the famous Yale University, but with a significantly poorer and predominantly black and Hispanic population, only 22 percent completed the syllabus, and in New London, a poor former whaling town, it was just 14 percent“ (Schreiterer 2005: 27).*



*Against this background, inter-school competition across city district boundaries is not to be expected, because the socially disadvantaged classes lack the necessary social as well as physical mobility; nor can one expect politicians to be able to bring about major change in these districts. Since the school system is intertwined with the fragmented city structures, it reproduces a social segregation that, in the absence of a profound structural change, stands little or no chance of being moderated politically.*

Dominant in and encouraging these developments are local protagonists (cf. Harris/Larkham 1999), namely representatives of business, who traditionally play an especially prominent role and who, in accordance with neo-classical teachings, endorse unrestricted economic growth. They join forces with political representatives to form the frequently-described „local growth coalitions“, as they are known (cf. Mollenkopf 1983; Swanstrom 1985; Logan/Molotch 1987). In this way, economic interests in the United States assume an even more prominent position than in Europe and are able to articulate their legitimate interests to powerful effect. To sum up, there are two special features that distinguish the nature of urban regimes in the USA from those in Europe: first, there is no regional authority in a position to coordinate different local interests.

„Efforts to create a more overarching culture of regional planning have mostly come to nothing. Certain of the restrictions placed on development projects in European cities would be viewed as brutal indications of Big Brother politics if one tried to introduce them to the United States. Cities like Detroit may be suffering, but the American commitment to individual freedom prevails over all such misgivings“ (Gallagher 2004: 244).

Settlement development in the USA is likewise accordingly aimless and disparate.

Secondly, the activities of economic agents are only tentatively regulated by a political framework. Instead, as described above, the free development of individual economic interests is considered the highest social good and is accordingly given strong political support. More than 60 percent of the jobs in the urban agglomeration areas of the USA are now located outside the central city areas. Businesses increasingly hire employees who moved to the outskirts in an earlier phase of suburbanisation. In addition, new production plants attract additional workers and thus provide an impetus for still more suburbanisation. Given the advanced state of this self-perpetuating development spiral, strategies that endeavour to depart from this path are confronted with a seemingly overwhelming dynamic. Every alternative strategy, whether it is an attempt to

### 3.1 From the Metropolis to the Metropolis as a Region

revitalise the city centres or to revive public transport, first has to clarify how it intends to deal with the forces in question (cf. Levine 2015).

However, the dispersed settlement structure in the USA cannot be explained by an absence of governmental intervention, a point which is illustrated by the close link between the sprawling settlement development and the politically fast-tracked automobilisation. As has been repeatedly shown, for decades a policy prevailed in the United States that one-sidedly favoured the automobile, while – in contrast to Europe – public transport was increasingly neglected (Leavitt 1970; Yago 1984; Holtz Kay 1997). The policy was oriented towards the specific interests of the car lobby.

„Their implicit (and sometimes explicit) national goals are usually two cars in every garage, a gasoline station on every corner, and cities devoted overwhelmingly to streets, parking lots, and maintenance facilities for the auto. Progress is measured in terms of car ownership and highway and street mileage. If the cities seem choked and under strain the solution is to improve and expand car-carrying capabilities“ (Taebel/Cornehls 1977: 249).

This alignment of political policy with the interests of the car lobby meant that, from an early stage and much more radically so than in Europe, American cities were subjected to the requirements of automobile traffic, leading to urban structures that reflected these requirements (Jones 2008; Hirt 2014). Much of what was propagated in Europe after the Second World War as part of the model of the car-friendly city (but in reality often not implemented due to strong public opposition) was indeed carried out in the USA. The most impressive demonstration of this is undoubtedly the city of Los Angeles, where in the city centre (downtown) almost 60 percent of the surface area is devoted to car use (roads, parking lots, etc.). In most major US cities, the proportion is 40 to 55 percent, with the „new“ cities of the sunbelt exhibiting the highest proportion (cf. Kenworthy/Laube 2001; Vivier 2001). The result is that most US city centres today consist of transit spaces that do not encourage people to linger (cf. Graham 2001).

However, this development is increasingly being problematised in the USA. As early as 1975, a study produced by the Urban Land Institute, an organisation closely affiliated with the private sector, found that „many people [that is, developers] feel the private automobile cannot remain the primary mode of travel for the work trip“ (Urban Land Institute 1975: 221). Meanwhile, a nationwide movement has emerged which, under the slogans „smart growth“, „new urbanism“ and „liveable communities“ is advocating a restriction on the unbridled settlement and traffic growth (cf. Duany et al. 2010). The most prominent example is the city of Portland, which created an „urban growth

boundary“ as early as the 1970s, which was used to limit residential development and to prevent excessively scattered settlement structures (cf. Chapman/Lund 2004). Beyond the model example of Portland, however, an overall assessment of the situation leads to a sobering conclusion, since even smart growth still involves settlement growth in suburban and peripheral areas (cf. Boone/Modarres 2006). Even in Portland the „urban growth boundary“ was recently extended (cf. the comprehensive overview by Levine 2015: 239ff.).<sup>6</sup>

Overall it can be said that the urban topography in the USA today displays a complex, extremely dynamic and in many respects bewildering panorama (cf. Leichenko 2001). As the example of Detroit was intended to make clear, the distinction between the rustbelt and the sunbelt, long considered conclusive, is at best of limited usefulness. Like many other cities in the former rustbelt, in the 1990s Detroit underwent a successful economic restructuring, from „motor city“ to a knowledge-based, service industry metropolis. However, as in other American cities, this development took very different spatial forms, with refurbishment and gentrification taking place in parallel with unhindered decline and dilapidation, often in the direct vicinity. This applies to the downtown area, which has been partially refurbished and gentrified, but which as a whole has still not recovered entirely from the economic decline of the 1970s-1980s. It also applies to the surrounding regions, which have indeed generally benefited from the structural change, but to quite different degrees. The relationship between the downtown area and the surrounding communities also displays substantial variation, although the amount of commuting between the outlying communities now increasingly outweighs the commuting between these communities and the central city area, as was customary when the latter was still the only major attraction. The decoupling of inner cities from the dynamic of economic development in the urban agglomerations – a decoupling that has provoked anxiety in Europe but has largely remained a spectre – is already well advanced in the USA, due to the quite different political and cultural traditions outlined above. This development is confirmed by the most recent nationwide data collection (cf. Badger 2015).

As has been made clear, we are not dealing with development processes that occur because there are no alternatives; rather, the nature and magnitude of the decoupling in question are closely linked with deliberate, specific political decisions, even when the latter are closely aligned with economic requirements.

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<sup>6</sup> For an appraisal of smart growth with respect to the regional development of Greater Seattle, cf. Dierwechter (2017).

### 3.1 From the Metropolis to the Metropolis as a Region

„The structures of the central city areas in the 1990s may indeed be snapshots, but they nevertheless reflect federal urban policy over a period of several decades and the urban development priorities of local planning alliances and their respective power and planning structures (urban regimes)“ (Schneider-Sliwa 1999: 47).

Thus, in Europe and in the USA one currently finds contrary political developments, although in both cases urban and traffic development is characterised by a secular groundswell. While in Europe the long tradition of state regulation is being loosened in order to complement it with market-based mechanisms, in the USA the consequences of unsustainable urban and traffic planning are increasingly subject to public criticism and demands for political intervention are being voiced.

In positive terms, it could be said that both models of society, coming from two extremes, are gradually converging. At what point they will eventually meet, or whether one of the models will be subsumed by the other, has to be left open at this stage. Which development would be desirable will be discussed at the end of this study.

#### **3.1.3 Japan – Vertical Urbanism and Collective Transport**

Post-war Japan experienced a trend in urban and traffic development similar to that in Europe and the USA. Double-digit growth rates led to a very dynamic expansion course into the 1970s, which affected urban and transport development to equal degrees. There are nevertheless fundamental differences between both the European and the American models and the way that Japan dealt with urban and transport growth. In the context of its own historically specific situation, Japan followed an idiosyncratic middle path between government regulation and private sector interests (cf. Hohn 2000; Sorensen 2004). Unlike European countries and the USA, Japan was still a predominantly agricultural country after the Second World War. In 1940, about 35 percent of the Japanese population lived in urban areas; after the war, the urban population doubled in the course of only 45 years (cf. Fig. 17). In the post-war period, with American involvement and building on the cultural tradition of a largely feudal, strictly hierarchical and centrally organised ruling organisation, a democratic yet still highly centralised social system was established. These special political circumstances made it possible for the central powers to intervene extensively in all areas of policy, while the activities of civil society were largely brought to a halt. In order to manage the transition from an agrarian to an industrial society, the Japanese state directed all strategic deliberations for decades wholly towards the objective of economic growth. Similar to the approach taken in the USA, where politicians joined forces with local business elites to form a

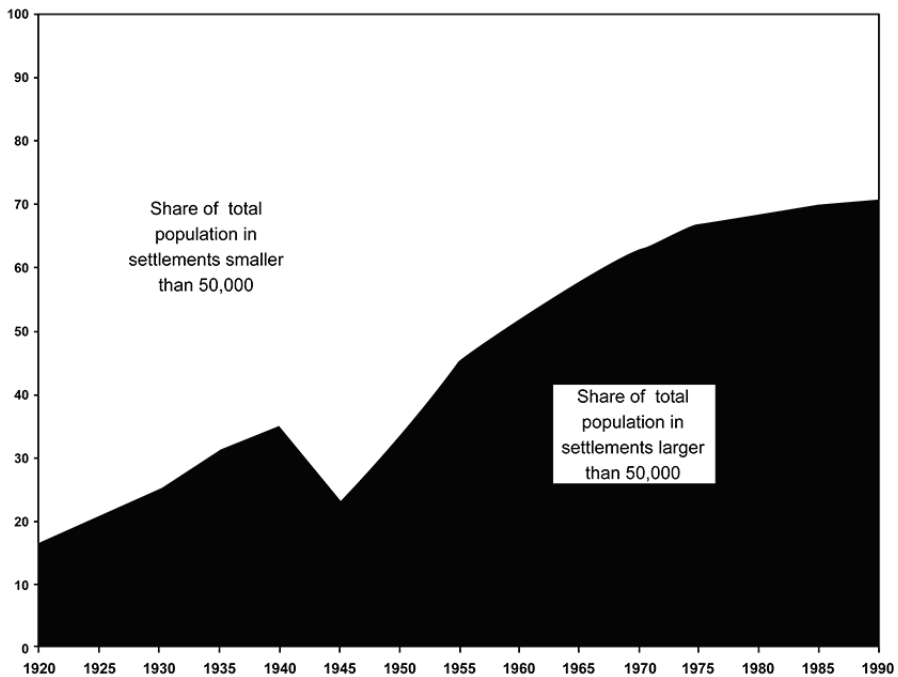


Fig. 17: Population Shift from Rural to Urban Areas

Source: Census of Japan 1990

„growth coalition“ at the local level, in Japan a corporation based on economic growth was established at the central government level. The institutional expression of this close collaboration between politics and the private economic sector (which, despite all the changes, still exists today) is the *Ministry of International Trade and Industry* (MITI) (cf. Chalmers 1982; Fujita/Hill 2012).<sup>7</sup> The motor of economic development was the so-called Pacific Belt Area, with Tokyo constituting the hub from the beginning (cf. Fig. 18). The urbanization in Japan started to increase in the 1950s. Nowadays more than 50 percent of the total population is concentrated in the three major metropolitan areas (cf. Statistical Handbook of Japan 2020). Since the mid-1970s Tokyo has regularly been classified by the United Nations as the world's largest megacity (UN-Habitat, 2003a). With over 36 million inhabitants, the metropolitan region today encompasses about 28 percent of the total Japanese population (130 million) and 42 percent of the urban population. Political activity, economic activity and the populace are all clustered together in an extremely confined space and form a unique centre of gravity, a source of momentum for the entire country. Worldwide, there is hardly any other country where the social

<sup>7</sup> Since 2001 known as the Ministry of Economy, Trade and Industry (METI)

### 3.1 From the Metropolis to the Metropolis as a Region

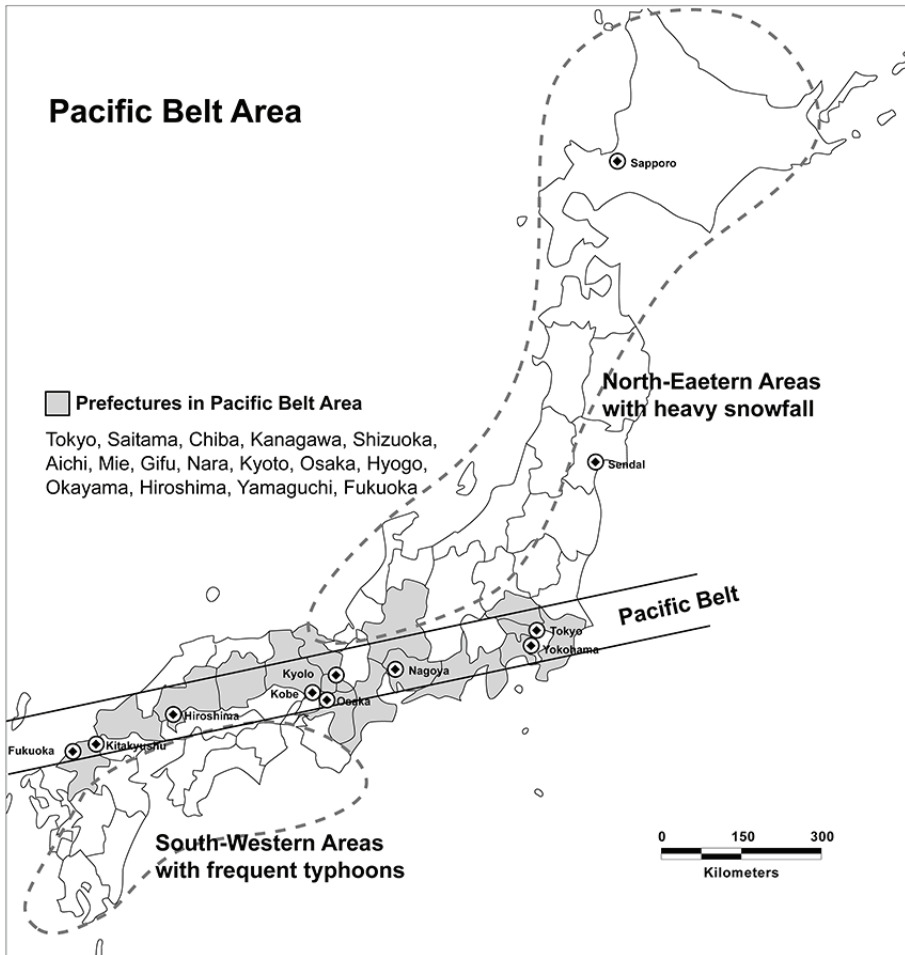


Fig. 18: *The Pacific Belt: Scene of the Japanese Economic Miracle in the Post-War Period*  
Source: Honjo 1978: 15

resources are as spatially concentrated as they are in Japan. Decisions concerning urban and transport development are mainly made in Tokyo, which serves as a model for other Japanese cities. Due to its dominant position, urban and transport development in Tokyo can be considered as representative of the entire country.

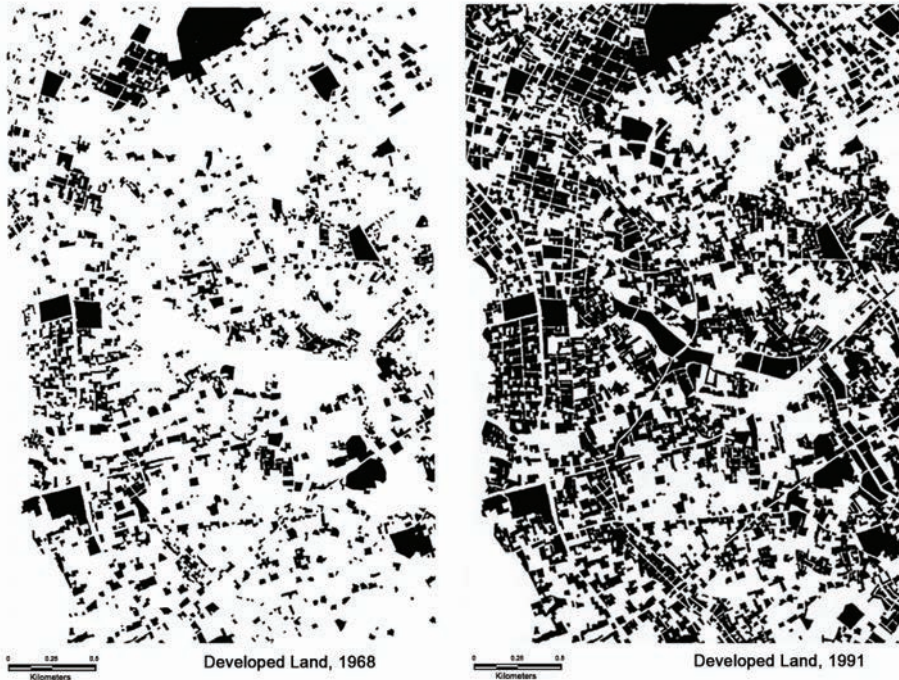
In the context of the government's fixation with economic growth in the post-war period, urban development was almost exclusively determined by economic interests (cf. Hohn 2000; Sorensen 2004: 151ff). The policy framework guidelines for urban planning remained far below the US minimum standards.

For decades, private investors had virtually no restrictions imposed on them by public authorities; there were no planning principles for settlement construction, nor did administrators concern themselves in the slightest with land and soil management. As a consequence, urban development in Japan initially took place in a largely unregulated fashion, until the late 1960s when, in the face of mounting negative effects, a new planning system was developed. Three main arguments were brought against continued unregulated urban growth (Sorensen 2004: 231): first, it had become apparent that the increasing sprawl led to ever higher costs for the provision of infrastructure services, which intrinsically involve fixed expenditures for the public purse. The result was that less densely populated settlements were not equipped with the necessary infrastructure, since the financial outlay would not have been worthwhile for the small number of people. This in turn resulted in desolate housing and living conditions for an ever-increasing part of the population. Secondly, the uncontrolled spread of settlements led to agricultural land being rezoned as building land, so that land prices – and thus also the costs of public infrastructure development, such as roads – rose significantly. This also meant that many settlements had to make do without basic infrastructure services for decades. Thirdly, it had been established that unplanned settlement development left barely any scope for public authorities to intervene in designing and thereby improving the quality of urban life. Retrospectively, it was hardly feasible to exercise influence on the configuration of roads or footpaths already settled on by private investors, in order to afford more space to the environment, or to create green areas and parks, etc., and thus contribute to a balanced urban life.

In addition to these cost factors, it was above all the vigorous protests in reaction to the catastrophic environmental degradation that instigated early on a gradual rethinking at government level. Although the state-controlled environmental restrictions led to Japan having the world's most stringent environmental standards as early as the 1970s, residential development continued unchecked into the early 1990s, due to the very loose planning guidelines (cf. Okata/Murayama 2011). After examining the current living conditions in Japanese settlement agglomerations, urban researcher André Sorensen comes to the conclusion that, by comparison, the situation in the USA looks relatively innocuous (ibid. 353) (cf. Fig. 19). But although the residents view the

internal state of the suburban settlements as grossly deficient due to the lack of basic infrastructure, the *development* of these settlements took an unusually positive course, when viewed from the present standpoint of sustainability. Unlike in the USA, where the extensive use of the automobile produced a decidedly fragmented settlement structure (cf. Cervero 1998: 181ff.), suburbanisation in Japan was essentially determined by the structure of the railways

### 3.1 From the Metropolis to the Metropolis as a Region



*Fig. 19: Dispersed Settlement Pattern in the East of Omiya*

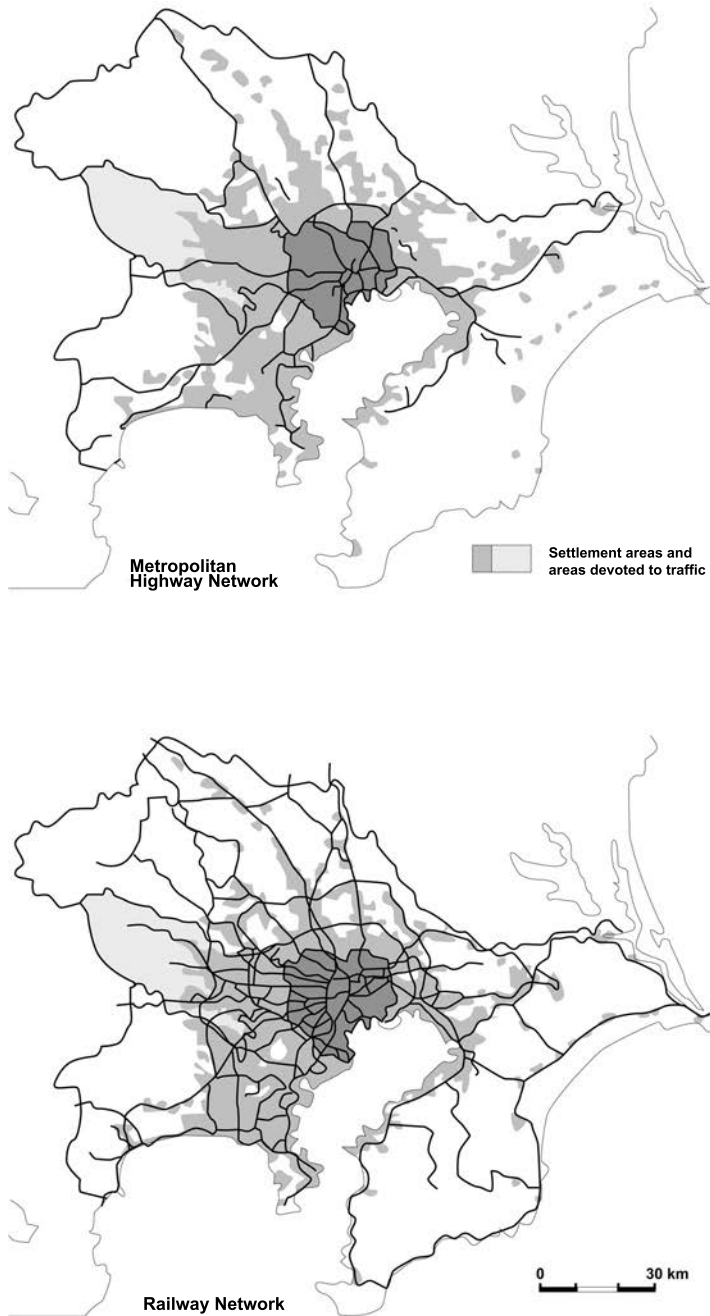
*In 1968, the suburban region around the city of Omiya north of Tokyo (shown here) was still mainly agricultural land and forests. In 1970, the area was converted into building land and within a decade it had been settled, in the absence of constraints. By the beginning of the 1990s, the largely unplanned development had resulted in large gaps in the settlement area, with hardly any connections to the sewage system and streets that in no way met the requirements of a growing population.*

*Source: Sorensen 2004: 233*

(cf. Ieda 2010). Up to the present day, the settlement development follows the course of the railway lines in the outlying regions (cf. Fig. 20). Just as in the case of urban housing, where by decree the state had kept its intervention to a minimum, the initially surprising dominance of rail-based public transport in one of the world's richest and most developed industrial societies is also to be explained by historic reasons and the role of centralised state power (cf. Barter 2000). Because horse-drawn carriages were not common prior to the Meiji Era (1868 C.E.), Japanese surface transport routes were developed primarily for people and horses.

„The slow improvement of roads can be partially attributed to the decision by the Meiji Government to give rail and sea transport higher priority over roads. This decision was intended to allow Japan to catch up with the advanced nations of the West as





*Fig. 20: Transport Network in the Tokyo Metropolitan Area (1990)*  
*Source: Kenworthy/Laube 1999, S. 367f.*

### 3.1 From the Metropolis to the Metropolis as a Region

quickly as possible. The backwardness of the road system in Japan continued until 1945 when the World War II ended and the entire national landscape was devastated by bombings and other catastrophes of war. During the reconstruction process in Japan, the modernization of roads in Japan was fully accelerated along with the development of railways“ (cf. MLITT 2018: 68).

The first decades after second world war the development of railways was given priority over the development of roads. Furthermore, to avoid losing financial resources to the consumer sector, and to direct these resources as much as possible to industrial capital investments, for decades the government pursued a systematic restriction of private car ownership (cf. Genther 1990). Only in the mid-1980s did the *number* of cars reach a level comparable with that of European cities (cf. Lipsy/Schipper 2013). Nevertheless, car *use* remains far below the levels in Europe or the USA. In the Tokyo metropolitan area 80 percent of commuters use public transport (mostly rail) and only 9 percent use a private car (cf. Pan 2013).

A further reason for the marked dominance of rail transport in Japan was that workplaces remained concentrated in urban centres. This constitutes an essential difference to the USA, which underwent a double decentralisation, of both residential areas and workplaces – a major factor in encouraging flexible use of the private car, as has been shown (cf. Cervero 1995). And because road infrastructure in Japan still remains relatively poorly developed and furthermore is subject to a very high government toll, it continues to be a substantial deterrent to intensive car use.

The excellent rail-based public transport system in the central city area and the outlying areas was thus not specifically established as a contribution to sustainable urban and transport development; it has nevertheless helped to alleviate many of the shortcomings in city planning that were caused by the unregulated urbanisation. One need only imagine, for instance, the degree to which heavy automobile traffic would further restrict the quality of life in neighbourhoods where the (privately-financed) streets are already much too narrow and often lack footpaths.

Into the 1980s, urban and transport development in Japan replicated developments in Europe and the USA, being characterised by a strong expansion into the suburban areas, which resulted in a so-called „hollowing out of the resident population“ in the central city areas. Since the 1990s, however, this dynamic has been on the wane there as well, and after thirty years of suburbanisation a counter-trend of partial re-urbanisation has become evident. Thus, between 1996 and 2003, the resident population in Tokyo increased in 20 of the 23 districts. The urban researcher Uta Hohn (2004: 172f.) provides the following explanation for this development:

- Falling land and property prices
- A diminishing pressure from tertiarisation
- Extensive availability of land in central locations
- Growing demand for attractive inner-city apartments with a simultaneous increase in the supply of properties, built by private and public developers
- Targeted housing construction policies on the national, prefectural and municipal levels
- Strategic redirection of the demand for space for offices and apartments from the horizontal to the vertical.

In polls, a clear majority of respondents gave as a reason for the move to the city proximity to the workplace and the gain in quality of life, since the hour-long commutes were now no longer necessary. In view of the current average commuting time of over 60 minutes in Tokyo (one-way trip), this is hardly surprising. The second reason given was the improved residential and living environment; in third place was the easy accessibility of shopping, cultural and leisure facilities.

The increased attractiveness of the Japanese inner-city areas is above all the result of comprehensive housing policy initiatives. In 1975, in the context of the ongoing exodus of the population from the city centres, the national government adopted the so-called „city planning law“ in order to bring about a refurbishing of the inner cities. But it was only after the law was revised, first in 1990 and again in 1995, that far-reaching and effective steps were taken to revitalise the city centres, which, also in light of the expected demographic change, is receiving strong support from the state. In the vanguard, as always, is the regional metropolis Tokyo, where the government presented the concept of the „Ring Megalopolis“ in 2001. The concept combines the two strategic models of decentralised concentration and the compact city, both of which are also well known in Europe (cf. Fig. 21). Accordingly, on the one hand, the extensive settlement dispersion is supposed to be countered by selecting and encouraging specific priorities for settlement development, while on the other hand support is provided for the systematic refurbishment of the inner city. Vertical concentration is intended to put a stop to the horizontal expansion of the city.

„Re-urbanisation instead of urban sprawl, construction of a multifunctional city in which the functions of working and living are spatially closely combined, by creating a fine-grained mixture of functions on the horizontal level and simultaneous shifting the functional separation onto the vertical level – these are currently the main objectives of the influential protagonists from the so-called ‚iron triangle‘ of the construction industry, politics and administration as they shape the future of urban planning in the inner city areas of Tokyo“ (cf. Hohn 2002: 11).

### 3.1 From the Metropolis to the Metropolis as a Region



Fig. 21: Tokyo Circular Megalopolis Concept  
Source: Hohn 2004: 166

But unlike in the USA and increasingly also in European cities, in Japan there are efforts to ensure that the refurbishment of the inner cities does not proceed exclusively in a socially selective fashion. In order to be able to offer a wide range of apartments in different price segments, public authorities are strongly encouraging the construction of inner-city housing, placing the emphasis on intensifying land use through horizontal compression. By specifying certain general guidelines for private investors, policymakers are ensuring the effective utilisation of scarce land through higher density. In addition, above a certain number of square metres, private investors have to pay a levy, which is then used to subsidise rents in the inner-city districts, in order to limit the numbers of people who are forced out and contribute to a balanced social mix.

Thus, 40 percent of the apartments in a single residential tower are rented on the open market, 40 percent are reserved for the previous residents, while the remaining 20 percent are publicly subsidised rental housing. All three categories are evenly distributed over the floors, so as to avoid a vertical social segregation.

„The future urban and regional development Tokyo will be determined by processes of functional relocation, contraction and concentration, which are currently the object of targeted management by urban and regional planning authorities, using a variety of ‚hard‘ and ‚soft‘ management instruments in the area of residential, infrastructure and economic development policy. The growth and shrinking processes are interdependent, two sides of the same coin. Beyond the re-urbanisation and multifunctional centralisation of the areas currently in the spotlight, which are receiving political support via a myriad of management instruments – i.e., the zones that are experiencing a boom in economic development and construction work – the ultimate success of urban development policy will depend on not losing sight of the problem areas and thus the dangers of creeping socio-spatial polarisation“ (Hohn 2004: 183).

To date, this seems to have been largely successful. And this specifically Japanese form of traffic development (as compared to the USA and Europe) is ongoing. While Kiang and Schipper (1996) still assumed that, with increasing per capita income, the transport behaviour of the Japanese population would come to resemble that of other industrialised countries and become more dependent on the automobile, the distances travelled per capita in Japan still remain conspicuously low and cars are still comparatively rarely used (cf. Lipsy/Schipper 2013). Lipsy (2012) shows that the main reasons for this are not structural in nature but rather the result of deliberate transport policy and planning, which has for decades employed a mix of instruments designed to restrict car use: very high road tolls and numerous taxes on cars (which together add up to an enormous cost burden), as well as providing massive preferential support for rail transport as an alternative to both air travel and the automobile.

Moreover, after two decades of economic stagnation, fewer and fewer Japanese can afford a new car. Lastly, in recent years a so-called „kuruma banare“ („moving away from cars“) has been observed among the younger generation, which is reflected in a significant decline in car ownership (cf. MIAC 2010).

#### 3.1.4 Summary

With regard to their comparable level of economic development, the United Nations Organisation places Western Europe, North America and Japan together as metropolitan areas that share a common path of development:

### 3.1 From the Metropolis to the Metropolis as a Region

„From 1960 to about 1975, a clear trend of suburbanisation with fast population growth rates in rural, urbanizing rural and suburban municipalities became the norm in Northwest Europe, North America and Japan“ (UN-Habitat 2004: 73).

However, it has been shown that in the past the development inside the framework of this common path was in part very differently managed, politically speaking, and that it has resulted in different *patterns* of development.

In urban research it is customary to distinguish between the European and the American city. Traditionally it is above all the city's outward appearance, the city's precincts, that serves as the key differentiator. Accordingly, the compact, outwardly clearly demarcated European city is contrasted with the dispersed morphology of the ostensibly infinite, sprawling spaces of the American urban landscape.

It has been shown that this dichotomy now appears to be too crude and no longer does justice to the actual development that has occurred since the end of World War II. Rather, the urban and transport development in both regions was determined to the same degree by a dynamic of historically unprecedented economic growth. In both Europe and the USA the urban populations grew rapidly and settled at ever greater distances from the old city centres. This development was further stimulated by the concurrent onset of mass motorisation with the private automobile. Due to the drive to expand instigated by economic growth, urban and transport development was determined in both cases by fundamentally similar centrifugal forces.

However, the common economic groundswell was overridden by culturally- and politically-specific features. Along with the resistance stemming from urban and traffic engineering structures that had developed in the course of history, it was primarily political and cultural traditions that led policymakers to take a different approach to dealing with the economic demands with which they were faced. A key aspect here was the different weighting of industry and politics in the two models of society, especially in patterns of development in urban planning and transport. While in North America economic interests were assigned the highest priority, in European urban policy social concerns traditionally play a powerful – albeit subordinate – role. Moreover, in Europe environmental considerations have become increasingly important.

Nevertheless, from the standpoint of sustainability, Europe also experienced ecologically detrimental and socially selective processes of suburbanisation. Here, too, the overall degree of automobilisation is increasingly approaching American proportions, although there is still a significant difference in the transport *use* on the two continents. In Germany for example, the share of jour-

neys made using environmentally friendly modes of transportation are almost three times higher than in the USA (cf. Infas et al. 2019: 82). Whether this is a temporary phenomenon or a development in the direction of a sustainable alternative is an important question for researchers.

In Japan, an idiosyncratic hybrid of public and private interests has been established in urban and transport development. While on the one hand urban development was left to economic interests to an even more radical extent than in the USA, on the other hand transport development stood under strict state custodianship, to the benefit of public transport. This complex situation, consisting of governmental restraint in the case of urban planning and construction with, at the same time, an interventionist approach in the transport sector, has manifested itself in settlement developments forming along the axes of the rail-based public transport. Particularly interesting here is that, today, the urban structure is creating a demand for rail-based public transport that, on the one hand, is increasingly attractive to private transport companies (cf. Takeda/Mizukoka 2003), on the other hand, the declining involvement of the State since the 1990s has led to a situation where certain routes operated by private companies are no longer profitable and the service has been severely cut back (cf. Ieda 2010).

Against the background of these different patterns of development, the question of options for future courses of action arises. Will the existing political alternatives for urban and transport development be re-shaped in the future by global economic imperatives or will significant differences still be registered in the foreseeable future? Based on the example of Japan, which shows that settlement structures can channel private economic interests, the situation in the USA seems to be in disarray to the point of being beyond redemption. The pattern of sprawling, low-density settlements has progressed so far that it can be assumed to possess a resistance to change that is not to be underestimated. In addition, in this situation large sections of the US population have built their transport patterns around the automobile. In the USA, the potential for protest against further suburbanisation has its source precisely in this clientele, who see their own privileges threatened by a further wave of migration to the city outskirts. Opposing them are those who remain caught in the inner city areas and who continue to indulge in the dream of living in the suburbs. Given this perplexingly complex situation with its highly conflicting interests, the chances of success for a citizen-led anti-suburbanisation movement in the USA have to be viewed with considerable skepticism (cf. Gainsborough 2002).

The situation is different in Japan, where, since the first successful protests against rampant pollution in the 1960s, the protagonists from civil society have

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

been articulating their particular interests with increasing frequency. Although the structures of civil society in contemporary Japan are still only marginally developed compared to the still pivotal, centralised state power (cf. Hohn 2000), current government policy indicates that, for economic reasons, there is movement in the direction of an active urban policy more adapted to the needs of the residential population (cf. Sorensen 2005). Along with a decentralised concentration in the outlying areas of the core cities, this policy is primarily aimed at revitalising the inner cities and rendering them more attractive. In this respect, the chances of implementing the model of a sustainable urban and transport policy based on the compact city or the city of short distances, as in Europe, appear to be particularly good in Japan.

By contrast, Europe finds itself in an ambiguous position. Driven by global economic processes, the European Union is pursuing an urban and transport policy strongly oriented to the needs of European market integration and is accordingly showing the first signs of American patterns of development. Their future relevance is likely to depend crucially on the extent to which the tone set by the economic base is supplemented in the future by political and cultural overtones. Exploring possible courses of action in the multi-level European system would therefore be an important task for researchers. The current debate around the European Clean Air Directive, for instance, could serve as an object of academic research and as an effective criterion for testing the possibilities and limits of future decision-making in the field of urban and transport policy in Europe.

### **3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity**

Not just in developed industrial countries but also in developing countries is urban and transport development influenced by the specific economic, political and social conditions. Due to the completely different initial circumstances in the developing countries, one can therefore expect processes of urban and transport development that differ fundamentally from those in industrialised nations. However, a simple comparison of the Western industrialised countries with developing countries taken as a homogeneous whole would result in an excessively undifferentiated view of global urban and transport development, especially given the narrow European perspective inevitably adopted by the author of the present book (cf. Chakrabarty 2000). While in the case of the Western industrialised countries we were able to assume a uniform level of economic development, the developing countries are characterised by pronounced regional differences with respect to economic development. In the developed



industrial nations one can identify a common *path* of development, which has a specific form imposed on it at country level by divergent *patterns* of development, due to the often considerable political and social differences. In the developing countries, on the other hand, one needs to distinguish more markedly between the individual countries from the outset. In what follows, a distinction is made between *three* regional development areas, according to the degree of urbanisation (for the typology, cf. UN-Habitat 2004). Thus, on the one hand, Latin American countries can be viewed as a unified development region, even though they look back on a centuries-long, contradictory development history, shaped by their colonial subjugation. With respect to the dynamics of urbanisation, however, they form a unity, and nowhere has this been more pronounced than in this region in recent years. Secondly, Asian countries, especially the two most populous, China and India, can be distinguished as a single regional development model. While urbanisation began there later than in Latin America, Asia is considered the future growth centre. Lastly, sub-Saharan African countries can be grouped together as a third area of study.<sup>8</sup> The situation there is principally characterised by decades of underdevelopment.<sup>9</sup>

#### 3.2.1 Latin America – Failed Regulation

The economic development of Latin America is still determined to a great extent by the structural dependency of the continent on the developed industrial nations (cf. Halperin Donghi 1991; Bulmer-Thomas 1994; Thorp 1998). However, the relatively early formal independence of Latin American countries since the beginning of the 19<sup>th</sup> century made it possible to establish a lucrative „export-import system“, first in an exchange with Europe and later increasingly with the USA. The independent states of the Third World served the capitalist centres as sources of cheap raw materials, as sales markets for industrial goods and as a region for capital investment. Due to direct foreign investments, Latin American countries benefited from this symbiosis in the period from about 1807 to 1920, which set the continent on a successful path to growth. This period also saw the first phase of urbanisation, in which the old compact colonial towns were successively altered and expanded, following the model of European urban planning. In addition, it was during this same period that the governmental foundations were laid for the much stronger, second wave of urbanisation from 1920 to 1970. Whereas in 1920 about 20 percent of the Latin American population lived in cities, by 1980 the level had already

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<sup>8</sup> North African countries and the countries of the Middle East would require a separate study. The oriental city type is examined in this study in the chapter on Africa, using the North African city of Cairo as the basis.

<sup>9</sup> On the concepts of „under-development“ and „developing countries“, cf. Esteva 2010.

reached 70 percent (cf. Oliveira/Roberts 1994). Today 75 percent of the Latin American population lives in cities, with three quarters of them spread over just six countries (Argentina, Brazil, Colombia, Mexico, Peru and Venezuela). About 15 percent of the nearly 400 million town and city dwellers are concentrated in the four largest cities in Latin America – Buenos Aires (13 million), Mexico City (19 million), Rio de Janeiro (12 million) and São Paulo (20 million) (see UN-Habitat 2013).

The Great Depression of the interwar period brought a setback. The high level of dependency and the associated vulnerability of the externally-oriented economic system of the developing countries became abruptly manifest. With the drying-up of markets in the foreign centres and the rapid decline in prices for natural resources, these countries lost the ability to import goods, in particular. In turn, due to weaknesses in the production structure, domestic production and the supply of goods were directly affected. To free themselves from this dependency, Latin American countries pursued a strategy of import substitution in the following years, which was aimed at establishing an independent industrial production structure and replacing imports with local products. This strategic orientation was pursued, with modifications, until the financial crisis in the early 1980s. Here, the „development state“ (Becker 2002), with its pro-active measures, played a central role.

As indicated, the various stages of socio-economic development in Latin American countries have also been reflected in urban development and have left their mark on local urban life (cf. Fig. 22). In the same way that the traditional European city was superseded by the industrial city, the original colonial cities were re-shaped by the dwellings („shanty towns“) of immigrant workers, especially in the second phase of urbanisation (1920 to 1970), which in the course of state-supported attempts at industrialisation provoked a massive wave of immigration. Despite government support, Latin American countries did not succeed in building up an independent primary industry during this period. Instead, growing current account deficits forced them to resort to foreign credit to an ever-increasing extent. In the late 1970s, when the USA made the transition to a high interest rate policy, with most European countries following suit, this led to the tripling of annual interest payments for Latin American countries (cf. Gwynne/Kay 1999). This triggered a redirection of credit flows from developing countries to the United States, where the private commercial banks now found better investment opportunities, and in the early 1980s this led to insolvency in many Latin American countries almost simultaneously and caused one of the worst financial crises, world-wide.

### 3 Urban and Traffic Development in International Comparison – A Survey

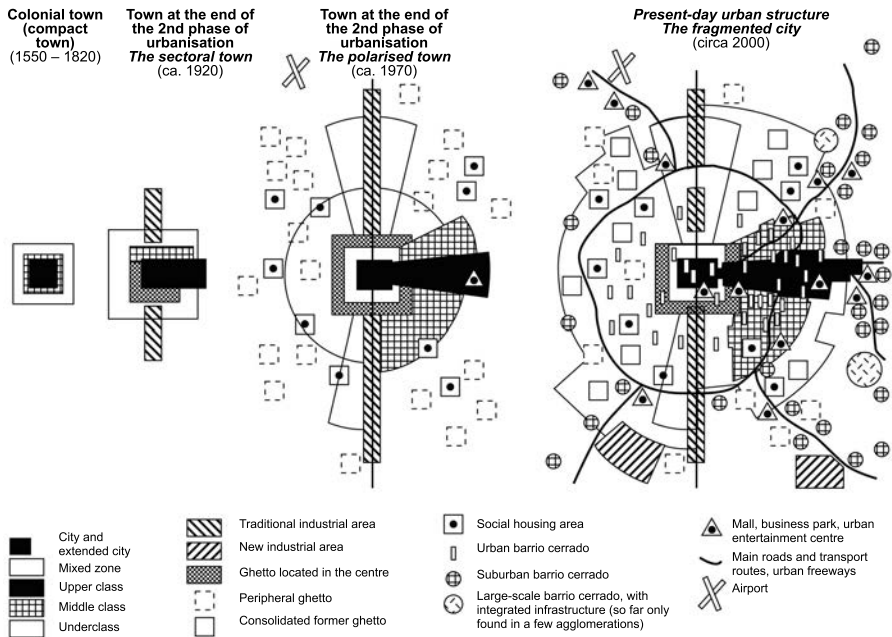


Fig. 22. *Changes in Urban Structures in Latin America*

Source: Borsdorf et al. 2002: 305

In response to this experience, almost all the countries of Latin America carried out a further change in economic strategy. They turned away from the interventionist model characteristic of the „developing state“, and instead systematically dismantled it, by pursuing a neo-liberal economic policy (cf. Boris 2001).

„Privatisation, flexibility and liberalisation became the central principles of a new political strategy to eliminate the constraints on the dynamics of globalisation, which had been imposed by national government regulation and protection. The main features of these changes with respect to the international division of labour are the development of technologies and forms of work organisation designed to break down complex production processes into elementary units. This facilitates ‚global sourcing‘, i.e., the use of worldwide reservoirs of cheap labour for each specific sub-process of industrial production, later extending to service industries – since, through technological development, choosing a production site and controlling production become increasingly independent of geographical distances“ (cf. Hein 2005: 8).

#### **Mobile Roses**

*Previously, it was „God gave us memories so that we might have roses in the winter“. But the old proverbs rapidly lose their importance if the world to which they originally referred changes. Today, there are roses in winter too – even more so, since in winter one can buy the most beautiful roses. While formerly one was dependent on the elaborate and costly cultivation of these plants in local greenhouses during the cold season, today we purchase roses from countries where the sun shines year-round. Roses are certainly still grown in Europe, but the world's major rose-growing areas are now located in the Latin American countries Colombia and Ecuador. The global division of labour has made it possible to transport millions of roses daily from the global periphery to the metropolises. The value of a rose increases sevenfold on its way from the country of import to the flower shops in developed industrial societies. Since the rose plantations in the developing world are now usually owned by multinational companies from the world's major cities, the countries themselves hardly benefit from the exports.*

*„The life of a rose may be short, but the chain of people who depend on it is long. Most of the 150,000 workers in the world's flower plantations are women. They usually have to plant the flowers and come into constant contact with chemicals, stooping, squatting, and kneeling as they work. Nevertheless, on many farms they are paid less than men and less often equipped with protective clothing. They come home still dressed in their work clothes, take the children in their arms or breast feed them, prepare the meals. The periods of maternity leave are short, if they exist at all. Flower workers have many stories to tell about miscarriages“ (Schmidt-Hauer 2005: 11).*

*But development does not stand still, and so the production conditions in African countries such as Kenya, Zambia, Zimbabwe and South Africa are today even more „favourable“, i.e., cheaper. These countries now provide Europe with most of its roses, especially its most beautiful roses, so that Europeans no longer have to rely solely on their memories (cf. Peters 2015).*

For developing countries, the hope of a catch-up modernisation associated with neo-liberal restructuring has yet to be fulfilled. In the 1980s, the proportion of absolute poverty increased in Third World countries, exacerbating the polarisation of wealth distribution between the capitalist centres and the periphery, which led to this decade generally being described as the „lost decade“. This trend continued in the 1990s, which led to a further worsening of the social situation in developing countries, so that the 1990s are today referred to as an-

other lost decade (cf. Fischer et al. 2002: 37). It is only since the beginning of the new millennium that the majority of Latin American countries have again experienced perceptible economic growth (cf. FDCL 2016). As was the case in the 19<sup>th</sup> century, the new growth model is based on a massive increase in exports of natural resources, and is therefore referred to as neo-extractivism (cf. Burchardt et al. 2013). As in the case of the export-import system in the 19<sup>th</sup> century, the new boom in natural resources has its positive and negative aspects. On the one hand, governments can use the revenues to reduce poverty. Thus, the poverty rate, which stood at 43 percent of the population in 2000, was reduced within ten years to around 30 percent (cf. Wehr/Burchardt 2011). Whereas in 2000 of the roughly 530 million inhabitants of Latin America 226 million still lived in poverty, there are now about 168 million, and whereas 100 million of these lived below the poverty line in 2000, the numbers have now been reduced to 66 million. The rapid growth of a middle class has also reduced the grave social inequality, as measured by the distribution of income (cf. Lay/Schotte 2013). However, despite all the progress made, in no other global region is social wealth as unequally distributed as it is in Latin America (cf. ECLAC 2015).

In order to achieve more balanced social relations, the Economic Commission for Latin America and the Caribbean (ECLAC) proposed three public sector measures:

„(a) facilitating access to assets (land, capital, knowledge and technology); (b) achieving a geographically balanced form of productive development in which small and medium-sized enterprises play an important role; and (c) implementing social policies based on the principles of universality, solidarity and efficiency“ (ECLAC 2004: 12).

However, the social problems are increasingly concentrated in urban centres, which because of their specific structure are not amenable to such policies (cf. ECLAC 1998). Because unlike Asia or Africa, where most of the poor still live in rural areas, over 60 percent of poor Latin Americans live in urban areas. They make up 50 to 60 percent of the urban population and gather in marginal neighbourhoods in the inner-city and on the urban fringes (cf. Bähr/Mertins 2000: 19ff.), 32 percent of them in slums (UN Habitat 2003a: 14). In no other region is the term „urbanisation of poverty“ more appropriate than in Latin America (cf. ECLAC 2000b: 21). The growing social inequality and, parallel to it, the increasing social segregation are directly reflected in mosaic-like, fragmented settlement patterns, as is the case in the USA. Thus, the social and spatial mobility of the inhabitants are limited from the outset and the prerequisites for a balanced, socially inclusive form of development are thwarted. For the recommended social policy, based on the principle of general solidarity, seems highly unlikely to be put in place if ever-larger sections of the urban

population are excluded from access to necessary social resources because they are trapped in certain neighbourhoods (cf. Franco/Heynig 2002).

As a result, in Latin America a particularly extreme instance of the causal connection between social status and urban development is emerging, a connection repeatedly observed in international comparisons (cf. Sellers 1999). To the degree that it is politically permissible and possible for those in the upper income brackets to retreat into their private citadels, to the same degree their interest in contributing to the financing of the public good diminishes. Instead, they invest in private health care services or educational institutions and, in doing so, they systematically shirk the redistribution of social wealth in favour of the socially disadvantaged classes. The scarce public resources that remain are generally insufficient to adequately provide for people who live in the poor neighbourhoods. The principal victims are youths from uneducated families, since they are not offered appropriate education and training. In this way, a cycle of poverty forms early on for certain social classes within socially and spatially segregated enclaves, from which they are then scarcely able to escape (cf. Franco/Heynig 2002: 106ff; Saraví 2004).

Despite all the differences in detail that characterise the respective level of development in Latin American countries and cities (cf. Tardanico/Menjivar Larin 1997), this specific connection between rising poverty and socio-spatial polarisation due to extremely unequal distribution of income is manifested in a fragmented settlement structure, typical of all Latin American cities. The small-scale changes in the utilisation of the inner-city and the associated processes of gentrification, with lower income groups forced out by higher income groups as well as selective migration, which contribute to social and spatial structural fragmentation – all phenomena that occurred prior to 1990 – then assumed properly frightening proportions starting in the mid-1990s. At that time, a profound caesura took place:

„Thereafter, the model structures were destroyed by factors that, while not entirely new, were accompanied by processes that were far more dynamic, that had a much stronger spatial-structural dimension and much more rigorous and more rigid socio-economic consequences“ (Mertins 2003: 46).

The explosive character of these processes was due in particular to developments in mobility that went in contrary directions: while the better-off half of the urban population experienced comprehensive gains in mobility, the other half saw itself falling further and further behind the levels already attained. What resulted was a „spatial coincidence between urban morphology and socio-economic conditions“ (Mertins 2003: 52), which translated into a socio-spatial dualism. For in proportion to the degree that better-off house-

holds benefited from the development in incomes in the 1990s, their rate of car ownership also increased. In this way, the conditions were created for the entire urban fabric to be quite literally dislocated, displaced. Those from the upper classes were able to escape the cramped inner cities, which were increasingly beleaguered by social conflicts. They retreated to settlements that are not infrequently 40 to 70 km away from the workplace in the city centre.

For the growing numbers of those who live in poverty, however, the urban living conditions in Latin America have deteriorated considerably. In the context of the global division of labour, they are increasingly dependent on activities in the informal sector, where working conditions are generally below the officially accepted standards (cf. Cervero/Golub 2011). Unlike the upscale, mobile income groups who have voluntarily withdrawn from the inner cities to settlement complexes that are hermetically sealed off from the outside world, the socially disadvantaged groups are driven out of the city centres as a result of gentrification measures that are often deliberately initiated by public authorities. They then end up congregating in closed, homogeneous settlement complexes. Thus, a voluntary and a forced social segregation take place in parallel, which are in turn expressed in a highly fragmented urban structure. Corresponding to this largely unplanned urban development (or which takes place in accordance with private investment interests) is a largely uncoordinated transport network (cf. Gaebe 2004: 266f.). Since public transport was privatised in the 1980s-1990s, private bus lines are the only form of „public“ transport in many Latin American cities. The patchy service they offer is usually complemented by minibuses and shared taxis, which provide shuttle services beyond the major routes.

„The major disadvantages of this transport service include the frequent route changes, poor signs or no signs at the bus-stops, the increase in traffic when the same destinations are served without prior coordination, higher travel costs as a result of changing buses in the absence of a coordinated fare structure, old and dangerous, poorly maintained vehicles, and the differences in journey times, depending on the traffic“ (ibid: 266).

A repeatedly-cited counter example of successful planning of urban and transport development in Latin American is Brazil's fourth largest economic metropolis, Curitiba (cf. Zanini 2005). Although the city has one of the highest average income rates in Brazil and with approximately 267 cars per 1,000 inhabitants it has a relatively high level of car ownership, 75 percent of commuters use the city bus system (compared to 57% in Rio and 45% in São Paulo). The high level of acceptance of public transport in Curitiba can be explained by an unusually differentiated and highly flexible bus system, where the services are organised by the public authorities and provided by private

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

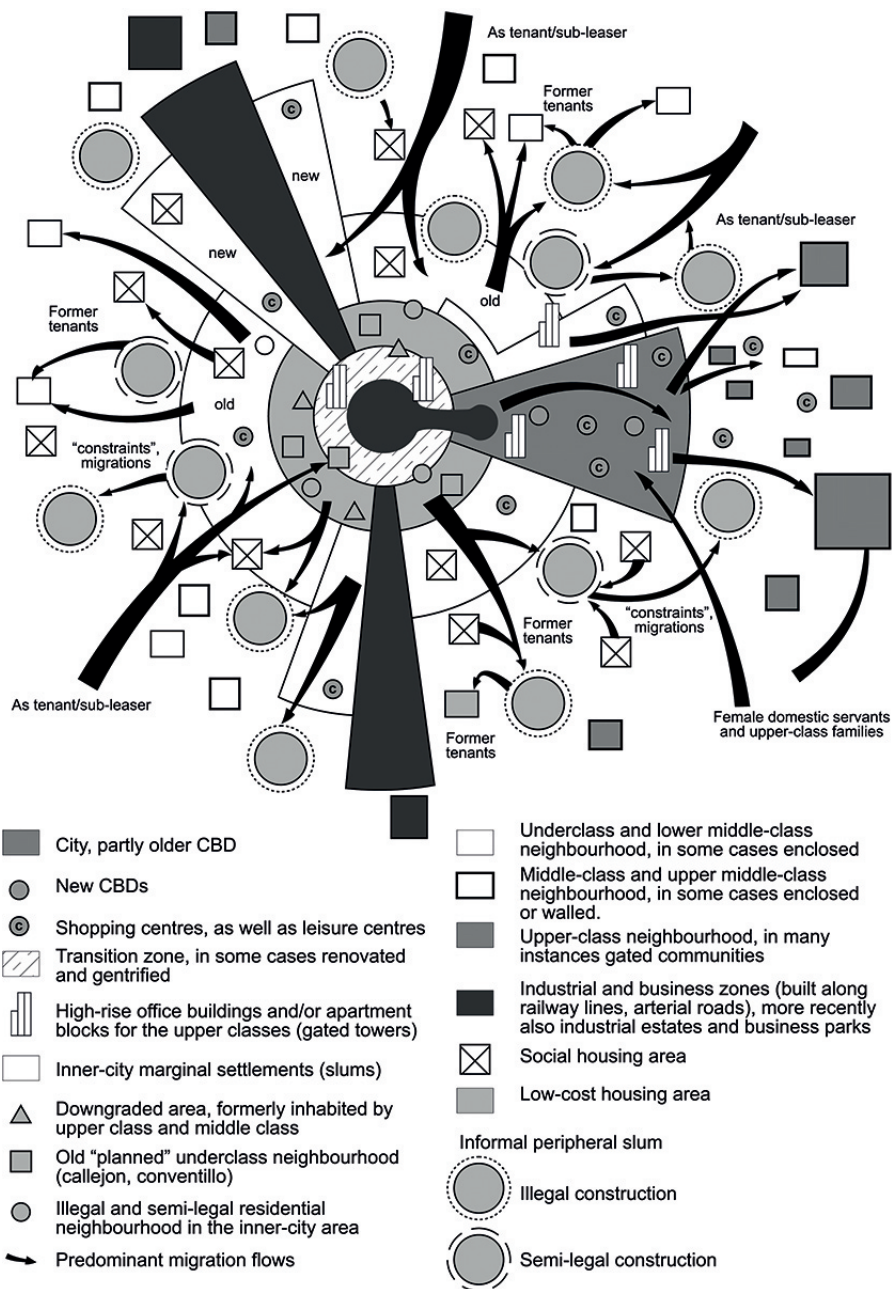


Fig. 23: Model of the Latin American City  
Source: Mertins 2003: 53



bus operators. The so-called „surface metro“ consists of three different bus categories, which in turn can be used in variable ways. The express service (*expressos*), with red buses, serves the city centre on the north-south axis with vehicles for 105, 170 or 270 passengers, which can be deployed according to the fluctuating demand, and thus more efficiently. In addition, shuttle routes (*alimentadores*) on the adjacent one-way streets provide a fast connection to the outlying areas. These grey „speedy“ buses only stop at a few stops, following five major radial routes along which the urban settlements are concentrated. These two main networks are supplemented by smaller feeder lines, with on the one hand the orange *interbarrios* buses, which run in concentric circles connecting the separate parts of the city, and on the other hand the green buses outside the city centre, which provide a service between the large main routes. The outcome of this fine-meshed network is that 70 percent of the population lives no further half a kilometre from a bus route.

The special feature of transport planning in Curitiba is that it is closely tied in with urban planning (cf. Leitman/Rabinovitch 1996). In fact, the requirements of urban development take precedence over the traffic conditions, and not vice versa. This approach harks back to a master plan from the 1960s, when the political leaders of the day explicitly chose to give people priority over the car. At a time when other Brazilian cities were emulating the Western European and American models of the car-friendly city, and buildings were being altered and enlarged in favour of car use, Curitiba pursued the goal of keeping traffic for the most part out of the city area, in order to set aside urban space for pedestrians. At the same time, the development of the inner city was not just left to private investment interests, but the public authorities also set standards designed to promote a differentiated mixed-use and to make life in the city attractive.

As part of this integrated urban and transport planning an innovative trinary-roadsystem was developed in the 1970s. It focused settlement development on a central axis along a main road, in the middle of which is a two-lane bus lane, completed by a single lane for cars on each side of the bus lane (cf. Fig. 24).

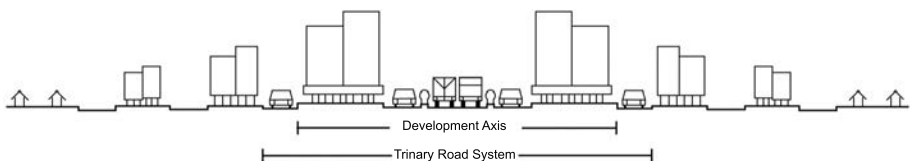


Fig. 24: The Trinary Road System in Curitiba  
Source: Jäger 1998

Connecting with the central built-up area are residential developments to the left and the right, which are served by one-way streets which take the traffic to the centre or away from the centre to the outskirts and which are specially kept clear for shuttle buses to the outskirts.

In the immediate vicinity of these developments and still within walking distance is low-density housing. This concept of integrated urban development and transport planning, augmented by a number of other measures to the benefit of public transport and to the detriment of car traffic, have led to a number of positive social and environmental effects:

„Curitiba also built 17,000 units of low income housing along the bus-way and restricted new residential development except in areas served by the bus-way. Consequently the population in the bus-way corridor increased by 98 % compared to only 26 % city-wide. Another effect of Curitiba's transport policy is the savings for inhabitants in expenditure on transport; on average, residents spend only about ten percent of their income on transport which is a relatively low proportion for Brazil [20% on the average in Brazil as a whole, O. Schwedes]. The entire system is based on a modern technical standard [for instance, buses are an average of three years old, O. Schwedes], but it is also assigned sufficient manpower for collecting fares, for maintenance and cleaning, etc. The bus system attracts nearly two-thirds of the population and accounts for 70 % of total weekday trips in the city. This has helped secure savings of up to 25 % of fuel consumption city-wide. Curitiba's public transport system is directly responsible for the city having one of the lowest rates of ambient air pollution in Brazil“ (Boedecker et al. 2002: 151).

#### ***The Creative Force of Private Transport Markets – Mexico City***

*Few cities in Latin America have an effective railway network. Only in Mexico City, São Paulo, Buenos Aires, Caracas and Santiago de Chile does one find an underground railway. The underground rail network in Mexico City is well developed and equipped, with the first line having been opened in 1969. Today it transports more people than all the other underground rail systems in Latin America put together. As the world's fifth largest underground network, the metro in Mexico City serves as the backbone of a diverse transport system, consisting of both public and private providers. In the course of the rapid growth since 1930, when the city's population doubled every ten years, a diverse collection of private shuttle services – the so-called colectivos - developed, in parallel with the main public transport lines. „Today, colectivos is the term of choice to represent the full spectrum of paratransit services available in the re-*

*gion, from shared-ride taxis to minibuses. Supplementing these modes are intermediate carriers - electric trolley buses, suburban diesel buses, and an advanced light rail service. As hybrids between public mainline and private feeder services, these intermediate carriers represent a mix of both government-sponsored and commercially-run distributor services“ (Cervero 1998: 381). Born of necessity, self-organised and distinct from regular transport services, this private transport service caters for more than one third of all motorised journeys, thus outstripping both private automobile traffic as well as all public transport services combined. Those who particularly benefit from this service are poor people living in settlements at some distance from the main public transport lines. This essentially market-driven, but politically unregulated subsystem also produces its own basis of legitimacy by enabling the enormous degree of suburbanisation in the first place. Since the colectivos serve the spaces between the main traffic axes, they fulfill virtually the same function as private transport in the advanced industrial countries. At the same time, the public authorities support this development when, in monitoring general quality and safety standards, they limit themselves to staving off a chaos that is exclusively mediated by the market. The nevertheless relatively unregulated urban and transport development in Mexico City, subordinated as it is to a dynamic of economic growth, is the Latin American prototype.*

Despite its successes and its clearly exemplary character, Curitiba's innovative and – for a long while, at least – sustainable plan seems to be increasingly stretched to the limits. As sophisticated as the route management is, the outskirts where the poor live received only middling service right from the beginning. As a result of the continuing settlement development, this problem is worsening. In addition, the bus lines in the expanding outlying areas are inadequately integrated into the overall transport system. Lastly, the bus system alone can hardly cope with the steadily increasing transport demand, which is being driven by rapid population growth. Thus, it can now no longer be considered as an alternative to private transport. Rather, experts are pleading for a supplemental tram network, but the private bus companies have come out against it (because of the extra competition), as have political leaders (because of the associated costs).

Curitiba has thus now reached a point in its development that most of the other fast-growing Latin American cities had already reached in the 1990s (cf. Figueroa 1996). By almost invariably opting for roads as the cheaper option in the short-term, they all sooner or later encountered capacity limits. In Curitiba,

thanks to the integrated urban and transport planning and the particularly innovative and efficient bus system, they managed to delay this for a considerable time. Today, however, political leaders in Curitiba find themselves confronted with the same problems that exist in most other Latin American cities, and have to determine how they intend to deal with the expected ongoing increase in traffic.

It has become clear that urban and transport development in Latin America is determined by three key factors, which will be explained in detail below, on the basis of a number of exemplary instances. First, the informal sector, long familiar in developing countries, is continuously expanding and is now taking on previously unknown proportions (cf. Burchardt/Peters 2013). The unruly and uncontrolled (or uncontrollable) urban growth in recent decades has meant that living conditions are increasingly being established outside the sphere of influence of formally legitimate state institutions. Since under these conditions the classic planning instruments based on European models no longer apply, new approaches have to be found, specially tailored to the Latin American circumstances. Consequently, the second key factor in development consists in living conditions that are organised by the local protagonists themselves, outside the formal control systems. This applies to labour markets as well as transport services and housing, which all elude the customary patterns of organisation. The third distinguishing aspect of urban life in Latin American cities is an increasingly high degree of segregation. One expression of this worsening socio-spatial polarisation is that the self-organised informal sector is increasingly developing inside enclaves that are largely excluded from the official life of the city.

These three aspects of urban development in Latin America are interdependent and mutually reinforcing. Thus, the expansion of informal employment conditions, which are generally associated with low wages, is fostering an increasing social divergence among wage earners. There is a division between people in formally secure income situations with relatively high salaries on the one hand, and, on the other hand, people in precarious informal employment with unusually low wages. The social divide is reflected in a spatially segregated urban structure, with the different income groups living in separate social spaces. The result is that the lowest income earners are excluded from official public services such as education, health and infrastructure measures. This makes it necessary for these neighborhoods to organise things themselves. The concrete form taken by this difficult-to-resolve entanglement of these three aspects will be examined below on the basis of several representative instances.

### 3.2.1.1 The Informal City – Caracas and Mexico City

In many respects, the development of Caracas exemplifies that of Latin American cities generally (cf. Brillembourg/Klumpner 2005). In the 1920s, the discovery of extensive oil deposits in Venezuela initially triggered unanticipated economic growth, which was accompanied by a massive wave of urbanisation. Whereas in 1937 only 34 percent of the population of Venezuela lived in cities, in the subsequent three decades the proportion almost doubled. Today, 90 percent of the population lives in urban areas in Venezuela. As in most other Latin American countries, urbanisation is concentrated in a few metropolitan agglomerations, in this case especially in the capital Caracas, where the built-up area has doubled since 1967, and where more than 60 percent of the industrial facilities and more than 70 percent of the country's workforce are now located.

„As Caracas became more affluent, the housing prices climbed, with the poorer inhabitants consequently being relegated to the outskirts of the city and forced into disused old buildings. Together with a weak government, the rich played a part in reinforcing the urban sprawl in the city, which in turn led to cost increases for services such as transport, water and electricity. With each new cycle of development, the barriers between rich and poor became more insurmountable, with even stronger lines of demarcation and more exclusion, the economic differences more marked: around 75 percent of the poor in Venezuela are city dwellers“ (ibid.: 310f.).

Accordingly, city growth is mainly propelled by the „barrios“ of the migrant workers, an area which is now four times as large as the entire city area was in 1950 and in which about 42 percent of the city's population live (1.5 million people).

City officials have not been able to keep pace with the rapid settlement growth, which explains the absence of basic infrastructure, such as a functioning sewage system and power supply, as well as important public services, such as postal services or waste disposal. At the same time, compared to the activities of the state, the „barrios“ display a high level of productivity, all based on their own efforts. While from 1928 to 2004 the government built 650,000 apartments for public housing, in the same period the inhabitants of the barrios created 2.8 million so-called „squatter units“, on their own, without government support. But there is no binding master plan – the form taken by new structures is determined by already existing structures. Therefore, the buildings are strikingly similar, a similarity which is perpetuated in the framework of unregulated, chaotic growth. Nevertheless, the residents tend to accentuate certain features of their houses, thus giving them distinguishing, individual characteristics. The principle of this type of changing development, which is situated between „homogeneity on the large scale“ and „individuality on the

small scale“, has been described by the architect Eckhart Ribbeck in the following way:

„[...] on the one hand, a schematic, pre-defined settlement grid, and on the other hand, freedom to build on the available piece of land. A spatial order that can subsequently be improved upon, little by little, and the freedom to build when and how one wants to: these are the basic components of a modern ‚spontaneous settlement‘“ (Ribbeck 2002: 25).

Ribbeck speaks in this context of an *improvised* or *informal* modernity, which was established by the disadvantaged classes in a situation where formal modernity was unable to cope. As Ribbeck sees it, this spontaneous, self-organised building work is neither a nostalgic tradition worthy of preservation nor a helpless improvisation in need of expert input, „but rather a survival practice of the urban masses, tried and tested over decades, masses who – despite poverty and against all odds – single-mindedly took over a piece of the city and modernity“ (ibid.: 25).

Eckhart Ribbeck, Sergio Padilla and Fatima Dahman (2002) studied the gradual process of consolidation of informal settlement structures in Mexico City, where half of the 16 million inhabitants live in marginal neighbourhoods of the metropolitan area. As in most other Latin American cities, in the „colonias populares“ in Mexico City an informal property market has been established which manages a uniform grid consisting of individual, equal-sized pieces of land. Here, in this context, residents are able to fulfill their individual housing desires. Since many of those who live here work in the formal construction industry, their professional know-how is here put to work within the framework of its material possibilities. The genesis of the informal construction area Nezahualcoyotl (Hungry Wolf), located to the east of Mexico City and known in the 1970s as the largest slum in Latin America, exhibits a development process that is characteristic of this type of settlement. While at the beginning of the 1970s „only“ 600,000 people lived there, the number of inhabitants has now grown to over three million (Fig. 25). Every five years, the houses get an extra room, after 15-20 years another storey. Today, 30 percent of the homes that were built as temporary accommodation still consist of a single storey, with a concrete frame construction finished in brick and stone. Half of them are now two-storey houses, while the rest of the settlement is comprised of three-storey and multi-storey buildings. The core area has consolidated to the point that it attracts an increasing number of private investors and is gradually taking on an urban character. One shortcoming of the informal settlement development is making itself increasingly felt, as a result of the growing population density, namely the inadequate infrastructure. Added to which is the complete lack of public facilities of any kind.

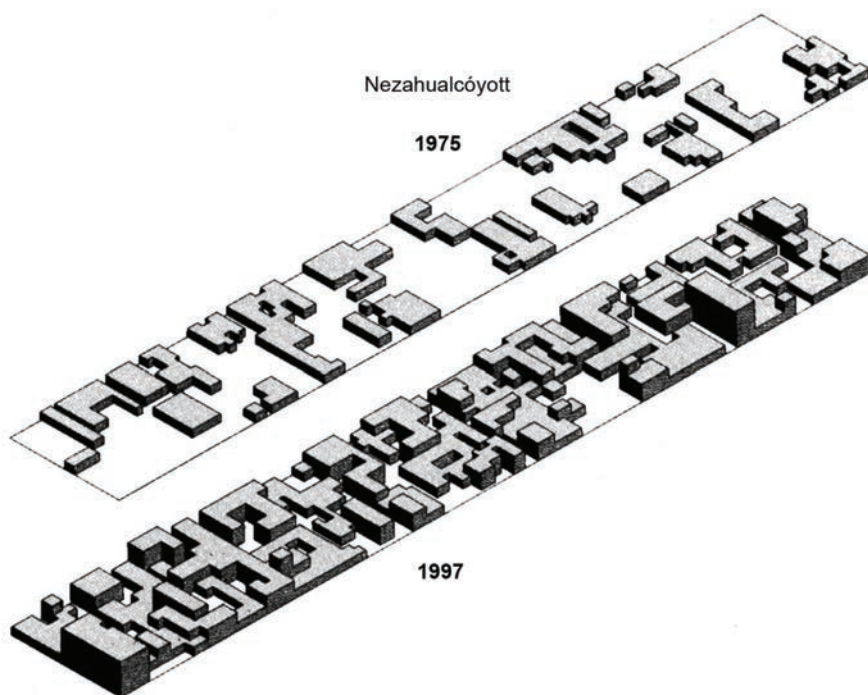


Fig. 25: *Genesis of Construction in the Informal Settlement Nezahualcoyotl in the Mexico City Metropolitan Area, 1970-1997*

Source: Ribbeck et al. 2002: 301

### 3.2.1.2 The City of Walls – São Paulo and Buenos Aires

The cities of São Paulo and Buenos Aires are particularly clear demonstrations of the way that Latin American cities are increasingly turning into accumulations of isolated enclaves. With the establishment of industrial and commercial facilities in the formerly marginalised neighborhoods comes gentrification, which is accompanied by processes of social displacement. The integration of previously informally organised neighbourhoods involves processes of gentrification similar to those in the developed industrial cities (cf. ch. 3.1). However, the social differences in Latin American cities are much more pronounced than in their northern counterparts – and they are continuing to worsen (cf. Coy/Kraas 2003.). Accordingly, forms of social exclusion are also on the increase, which in this case largely means exclusion from the formal city and the creation of clearly visible and insurmountable borders (cf. Fig. 26-29). Only in a few, rare cases does the settlement as a whole benefit from the scattered colonisation of a marginal neighbourhood and its partial reintegration into the

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

formal structure of the city. Instead, one finds people from the mainstream and outsiders living in immediately adjacent neighbourhoods. The increasing



*Fig. 26: One billion people currently live in so-called slums and squatter settlements. World-wide, there are probably more than 200,000 slums where about a third of all city dwellers live. Typically, they are built on illegally-occupied land, so that the inhabitants have no rights to „their“ land or to public utilities, such as water and electricity. As a seemingly inevitable concomitant of urban agglomerations, slums have become one of the greatest problems in the world today, bringing with them incalculable political and social risks.*

fragmentation of cities, split between the formation of citadels and ghettoisation, as a fundamental characteristic of Latin American urban development in recent years has to be viewed in the context of general processes of globalisation (cf. Carmona/Rosemann 2000; Carmona et al. 2000). Since Latin American countries were also caught up in the global economic structural change from an industrial to a service economy, its cities have undergone a functional transformation comparable to that of the developed industrial cities. The urban researcher Martin Coy (2002) has illustrated this urban structural change using the examples of São Paulo and Buenos Aires (cf. also Cezario/Mautner 2016; Becker/Lanz 2003).

Since the second half of the 20<sup>th</sup> century, São Paulo has been considered the „locomotive“ of the Brazilian economy. This made the city attractive to migrant workers and is the reason for its ongoing rapid growth. However, as early as the 1960s, the central city reached the limits of its capacity, so that service industries, in particular, increasingly settled in neighbouring areas of





*Fig. 27: Favelas – built without official controls and mostly on illegally-occupied land. In Rio de Janeiro about 1.8 million inhabitants currently live in favelas. For about 15 years now, with the program known as the Favela Bairro, Rio de Janeiro has been pursuing a new policy designed to integrate favelas into the fabric of the city as a whole (cf. Blum/Neitzke 2004). In addition to legalising ownership and opening up the favelas, the program is bringing new infrastructure to the disadvantaged neighbourhoods and providing municipal services.*

the city. The massive immigration and the associated increase in traffic brought about a deterioration of living conditions in the central city area and resulted in the exodus of the more affluent social classes to the outskirts, while the poor remained behind.

„Along with processes of dilapidation in the living quarters and the trends to outsourcing in the area of high-level services, the occupation of public space by informal activities both in the *centro velho* and in the *centro novo*, especially by informal street traders (the so-called *camelôs*), are cited as evidence of the transformation of the city centre. The significant increase in the number of street vendors since the late 1980s corresponds to the increasing importance of informal activities in the Brazilian economy as a whole and in the economy of São Paulo. [...] Another aspect that plays a major role in the discussion about the degradation of the city centre is the increase in prostitution and violence (theft, robbery, etc.), to the point where many parts of the centre are perceived by residents as having turned into danger zones“ (Coy 2002: 22; cf. also Caldeira 2000).



*Fig. 28: The Favela Jacarezinho is a „city within the city“, which in the last 70 years has grown to 58,000 inhabitants. The 35 hectare site is bordered by industrial areas and railway lines.*

More and more people react to these developments by retreating to exclusive, hermetically enclosed residential areas. The desire to remain „amongst one’s own kind“ increases in proportion to the growing social inequalities and the conflicts associated with them. To this end, the housing estates are equipped with all the necessary facilities so that the residents no longer have to leave the supposedly safe enclave. The full extent of the paranoia becomes clear when the more affluent classes are nevertheless forced to leave their security zones. This applies for example to children who have to leave their isolated residential fortresses to attend private schools located in the city centre:

„So that all the privileged kids can return safe and sound to their *condomínios* and villas after school, half the neighbourhood around the ‚Colégio Dante Alighieri‘ in São Paulo, for example, is cordoned off by military police and bodyguards, the traffic police even seal off streets, so that the armoured limousines can hurtle away“ (Hart 2005: 18).

It is obvious that these processes of social alienation have a negative effect on social life and threaten social cohesion, especially in Latin American cities. The development in Brazil of the so-called „*condomínios fechados*“ coincides with the establishment of neo-liberalism in Latin America and the increasing social disparities that have come in its wake (Fig. 30). The autonomous





Fig. 29: Despite these circumstances, a vital urban culture has developed, with a complex urban mechanism that functions almost autonomously, and with a comprehensive, informal service structure. There are business districts, bars, restaurants, dentists, lawyers, shops, churches and schools.

Source: Stiftung Bauhaus Dessau/Photo: Rainer Weisbach, 2000

islands of the highly privileged classes began to appear on the edges of the major conurbations in the mid-1970s, at first sporadically, then more and more widely in the 1980s and 1990s. This is true both geographically and socially (cf. Coy/Pöhler 2002). These enclosed enclaves are now appearing on the edges of smaller towns- firstly, as a logical consequence of the general spread of social inequality, which is now no longer confined to the urban centres. Secondly, however, the clientele of the enclosed housing estates has become more and more differentiated, as is the case in the USA. Today „condomínios fechados“ are designed especially for members of the middle class, which, although less luxuriously equipped, still perform the same function – supposedly protecting the residents from the growing population of the poor. A new form of condomínios are the so-called „garden towers“ (*torres jardines*), which have been springing up like mushrooms since the 1990s (cf. Welch Guerra 2002). These large towers are erected on vacant lots often in close proximity to their complete social and urban antithesis, the *villa miseria*. Thus, the established

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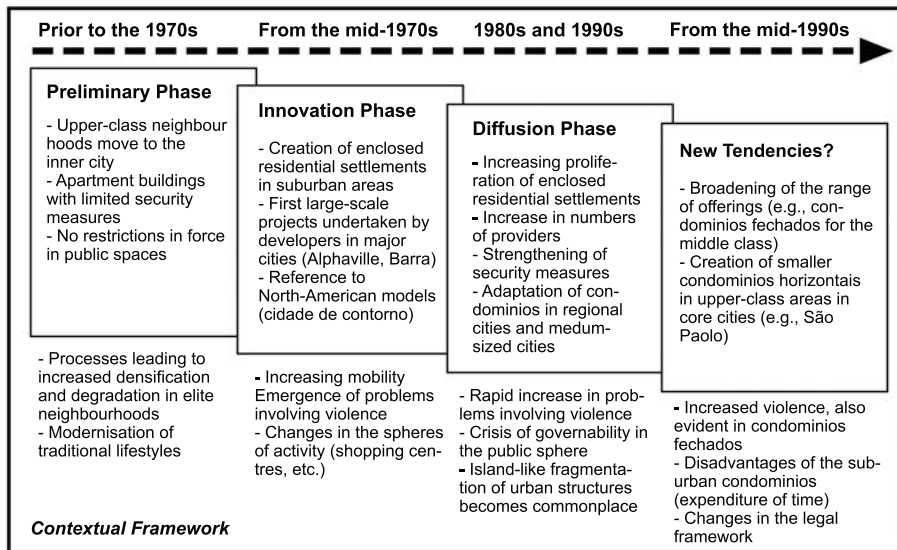


Fig. 30: The Spreading of the „condomínios fechados“ in Brazilian Cities

Source: Coy/Pöhler 2002: 265

classes raise themselves above a sea of poverty, as it were, in hermetically-sealed vertical tower blocks.

This seemingly clear spatial separation from the poor districts, however, is counteracted in an odd way by an intense symbiosis of informal labour relations. Because most of the work in the service sector in the established settlements is done by people from the favelas, to the point where the number of domestic servants, security guards, gardeners, cleaners and administrative staff often exceeds that of the actual residents. Thus, the fortress-like housing estates are populated on a daily basis by the very people they were designed to protect against (cf. Coy/Pöhler 2002: 273). In addition, the strong demand in the service sector for workers able to perform simple tasks leads to poor neighbourhoods being established in the immediate vicinity of the condomínios. Incidentally, it is striking that both forms of settlement have a number of characteristics in common. While the inhabitants of the condomínios have actively selected their residences and the inhabitants of the favelas are forced to live there, both forms constitute autonomous enclaves that are largely self-sustaining, and over which the city administrations have little influence, whether by design or by force of circumstance.

„The exclusively private capitalist control of these new spaces can be seen as an integral part of the pattern of development in contemporary Brazil, which is characterised by deregulation and flexibilisation, all under the sign of neo-liberalism. As a result,

the Brazilian city today corresponds more than ever to the image of the islands of the rich in oceans of the poor“ (Ibid.: 269).

Along with the Brazilian metropolis São Paulo, the Argentine capital Buenos Aires is a particularly striking example of the way that social cleavages are directly reflected in the urban landscape. A pronounced social fissure is also to be found in Argentina, as a result of the neo-liberal policy of consolidation doggedly pursued by the government in the 1990s (cf. Lanz 2004). In the privileged residential areas in the north and northwest of the city centre, along the main arterial roads, 350 to 400 gated communities, so-called „barrios cerrados“, were built. The poorer classes, on the other hand, live mainly in the south and southwest. As is the case elsewhere, the privileged settlements here are based on the model of the gated communities of the North American suburbs (cf. Blakely/Snyder 1999 see.) With connecting or (increasingly) integrated infrastructure facilities of all kinds, they make it possible to lead a secluded life behind walls (cf. Fig. 31). At the same time, importance is attached to good traffic connections to the inner city, in order to be able to take advantage of the special cultural and commercial offerings. Since most destinations are directly accessible by car, the arterial roads function as mere transit routes, making it possible to bypass inhospitable areas without coming into contact with them.

„The traffic routes serve as the structuring and linking elements between these insular settlements in Latin American cities in the early 21<sup>st</sup> century. The urban freeway network is especially important in this respect since it further reinforces the processes in question. The distinction between owning a motor vehicle and not owning one leads to a social divide, which is a decisive factor in opportunities for the use and acquisition of the various ‚islands‘ “ (Janoschka 2002: 105).

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

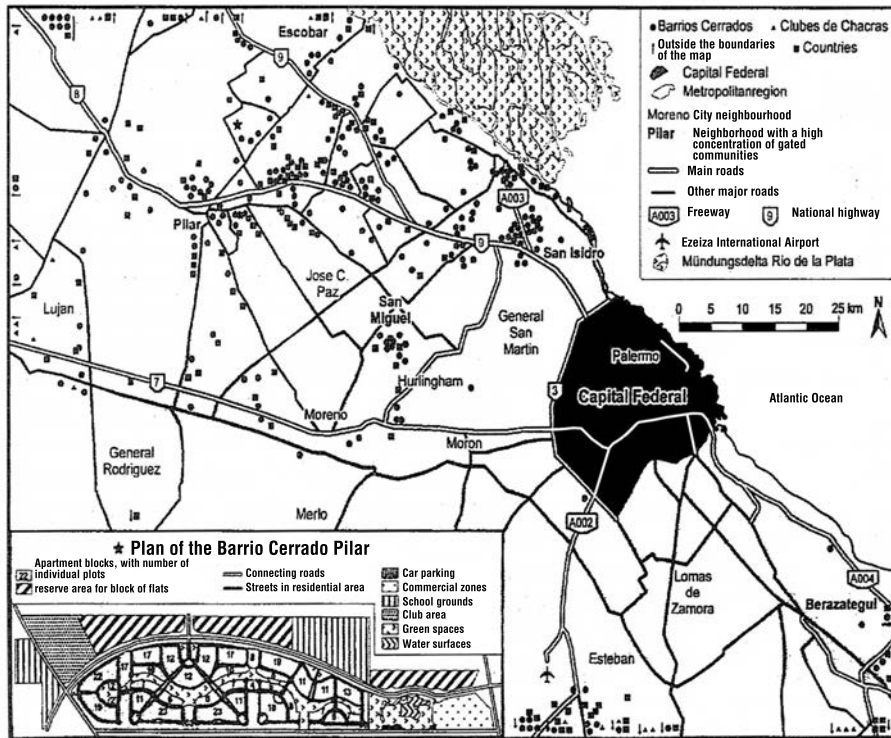


Fig. 31: Gated Communities in the Buenos Aires Metropolitan Area  
Source: Coy 2002: 28

#### 3.2.1.3 Summary

Housing and urban planning are not the only areas in which public authorities in Latin American cities have failed: formal regulation of the equally vigorous growth in traffic is a further instance of repeated failure. The oil capital Caracas has been – like most other Latin American cities – altered and expanded since the 1950s, in order to turn it into a car-centred city. The model for the alterations was the freeway construction in the United States. In the late 1940s, the famous New York City architect Robert Moses travelled to Caracas in order to design a radical urban development program in favour of car traffic.

„Moses' highway-building program in Caracas also had far-reaching consequences for the living conditions of the population and changed the city landscape permanently. Imposing the highway system on Caracas played a crucial role in the fragmentation of the post-colonial city. The new highways led to arbitrary and irrevocable fragmentation and isolation of entire communities. The construction of highways in a big city always leads to more traffic, with every new highway and every new traffic lane bringing even more vehicles in its wake“ (Brillembourg/Klumpner 2005: 311).

Meanwhile Caracas has a highway system that is comparable to that of Los Angeles, and which contributes to an extreme degree of suburbanisation. Other than by car, there is essentially no other way of traversing the vast distances in the highly fragmented spatial structures. The freeways created the city to the same extent that they destroyed it. And because road construction has been unable to keep up with the rapidly growing car ownership, the traffic situation has become even worse than in almost any other Latin American city. Together with cities such as Delhi and Mexico City, Caracas is at the forefront of cities worldwide with the highest level of air pollution.

In the chaotic conditions of streets clogged to the point of standstill, street trade is flourishing. The mobile street vendors (*buhoneros*) in Caracas have managed to bring their freelance occupation to a level of exceptional professionalism: they cling to the traffic flow, react flexibly to the different peak periods and in the course of the day occupy changing, strategically important locations.

„The efficiency of this intelligent tactical behaviour is so obvious that even major companies like Nestlé are turning to this sales method: *En la cola: Cocosette!* (*In a traffic jam: Cocosette!*). The multinational company supplies the vendors with the product, with the company logo and capes with the slogan printed on it, but leaves them to deal with all the traffic and business risks alone“ (Müller/Quednau 2005: 329).

This also throws a spotlight on the ambivalence of the informal sector. The requisite virtues of inventiveness, adaptability, flexibility and entrepreneurship go indissolubly hand in hand here with material poverty, miserable living conditions and a social insecurity that permeates all expressions of life.

The opening of the first underground railway line in 1983 brought a certain relief from the traffic situation in Caracas.

„Among the modern structures perhaps only the underground is really a sign of progress. It is clean, cheap, comfortable and the trains run on time. It is an oasis of efficiency in a desert of corruption and incompetence. It is also a dangerous mirage of the future. No-one knows how much it cost to build or how many fortunes were made in its construction. In the current economic environment, there is little chance that many more lines will be added to the system. And yet *caraquenos* are proud of it. Nothing, they argue, should ever again be built above ground; the only thing that works in Caracas is subterranean“ (Gilbert 1998: 10).

The underground network for about 3.3 million inhabitants is comprised of three lines with 40 stations over a total length of 45km – a modest size compared to a Western European city of the same size such as Berlin, which also has almost 3.5 million inhabitants and an underground system with 9 lines, which serve a network of 155 km and 175 stations. For almost ten years now, the city government of Caracas has been aiming to extend the existing under-

ground lines and to have new ones built, but has so far failed due to a shortage of funds.

Colombia's metropolis Bogotá, with 7 million inhabitants, at least half of whom live below the poverty line, pursued a different transport strategy. An underground rail system was also supposed to be built there in order to deal with the traffic chaos (cf. Tack 2004). In 2000, with the negative example of the city of Medellín in mind, which was driven into bankruptcy by the financing of an underground rail, Bogotá opted instead for a new bus system, which cost only a tenth of what an underground rail system would have cost. Until then, public transport had been in the hands of the free market and private providers, with over 30,000 buses using brutal methods to compete for customers, with no safety standards or even environmental guidelines.

The situation changed dramatically with the government-sponsored launch of the Transmilenio, a bright-red, large-capacity bus, serving the main roads on special lanes (cf. Salazar Ferro 2011). The private bus operators were successfully integrated into the new bus concept by convincing them to invest in new buses and to take the old vehicles off the road, leading to significant improvements in both road safety and air quality. The principle behind the Transmilenio system, which stops only at certain, specially erected stops, is reminiscent of the bus system in the Brazilian city of Curitiba. The Transmilenio buses carry 800,000 people daily, and by 2016 the route network is to be expanded to the point where it can handle 50 percent of the local traffic. Given the experience in Curitiba, however, where the bus system is now stretched to its capacity limits, the question arises whether the one-sided fixation on road-based public transport is a realistic prospect in the long term.

Apart from the bus, the bicycle has been discovered as an important mode of local transport. This is remarkable, since – given the disastrous traffic situation in Latin American cities today – cyclists have commonly been regarded as idealists who are tired of life. Bogotá, with its 300 km of bicycle pathways, constitutes a noteworthy exception. Every Sunday, 120 km of city streets are closed to motorised traffic and – according to official figures – used by 2 million people on bicycles, on rollerblades or on foot, each time resulting in a huge public festival.

On closer inspection, the undoubtedly impressive accomplishment of the increased quality of life in the city centre appears somewhat less impressive when one considers the people at whose cost the progress has been achieved. While the rigid bans on commuter traffic primarily affect the car-driving middle-class, they are also the ones who benefit from increased quality of life in the central city. The informal street trade suffered much more drastic conse-



quences, since it was largely forbidden and stigmatised as a source of criminal activity. Criminality was combated by an enormous array of security forces. These measures did indeed make it possible to reclaim public space for that half of the population that lives well above the poverty line. The other half of the population was, however, simply forced out of the cityscape and, with the loss of the informal street trade, became that much poorer.

Meanwhile this one-sided policy in favour of the upper and middle classes has been recognised as a problem. Social protest has contributed to a change of mood in the population and led to a change of government.

„The new mayor of the city is Lucho Garzón. The son of simple people and a former union leader surprisingly won the prestigious post in the election of October, 2003. At the top of his agenda is ensuring food security for the poorest of the city. This is strongly reminiscent of Lula in Brazil, an effect that is by no means accidental. Garzón's first official journey also took him to Brazil. The programs of both politicians to ensure food security for the poor are very similar. The first steps towards the ambitious goal of a city free of hunger consisted in the establishment of ‚comedores‘, a kind of soup kitchen at the neighbourhood level.

Garzón has announced a number of other improvements in the social sphere. The street vendors appear once again to have new perspectives. There are plans to work out a concept for better organisation of the vendors' activities in the city centre, and to introduce a program of mini-loans for micro-enterprises.

There is a perceptible shift in policy. If Garzón succeeds in tackling the announced social programs as innovatively and radically as his predecessors did transport policy, it will continue to be worthwhile to keep an eye Colombia's capital“ (Tack 2004: 56).

In 2015, following several corruption scandals, the era of left-wing mayors came to an end with the election of Enrique Peñalosa. In his first term in office as mayor of Bogotá between 1998 and 2000, Peñalosa had declared war on automobile traffic and introduced the *Transmilenio*. It remains to be seen whether, after a twelve-year dominance of social policy, there will once again be a fundamental change in favour of urban and transport policy, or whether the new mayor will manage to establish a sustainable urban and transport policy that also takes social issues adequately into account. While in recent decades Latin American societies have been repeatedly torn between left- and right-wing governments (cf. Salgado/Sandrin 2021), urban and transport development in Bogotá could possibly open up a qualitatively new path for Latin America.

A positive example of transport policy, especially with regard to the social issue, is the other Colombian metropolis of Medellín. After the experience with the failure of the subway project, the city decided to install an aerial tramway,

which was put into operation in 2004. Compared to other metrocabes in Latin America, the example of Medellín is particularly interesting because it shows that the implementation of transport measures alone does not lead to social integration (cf. Dávila 2013). Unlike metrocabes in other countries, which usually offer an isolated service, the one in Medellín is successfully integrated into the urban transport system. It is not only part of an overarching fare system, but also connected to the metro, streetcar and bus. As a result of the attractive Metrocable, which connects the city's low-income areas to the central district where all the jobs are located, more and more people are commuting daily, while the low-income areas are largely becoming residential. After a period of traffic relief, people suffered from congestion again, as bad as before (cf. Matsuyuki et al. 2019). In response, the government started an urban integration project with massive investments in low-income communities to improve living conditions, address social inequality, and boost local economies. As a result, more and more people from low-income communities found jobs in their neighborhoods and were no longer forced to commute about four hours a day. With this in mind, Camille Reiss (2019) questions the ability of public policy to solve problems of socio-spatial integration if it only focuses on transport-oriented measures such as the Metrocable. Reiss underlines the positive effects of this strategy, which has proven to be beneficial from a mobility and environmental point of view, as promoting living and working in the same neighbourhood leads to less traffic and greenhouse gas emissions. Against this background, Reiss calls for a „right to immobility“ similar to the European concept of the „city of short distances“.

In recent decades, Latin America has experienced a process of rapid urbanisation and mobilisation unlike any other region in the world. Today, the degree of urbanisation in Latin America has almost reached the level of developed industrial countries. Although some urban regions will continue to grow in the future, the countries of Latin America have passed the zenith of urban growth.

However, in many areas, urban and transport development has taken place free of political influence (cf. Valenzuela-Aguilera 2011, Sandroni 2011, Reese 2011). To the extent that public authorities saw themselves as observers of processes of societal transformation, without intervening and actively shaping these processes, both urban development and transport development fell short of the requirements of a dynamic process of urbanisation. Independently of the infrastructure of the formal towns, sprawling informal poor settlements sprang up, which often account for half of a city's population. On the other hand, the more affluent classes entrench themselves behind the walls of enclaves, very similar in their urban character to the poor settlements. The crucial difference lies in access to transport, which in the case of the wealthy classes is usually

ensured by car ownership, while the poor are relatively immobile because they are left with the choice between a meagre system of public transport and poorly organised, relatively expensive private transport services.

Urban and transport development in Latin America is similar in its essential features to the developments in the advanced industrial countries, although it takes a more extreme form and thus reflects the overall socio-economic situation. In both cases, urban and transport development follows the patterns of an economic and social differentiation that manifests itself in increasingly sprawling spatial structures. In both cases, the issue of the political management of these dynamic development processes also remains largely unresolved. While in the industrialised countries the traditional instruments employed by the state are increasingly being called into question and new forms of civil society and local participation are being discussed in the framework of the paradigm shift from government to governance, the situation in Latin America is the reverse. There, the negative consequences of an informal sector established through personal networks are becoming increasingly manifest. Nevertheless, many observers, especially those from the developed countries, find the informal sector especially attractive, because it exudes a creative potential that is missing in countries with a trained government bureaucracy. However, there is no overlooking the fact that, in the absence of all and any governmental policy framework, even the most promising activities often fizzle out in forms of self-organised poverty administration (cf. Irazábal 2005).

Whether Latin American countries simply follow the path of urban and transport development taken by the developed industrial nations, or whether they take a different, independent path to modernity will crucially depend on how far they succeed in establishing a new relationship between the informal and formal sector, between the private activities of civil society and public policy.

So far, however, the patterns of urban and transport development point in the direction of catch-up modernity.

#### **3.2.2 Africa – Ongoing Poverty**

In its study of global economic development to the year 2030, the World Bank (2006a) predicts that the poor nations of the earth, in particular, will benefit from the next „wave of globalisation“. By 2030, a global middle class of around 1.2 billion people will emerge in the developing countries of Latin America and Asia, who will then be able to afford luxury goods such as automobiles and travelling. This positive outlook is, however, marred by the fact that the gap between rich and poor continues to grow worldwide and an en-

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

the continent will be virtually excluded from this dynamic development. For according to the World Bank there are no signs that Africa, which has been largely disconnected from the global economy since the 1970s, will succeed in linking itself to global economic development (cf. also Collier 2015; Radelet 2016).

This does not mean, of course, that Africa's urban and transport development has been, or will be, completely shut down, as it were. Rather, especially in sub-Saharan Africa, we are dealing with the least urbanised area of the earth but which is also undergoing urbanisation faster than anywhere else, an area where urban growth is characterised by the fact that it is occurring in the absence of economic growth (cf. UN-HABITAT 2014). With annual growth rates of more than 4.5 percent, urbanisation here exceeds even that of Southeast Asia (3.8%), although both regions have a level of urbanisation of just under 40 percent of the population, and thus nearly identical initial conditions (cf. Fig. 32). In 2030, it is expected that in Asia and Africa more than half of the popula-

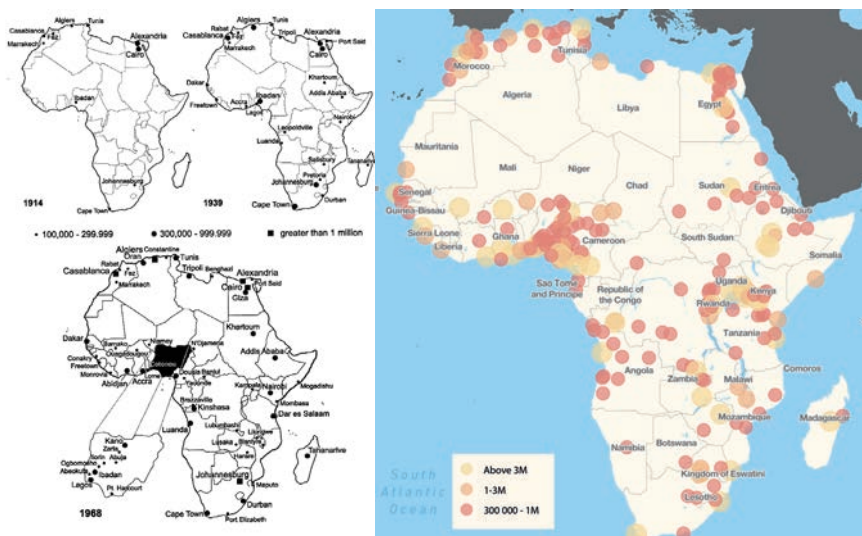


Fig. 32: The Urbanisation of Africa in the 20<sup>th</sup> Century  
Source: Own representation based on Saverance 2004

tion (54.5 and 53.5 percent respectively) will be living in cities (cf. Freire et al. 2015). At that point, half of the city-dwelling population worldwide will be living in cities in Asia (2.6 billion of a total of 4.9 billion city dwellers), while the urban population of Africa, at 748 million, will be greater than the entire population of Europe (685 million).

The African continent is about three times the size of Europe and is home to

around 1.3 billion inhabitants, roughly 17 percent of the current world population. It comprises 53 countries and 50 languages that are spoken by more than a million people. As a result of the long and intensive colonial influence, a structural problem has arisen which, a half-century after African states gained their independence, has yet to be resolved (cf. Tetzlaff/Jakobeit 2005: 245ff.). On the one hand, by creating artificial national borders and imposing internal ethnic segregation, the colonial powers contributed to a situation whereby most African countries have still not been able to develop a sense of nationality and fighting repeatedly breaks out between different ethnic groups inside the country in question. This leads to political instability, which is exacerbated by economic dependence on the developed industrial countries, attributable to the fact that African economies are predominantly export-based, a system introduced by the colonial powers (cf. Simone 2004; Austin 2015). Until very recently, the labile social relations were held together by authoritarian regimes, which – along with the international corporations from the Western industrial nations – skimmed off the profits from the sale of natural resources, leaving the majority of the population excluded (cf. Simone 2014). Thus, the social wealth was once again concentrated in the cities established by the colonial powers, and which now mostly serve as seats of government for the domestic potentates.

In addition to these structural problems, there is another obstacle to successful economic development: the transport infrastructure, which is completely inadequate for a functioning economy (cf. Estache/Wodon 2014). 90 percent of journeys are still made on foot, and only 2 percent using motor vehicles (cf. The World Bank 2008). For every 1,000 people in sub-Saharan Africa, there are only about 8 automobiles. The continent also only has a rudimentary rail network, which, moreover, is in a disastrous condition (cf. Fig. 33). The railway lines were built for the limited – mostly military – purposes of the respective colonial powers. They are accordingly concentrated in and around the population centres of the coastal regions, without access to the interior. The rail network thus exemplifies the ambivalent relationship of the developed industrial countries to their colonies: on the one hand, they aspired to bring the blessings of Western civilisation to the colonies; on the other hand, they one-sidedly pursued their own, mainly economic interests:

„[o]nly the railways remain as major legacy of the economic policies of the colonial powers of that period, and they were paid for by taxes imposed on the Africans themselves. In both British and French West Africa economic policy on the part of the newly established governments subordinated African interests to those of the needs of the Metropolis. The railways, and later the tarmac roads, tell the tale most clearly: simple feeders linking areas that produced the crops and minerals Europe needed with the ports on the coast“ (Crowder 1968: 173f.).

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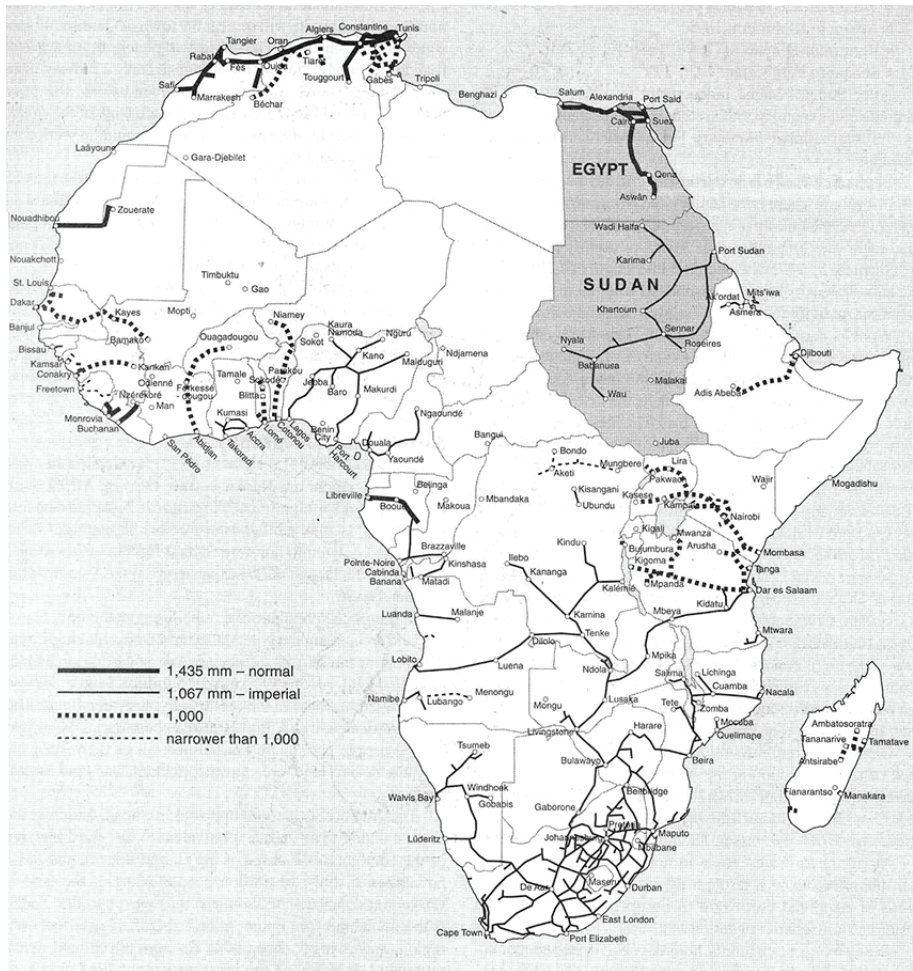


Fig. 33: The Railway Network in Africa

Source: Baker 2006: 50

Fourteen African countries maintain no rail network at all (cf. Hölzl 2006). Of the existing railway lines, only very few are still used for passenger transport, the vast majority of rail transport being for the transport of goods. Only four North African cities (Algiers, Tunis, Cairo, Alexandria) have rail-based public transport (cf. Pirie 2014). In recent years some African countries have been reinvesting in rail infrastructure, especially East African countries (Kenya, Uganda, Rwanda, Ethiopia and Djibouti) and in Nigeria, mostly involving Chinese investors but also investors from the Emirates. However, almost all the projects involve renovation of the rails and modernisation of the rolling stock

or increasing capacity. Thus, the decades-long backlog in this area is slowly being cleared. The railway network is being extended only to a small extent. The few new extensions to the rail network are also located in the coastal areas or they provide a connection between a manufacturing facility or a mine site and a port. The interior of the continent, however, remains unconnected to the network.

A similar picture emerges if one looks at the road network, which used to be much more tightly linked than it is today. Since 1960, many African countries have lost half their original road inventory, because the roads did not receive the necessary maintenance (cf. The World Bank 2008: 65; 2011). Of the remaining network, only 30 percent of all roads are in a reasonable condition, of which about 8 percent are sealed (cf. *ibid.*). Only about 33 percent of the rural population (which comprises more than two-thirds of the total population) live within two kilometres of an all-season road (cf. Fig. 34-36). Due to the all-in-all serious shortcomings of state-provided services, transport in Africa is for the most part the domain of self-organised private services (cf. World Bank 2003). These are concentrated in the urban population centres and from there they also serve the surrounding areas. Since rail transport is of little importance, a differentiated range of road-based services has been established. The conventional, once-dominant large buses now play only a minor role. This is partly because the governments are less and less able to muster the subsidies necessary to keep the fares at an affordable level for the population. In addition, the less manoeuvrable large buses are more subjected to the roads full of potholes, and thus wear out more rapidly. In this way, the operating costs continue to rise and the public authorities withdraw even further from their responsibility for the transport sector (cf. Rizzo 2017: 51ff.).



### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity



*Fig. 34: Inter-Village Footway in a Rural Area*  
*Source: Monheim/Kayi 2006*





*Fig. 35: Worn-Out Road Network*  
*Source: Monheim/Kayi 2006*

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity



*Fig. 36: Section of a Highway in the Vicinity of a City*  
*Source: Monheim/Kayi 2006*

In addition to the remaining large buses, the transport offerings today consist of a variety of vehicles of all imaginable sizes – ranging from midi and minibuses, which can carry from 20 to 40 or 12 to 20 people, to taxis for four people, to motorcycles and bicycle taxis for one person. These services do not follow any official regulations, such as a fixed timetable, regular working hours or minimum requirements for services, etc. The vehicles focus on the places where the demand is greatest, while other areas remain largely unserved. The drivers simply wait until the vehicle has filled up and the trip becomes profitable. Lastly, the routes and prices vary, since they have to be re-negotiated on each occasion between the driver and passengers (Fig. 37, 38). The grow-



*Fig. 37: Informal Bus Station*  
*Source: Monheim/Kayi 2006*

ing mobility of the population also affects the development of African cities, which – due to the very different historical circumstances – is also proceeding in different ways. While Arabic North Africa can look back on a long history of independent cities, most black African cities are of colonial origin and were



*Fig. 38: The Relationship between Supply and Demand*  
*Source: Monheim/Kayi 2006*

first established only in the middle of the 19<sup>th</sup> century (cf. O'Connor 1983; Vorlaufer 2004a).

„In colonial cities and cities with a colonial imprint, administrative functions, public utilities and residential functions, as well as ethnically-specific residential areas, were separated from each other by open spaces and infrastructure. This settlement structure is still visible today, in an almost unchanged form“ (Gaebe 2004: 298).

While it is true that, following independence in the 1960s, the colonial cities were transformed from cities for Europeans in Africa into cities for Africans, the new freedom of movement simply meant that the previously enforced segregation (the result of restrictions on migration) was replaced by a *voluntary* segregation, which is largely reflected in the same spatial patterns (cf. Fig. 39). Where the first form of segregation was primarily organised along ethnic lines, the latter form is increasingly shaped by socio-economic criteria. While tribal origin still plays an important role (similar to the caste system in India), there



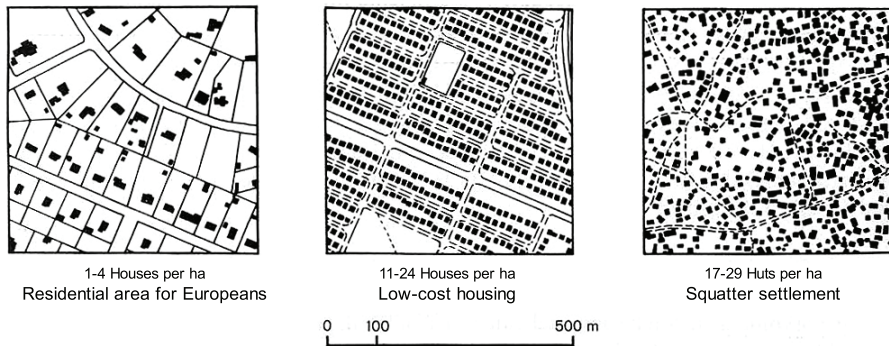


Fig. 39: Residential Districts in Lusaka in the early 1980s  
Source: Williams 1984: 49

are increasing signs in Africa of detribalisation (again, as there are in India), which is also leading to a decline in ethnic segregation in African cities (cf. Vorlauffer 2001).

#### ***Wanderer Between the Worlds***

*In South African Kwazulu Natal, the land of the Zulus, the „Inkosi“ has the function of the clan chief. As Council President, he is the final authority on all legal issues in family feuds and neighbourhood disputes. His position is inherited through the father. After his parents' divorce, the new Inkosi moved away with the mother and studied engineering in Johannesburg. It was only when his father died that his mother reminded him of his duty to the ancestors. When he decided to return to the place of his childhood, his wife divorced him and stayed behind in Johannesburg.*

*„He sits in his office in front of an empty desk, dressed in a modern suit, just as he would in Johannesburg, and he also wears it when his sons (who stayed with their mother) come to visit. Because the boys from the big city are embarrassed if their father runs around like a wild provincial – Inkosi or no Inkosi. Sons who have mobile phones and get bored after two days in Isandlwana, roll their eyes when the father takes them to the huts, to help them understand what it is that makes a Zulu. Respect for elders and the ancestors, for example“ (Jeska 2007).*

*The Inkosi convinced the men from the Council to set up a women's cooperative in his village, in which shirts and tunics are sewn on commission. Thus, for the first time, the women – who were mostly left behind by their husbands who were working in the cities – were able to become financially independent and contribute to the maintenance of the family. But when one of the women – having become self-supporting – got divorced, the project*

*was called into question. The councillors saw the traditions endangered, the men their marriages and the elders their respect. But the Inkosi prevailed, by referring to the objectives of the Government to establish such cooperatives.*

*A wanderer between the traditional world of the Zulus and modern Africa, the Inkosi acts as an intermediary and thus shapes social change.*

The social mobility that is thereby activated, in conjunction with the rapidly growing transport sector, leads to sometimes considerable migration within the population centres (cf. Rizzo 2017: 96ff.). Nevertheless, the inhabitants of the different districts still end up divided along ethnic and socio-economic lines.

In South Africa, migratory movements have taken on a special dynamic in reaction to the exceptionally restrictive ethnic separation under the apartheid regime. In South African cities, comprehensive processes of immigration and emigration are resulting in ethnic and social segregation of entire districts (cf. Vorlauffer 2004b, c). A similar ethnic and social re-zoning is also taking place in the business centres of those South African cities – for example, Johannesburg – where office buildings formerly used by whites are increasingly being occupied by black immigrants (cf. Rogerson 2000: 407).

South Africa offers an exemplary illustration of the ubiquitous process of inner-city segregation. Moreover, it is so far the only African country in which processes of de-concentration and suburbanisation are occurring simultaneously. In the case of Midrand, located between Johannesburg and Pretoria, Bähr (2000: 92) even speaks in terms of an „edge city“ on the American model. Here, as a result of the changed economic and population structure and the spatial distribution of firms and households, large utilities and recreational facilities, locations for offices and industrial facilities are being established. Moreover, in Greater Johannesburg one also finds gated communities, now well-known in all other regions of the world (cf. Jürgens/Gnad 2000).

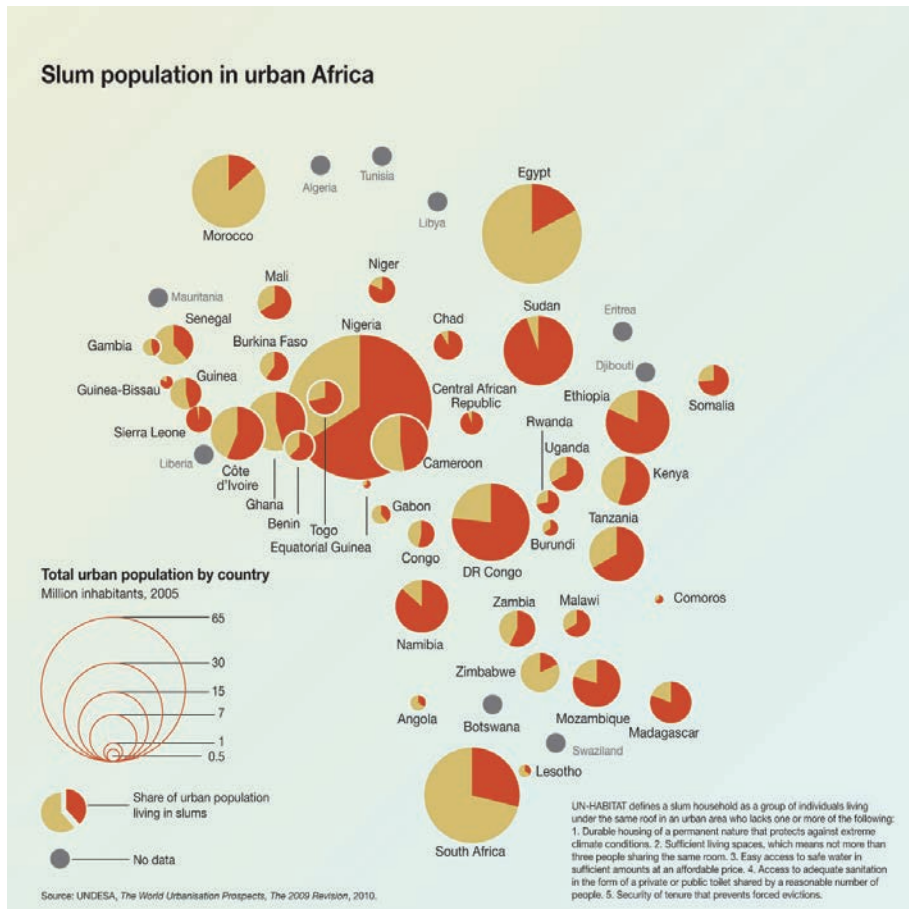
Measured against the degree of differentiation of urban settlement development worldwide, most African cities are lagging far behind. Here a correlation is being established after all between settlement development and economic development. While the cities of Black Africa are growing even in the absence of economic growth, the urbanisation in question is taking place without industrialisation and thus without the differentiated division of labour that usually accompanies it.

„In the colonial period, the economic functions of cities were limited to administration, the provision of supplies and the handling of goods, and – especially in east and southern Africa – only small areas were set aside for trade and business, because they were far less developed than in the rest of Africa. Rising world prices in the 1960s fostered an expansion of the formal sector, a functional differentiation and diversification of the economy. Since the global recession in the 1970s, economic development has stagnated. In the colonial period, the relationship of structural dependency between urban and rural areas or between the market economy and the subsistence economy was an instrument of settlement and social policy; since then it has been an instrument of economic policy. There has been no success in initiating development that is more oriented to domestic demand, by linking the economic sectors of the production and processing of raw materials, trade and services, and decreasing the high level of foreign dependency“ (Gaebe 2004: 299).

Accordingly, the agricultural subsistence economy in the outlying areas of African cities is particularly important in the provision of food supplies for the inhabitants. Moreover, an increasing „ruralisation“ of the cities is occurring (cf. Binns/Lynch 1998). The economic structure of urban areas in Africa is especially strongly marked by the coexistence of traditional and modern influences. The combination of a lack of industrialisation and the simultaneous ruralisation of African cities led to a situation in which the development of an intact infrastructure was the exception to the rule. Besides the familiar shortcomings in the areas of water and electricity supplies, sewage and waste disposal, this is reflected in particular in the sectors of housing and transport. Since in most cases the state does not formally provide for these basic needs, a particularly extensive informal sector has developed (cf. Bass/Waschkuhn 2004; Bähr 2005). The International Labour Organization (ILO) estimates that the informal sector in sub-Saharan Africa accounts for about 80 percent of all non-agricultural workers and 60 percent of urban workers (cf. ILO 2006). The share of the informal sector in the non-agricultural GDP is also estimated to be correspondingly high by international standards: in sub-Saharan Africa it stands at 41 percent, followed by Asia with 31 percent and Latin America with 29 percent (cf. Pranger 2005).

The informal urban development is reflected first of all in sprawling slum areas (see Figure 40; also Vorlauffer 2004d) but also partly in the transport sector, which is subject to barely any control by public authorities (cf. Schamp 2004; Rizzo 2017.). While for a long while one set great hopes on the self-healing powers of the African continent (cf. for example Goethert 1986), this optimism has since given way to a pronounced scepticism. Thus, the World Bank points out, for instance, that the performance of the informal transport sector is in every respect unsatisfactory.

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

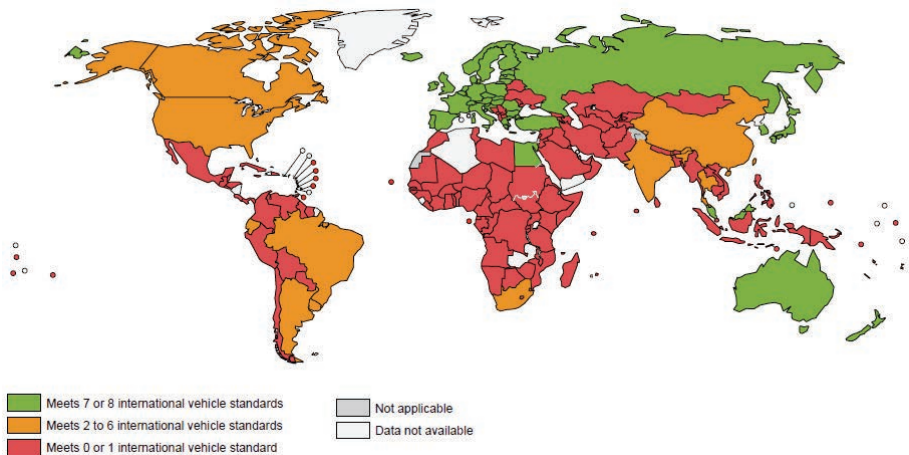


*Fig. 40: Proportion of Slum Dwellers in Africa's Urban Population*  
Source: UN-Habitat 2015: 6

„Although the informal sector provides relatively dense coverage, frequent services, and is flexible in response to changing demand, it is also disorderly, uncomfortable and occasionally unsafe. There is a lack of service discipline, passengers dislike haggling over fares, and the services are costly relative to income“ (World Bank 2005c: 25; Aly Mbaye/Benjamin 2015).

Particularly conspicuous is the problematic nature of the informal sector when it comes to road safety. Because of the chronic overloading of vehicles – attributable to the high demand and to economic factors – and the lack of inspections, the vehicles are usually very old and, by Western safety standards, unroadworthy (Fig. 41). Nevertheless, the authorities are unenthusiastic when it comes to carrying out inspections, because they generally can't see any way





*Fig. 41: Countries applying UN vehicle safety standards, 2018*  
*Source: WHO 2018: 9*

of filling the gaps in service that would arise from taking the affected vehicles off the road. In its dealings with private providers, the state thus repeatedly loses out, due to a lack of financial resources – with the result that Africa has the world’s highest rate of road accidents (cf. Nantulya/Reich 2002; Rizzo 2017: 100ff.). Should conditions not improve, the World Bank expects a further increase of 80 percent in the accident rate in the mid and low-income countries in the period from 2000 to 2020, while the high-wage countries will be able to reduce the accident rate by 30 percent, thanks to new safety measures (cf. Fig. 42). Overall, experiences with the informal sector in urban Africa are ambivalent (cf. Simone 2005). The predominantly negative consequences have contributed to the realisation that at least rudimentary forms of political regulation are required in order to ensure that informally organised social subsystems are able realise their productive potential (cf. Rakodi 2006; Rizzo 2017). In addition, it has been found that there is no single solution in this regard. Rather, another key finding of recent research is that the specific local conditions have to be considered in order to determine which measures promise to lead to successful development (cf. Guha-Khasnobis et al. 2006).

To gain an impression of the diverse initial conditions for sustainable urban and transport development in African countries, three cities in three markedly distinct countries will be described in the following pages. We begin with the metropolis of Johannesburg in South Africa, the most economically developed African country. Johannesburg can be viewed as the pioneer of a form of urban development that in other African countries is barely in evidence, if at all. We

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity

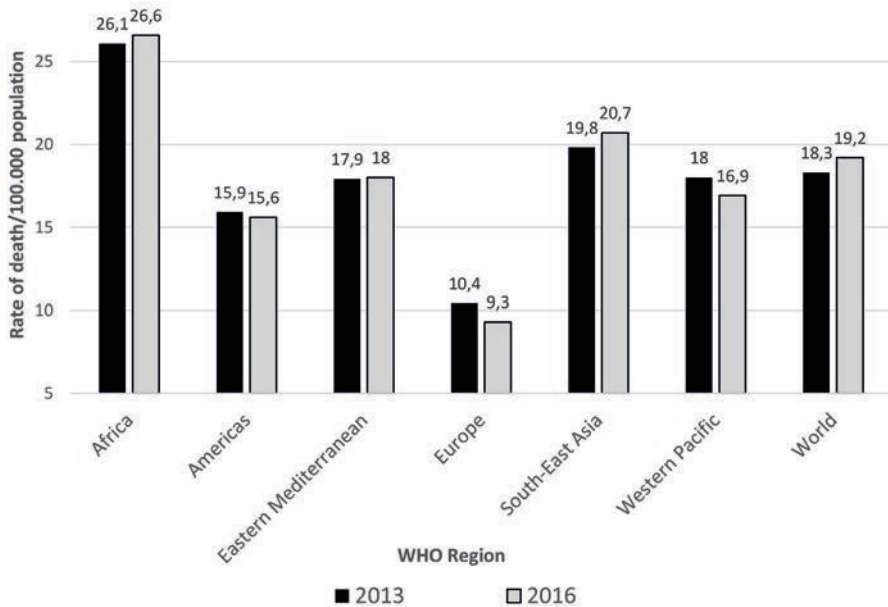


Figure 42: Rates of road traffic death per 100,000 population by WHO regions: 2013, 2016  
Source: WHO 2018: 5

then examine Lagos, the largest city in Nigeria, as an example representative of many African countries. On the one hand, Lagos is the economic centre of the country, but on the other hand, it has no functioning government and its urban and transport development is typical of the situation in most African cities. Lastly we turn to the North African city of Cairo, the capital of Egypt. As an oriental city, Cairo represents a discrete city type that clearly stands out from the cities of sub-Saharan Africa.

#### 3.2.2.1 The Racist City – Johannesburg

The South African city of Johannesburg shows in a particularly impressive fashion the degree to which the specific social conditions of a society are reflected in particular socio-spatial structures (cf. Katsaura 2014). Known for its precious metals, the mining town belongs to the province Gauteng, created in 1994, and which covers an area that ranges from Greater Pretoria in the north, to Johannesburg, to the industrialised Vaal Triangle in the south (cf. Fig. 43). With more than 3 million inhabitants, Johannesburg is the largest city in the country and the conurbation as a whole, with 8 million people, is one of the largest metropolitan areas south of the Sahara. The outstanding economic im-

portance of the province becomes clear when one considers that it covers only 1.5 percent of the area of South Africa, has 19 percent of the population and generates 35 percent of the gross domestic product (cf. Bähr/Jürgens 2002: 184).<sup>10</sup> Life in Johannesburg and other South African cities is shaped by social relations that go back to colonialism and, as from 1948, to the apartheid government (cf. Kessel 2006; Geyer 2005; Haferburg/Huchzermeyer 2014). There were four main categories of laws that shaped the lives of the people for a generation and beyond (cf. Schicho 1999: 146f.). The *first* group of laws determined the spatial segregation of the white and black populations. The blacks were mostly assigned to settlements on the outskirts of the city and strictly prohibited from settling in the inner city, which was generally inhabited by whites. In order to be able to monitor this stipulation administratively, population registers were created to divide the South African population according to criteria of „race“. The *second* group of laws regulated the occupational activity of the white and coloured population, where blacks were systematically excluded from certain skilled occupations. A *third* complex of laws made it possible to prohibit any kind of unwelcome political activities. The *fourth* and most comprehensive group of laws concerned restrictions on personal freedom; amongst them was the prohibition of sex outside marriage and, as from 1949, marriage between whites and blacks. Although in practice these laws were not successful in keeping the black population away from the white cities as originally planned, the racial segregation is nevertheless reflected in the structure of the city.

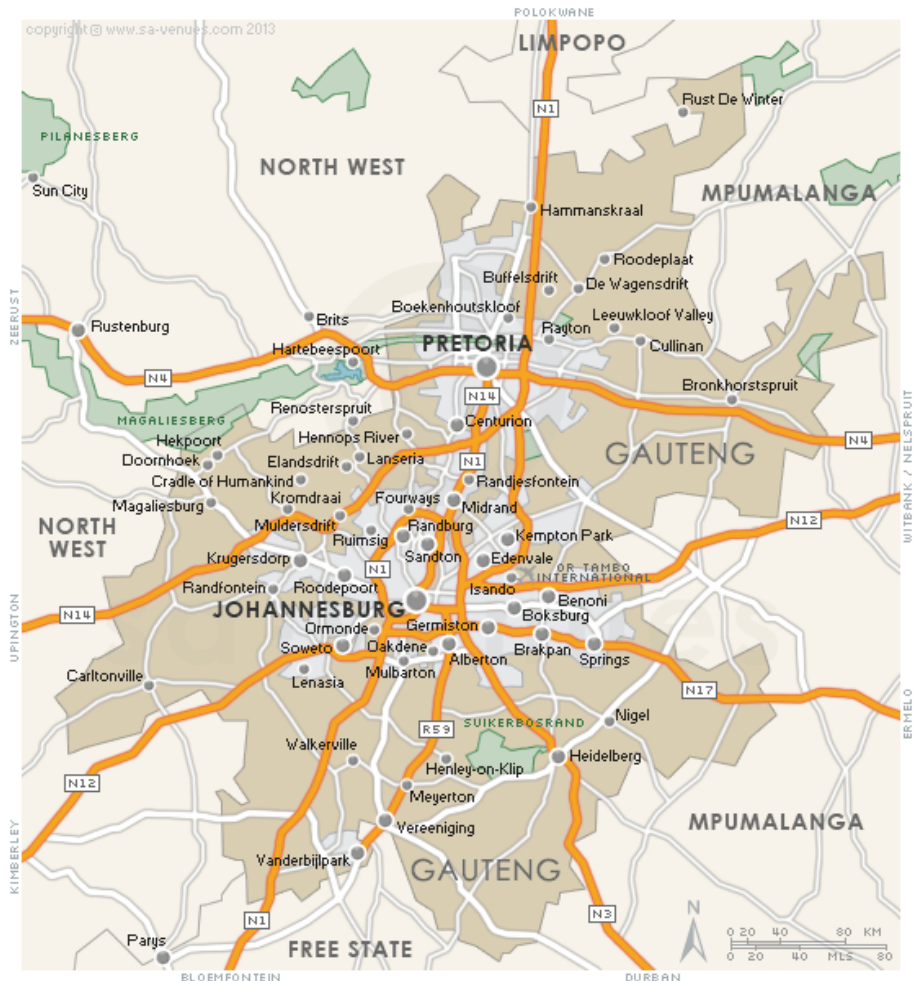
„South African towns acquired a characteristic dual form. The largest and most conspicuous part was a spacious modern town, consisting of a business sector where people of all races worked during the day and suburbs of detached houses, ranging from opulent to mediocre, owned by white families and served by black domestics. Separated from the modern town was a black location, where mud, clapboard or corrugated iron buildings, with earth latrines, stood on tiny plots of land and were served by water from infrequent taps along the unpaved paths and roads“ (Thompson 1995: 170).

After the abolition of discriminatory legislation in the late 1980s and with the end of the last apartheid government in 1994, the politically prescribed and administratively implemented segregation was done away with. This prompted the acceleration of a development that went back to the 1970s, set in motion by

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<sup>10</sup> Although in the framework of this book it is not possible to examine the growing importance of smaller and medium-sized towns and cities in Africa, it should nevertheless be noted that there is also much to be done in these places. A decentralisation of the political endeavours could at least contribute to curbing migration to the big cities. If life in small and medium-sized towns were made more attractive, this would provide a counter to the over-urbanisation of just a few major agglomerations, with all the negative side effects (cf. Lemon 2001; Keiner et al. 2004).

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity



*Fig. 43: The Province of Gauteng*  
*Source: Explore South Africa 2016*

the economic structural transformation from an industrial to a services-based city (cf. Beavon 1997; Simpson et al. 2011). Now that the blacks were able to move freely, large numbers of them left the inhospitable settlements that had been assigned to them and migrated to the centre of Johannesburg. This in turn led to an increased exodus of whites from the centre to the northern suburban area known as Midrand. In some inner-city neighbourhoods of Johannesburg a three-stage process is unfolding: first comes an isolated influx of blacks into a „white“ district and the departure of the white population begins. After a brief period of „co-existence“, the district eventually turns into a closed-off

black neighbourhood. Ultimately, the district attracts more blacks and begins to grow beyond its original dimensions (cf. Bähr 2000). In response to the concentration of lower income groups and the diminished buying power of the population, the infrastructure then thins out rapidly, making the district even less attractive. This trend is exacerbated by a particularly high crime rate. In Johannesburg, the number of murders now exceeds the number of road deaths, which makes the city number one on the list of the most dangerous cities in the world.

This process of invasion and succession displays clear parallels with the development of American cities (cf. Bähr et al. 1998). Accordingly, parallel to the depreciation of entire areas of the inner city, new urban centres are being constructed in the suburban areas. Thus, Johannesburg is growing southwards, merging with the township of Soweto, and at the same time northwards, beyond the edge city structures of Midrand, merging with the city of Pretoria. In this way, a sprawling, roughly one hundred kilometre long band of settlement is developing. The socio-spatial development of this mega-urban region is today determined by the global „laws of the market“ instead of the local „apartheid laws“ (cf. Geyer 2005). On the one hand, the black population's freedom of movement means the old spatial patterns are dissolving; on the other hand, the traditional social cleavages are being reproduced in the newly emerging spatial structures. Thus, the undeveloped „buffer zones“ that were created between white and black settlements are disappearing, either because (in the wake of suburbanisation) squatters are building illegal shanty towns, or because residential developments and industrial parks are being built (cf. Bähr/Jürgens 2002; Jürgens 2009). At the same time, the white population is increasingly isolating itself in gated communities, where the social structure reflects a race and class-based segregation (cf. Jürgens/Gnad 2000; Murray 2014).

The socio-spatial fragmentation of the Johannesburg area is accompanied by serious deficiencies in the infrastructure, which are increasingly perceived as an obstacle to successful economic development (cf. Rogerson 2000; Peyroux 2014). This applies in particular to the deficient transport infrastructure, which leaves individual parts of the city unconnected and immobilised, so to speak, thus obstructing sustainable urban and transport development (cf. Keiner et al. 2006). While the city itself operates mainly buses, most of the older communities in the outlying areas can be reached with suburban trains which are part of the rail network that was built in the colonial period. On the other hand, the new settlements established in recent years, especially those in the north of Johannesburg, are not connected to this network (cf. Haferburg/Jacobson 2014). The predominantly low-income residents of these settlements, who are

dependent on public transport, have to rely on minibus taxis that run without a timetable, whose operation is not subject to political control and is partly in the hands of organised crime. Because the vehicles are old and poorly maintained, but also because the drivers are often insufficiently qualified and suffer from poor working conditions, this individually-organised informal transport constitutes a threat to man and beast.

In the second half of the 1990s, in order to keep up with the growing economic importance of the Mega-Urban Region Johannesburg, the South African government published a whole series of programmatic documents concerning future transport development, all of which are oriented towards a single goal:

„The overriding intention is to transform fragmented, distorted apartheid settlements so that they positively accommodate the activities of the vast majority of their inhabitants. The act requires that all land decisions contribute to making settlements, inter alia, more equitable, compact, precisely the opposite of the urban outcomes which resulted from the paradigms of modernism and apartheid, which dominated the development of South African towns and cities over the last five decades.“ (Dewar/Todeschini 2004: 2)

This is accompanied by the demand for a radical change in transport policy:

„[...] practices which require, inter alia, urban compaction, a clear emphasis on public as opposed to private transportation; reduced aggregate movement; an emphasis on improved accessibility; integration between public and private movement as well as between modes of transport; much greater integration between land use and transportation planning; and the appropriate recognition of (broadly defined) environmental impacts“ (ibid.).

However, despite these comprehensive and far-reaching plans for a *Rainbow Nation*, which aim to achieve equal living conditions for all sections of the population, the reality remains quite different (cf. Jürgens 2002; Osmanovic 2004; Kessel 2006). Thus, the one-sided fixation on successful economic development, which was supposed to benefit the poor population as well (the trickle-down effect), turned out to be wrong (cf. Rakodi 2006). Instead, it has been shown in recent years that economic globalisation has very different effects locally (cf. ILO 2006). All in all, the global liberalisation of the markets, which was supposed to create new jobs and thus contribute to poverty reduction, did nothing of the kind. Instead, the gap between rich and poor has widened: while one percent of the world's population now own approximately 50 percent of the wealth, 80 percent of the global population share around 6 percent of the wealth (cf. Oxfam 2015). In Africa, the total poverty rate has even increased.

Against this background, one can understand why the approach of helping people help themselves – also associated with the strategy of economic growth –

has not proven successful (cf. Lohnert 2002), namely because the necessary ideological and material conditions are simply lacking. Empirically, there is no gradual consolidation of the marginal settlements, nor, under the circumstances, is there an intrinsic motivation for the residents to invest in improved housing conditions (ibid.: 255ff.). This is partly due to the precarious living conditions, which make long-term planning – a precondition for investments – seem pointless. Secondly, the economic conditions (economic growth) that would create opportunities for advancement and thus facilitate renovation and renewal are lacking.

„Lack of pro-poor policies is not only an impediment to growth; poverty itself hinders economic growth by limiting the domestic resources available for private investment and public goods“ (UN-Habitat 2005: 3).

Accordingly, the implementation of sustainable urban and transport development, as pursued by the South African government, depends on financial feasibility. But this presupposes first and foremost a structural readjustment of the national and global distribution of wealth, which is nowhere to be seen, even in South Africa, economically the most developed country, not to mention the other black African countries (cf. Burgis 2015).

#### **3.2.2.2 The Chaotic Metropolis – Lagos**

Until 1991, when the government moved to the planned, „drawing-board“ city of Abuja, the coastal town of Lagos was the capital of the West African state of Nigeria – and an ungovernable agglomeration, which it remains. This was already the case in 1976, when the government decided to build a new capital, inland from the coast. With about 15 million inhabitants Lagos is now, after Cairo, the largest African city.<sup>11</sup> The conditions in Lagos are not just symptomatic of the situation in Nigeria as a whole (cf. Schicho 2001), but are also exemplary in many ways of the current development of African cities south of the Sahara (cf. Stren/Halfani 2001). Following the declaration of independence in 1960, the country was placed under the yoke of successive military governments, before in 1999 a democratic government was formally established. Nevertheless, the country has still not managed to create the basic conditions for a functioning body politic, such as legal certainty (cf. Musa 2006). Thus, violent riots are still on the agenda and affect peoples' lives, especially in the cities and towns (cf. Falola 2021; Bergstresser 2006). The statement made by a lawyer in *The New African* (253, Oct. 1988: 24), who had at the time returned from the USA to work in Nigeria, also describes the current situation: „I think in this country you have to cheat, steal and maybe also kill to survive. I will

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<sup>11</sup> According to UNO estimates, Lagos even has as many as 20 million inhabitants.

not sink that low.“ His wife had already left the country again to return to the USA.

In light of these circumstances, it is surprising to learn that certain Western observers have been endeavouring for some years to wrest some positive aspects from the conditions in Lagos (cf. Koolhaas/Cleijne 2007). It has apparently gained currency to describe the living conditions in Lagos not as a disaster and a struggle for survival, but rather to view the situation as creative self-organisation and to contrast it with the highly regulated and alienated living conditions in modern societies.<sup>12</sup> But less optimistic interpreters of the everyday activities also conclude that the only chance for a better future for Lagos lies in the individual commitment of the people and their inventiveness (cf. Tostensen et al. 2001; Ahonsi 2002).

An analysis of the city leads to correspondingly ambivalent conclusions: when Nigeria – one of the world’s richest oil-producing countries – profited from the oil boom in the 1970s, efforts were made by the central government to develop the entire infrastructure of the country in order to assist economic development (cf. Olukoju. 2003). Unlike other African countries, the industrialisation of urban centres in Nigeria received absolute priority over structural reforms in the agricultural sector, whereby the metropolis of Lagos developed into the economic and financial centre of the country (cf. Elegbede-Fernandez 1992: 85). The transport infrastructure was significantly improved by means of an accelerated road building program under the aegis of the German engineering consultants Julius Berger, which involved a massive system of urban freeways, bridges and overpasses, in conformity with the model of the car-friendly city (cf. Ogunleye 1999; Gandy 2005: 41). Since that time, Nigeria is considered to have the best transport infrastructure in sub-Saharan Africa (cf. Bergstresser/Pohly-Bergstresser 1991). In Nigeria today around 90 percent of passengers and goods are transported by road.

However, the measures fall well short of being able to keep pace with the ever-increasing demand (cf. Peil 1991; Olukoju 2003). An increase in population between 1963 and 1988 from 665,000 to about 6 million was accompanied by a fourfold increase in the surface area of the city. With the economic decline after the end of the oil boom in the early 1980s, the situation deteriorated rapidly, and then collapsed completely in the wake of the structural adjust-

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<sup>12</sup> In the film „Lagos Wide & Close – An Interactive Journey into an Exploding City“, which is based on the „Harvard Project on the City“, directed by Rem Koolhaas, Edgar Cleijne and Jeffrey Inaba (2005), the traffic conditions are repeatedly filmed through prisms, which make the traffic chaos appear as uniformly ordered patterns, similar to the aesthetically pleasing fractal images of the chaos theorist, Benoît Mandelbrot.



ment programs imposed by the World Bank, which in addition to radical cuts in government spending and a massive liberalisation of trade, also required the privatisation of state enterprises (cf. Abiodun 1997). Since then, the public sector has lost almost all influence over urban development. Thus, the public transport enterprises in Lagos were sold off, without exception; their task was taken over by a growing armada of largely uncontrolled private taxi services, whose barely-maintained yellow vehicles clog the streets day after day (cf. Fig. 44).<sup>13</sup>

However, the expansion of the informal sector was not only accepted by African governments, albeit reluctantly, it was even increasingly seen in a positive light, to the extent that it helped to stabilise social relations. Philip Amis suspects a political strategy at work here:

„In essence, the importance of political stability within the urban areas of the Third World seems important. In this context the acceptance of unauthorized settlements is a relatively painless, and potentially profitable, way to appease the urban poor in the Third World. The increasing mobility and ability of international capital to change locations at short notice are likely to make these political considerations more rather than less important“ (Amis 1990: 19).

The informal sector today permeates all areas of life in Lagos (cf. Eckert 2006a). Analysts of the traffic conditions there are either fascinated or repelled by the chaos, but only in exceptional cases do they provide any information on how the current situation actually came about (cf. Olukoju 2004a). What seems hard to imagine today is that in the 1930s Lagos had an extremely efficient bus system, based on a monopoly set up by a private entrepreneur named Zarpas, with support from the official authorities. Because the authorities granted the company concessions for certain bus routes, in return they were able to stipulate general standards of quality, which the company was required to meet. After the Second World War the growing demand led to more and more private transport operators forcing their way into the market, offering cheap transport services of diminishing quality, although in the colonial period the city government countered this development in order to ensure certain safety standards:

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<sup>13</sup> For a detailed analysis about the neoliberal development of the transportsector in Dar es Salaam, Tanzania, see the compelling study by Rizzo (2017).

### 3.2 Developing Countries – Catch-Up Modernisation or Another Form of Modernity



*Fig. 44: Agege Motor Road, one of the major north-south axes, which connects Lagos with its hinterland, also cuts through Oshido, the district that Rem Koolhaas called the „largest market in Africa“. At the same time it is also one of the largest rubbish dumps in the city, because the city government is barely able to organise public services and to maintain an adequate infrastructure.*

*Source: Gandy 2004: 21, Photo: Matthew Gandy*

„Under the Road Traffic Regulations, buses were required to undergo periodic testing along with their spares. Unfit buses, including spares, were promptly ordered off the road. This became imperative for the safety of commuters, as operators tended to cut corners to increase their profit margins“ (ibid.: 223).

Zarpas came increasingly under pressure as a result of the essentially exclusive contracts awarded to him by the State, and in the late 1950s, in the face of the relentless criticism of his company’s monopoly position by other private providers, he withdrew from the business arena. His bus company was then taken over by the city government, which in turn increasingly found itself competing with a steadily growing number of private providers.

With the explosive population growth as from the early 1960s, which – as in the rest of Africa – was due above all to the natural birth rate, the transport demand exceeded supply more and more. The city also expanded further and further, assuming enormous proportions, which overwhelmed the capacities of the traditional bus services (Fig. 45). The government then proceeded to

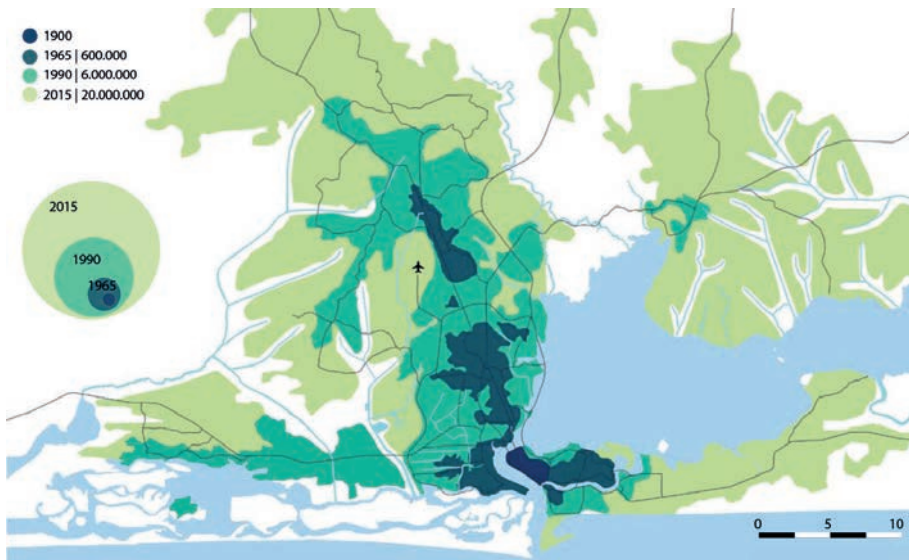


Fig. 45: The Urban Development of Lagos

Source: Own representation based on Gandy 2005: 36

hire buses to private entrepreneurs. But this solution also failed to meet the increasing demand. This was also because the buses were largely unsuitable for the purposes of flexible mass transport in the city. The growing number of private providers on the other hand responded quickly to the new requirements by adding minibuses or taxis to their fleets, which – unlike the large

buses – were able to circulate off the main streets. In Lagos, there are now no publicly-owned transport enterprises at all. As from the early 1970s, transport development in Lagos was thus taken over by a specific dynamic that public authorities were less and less able to control.

„However, it could be argued that the state-owned transport enterprises failed only in the economic sense. In the social sense, they achieved some (admittedly debatable) success in generating employment in a labour-surplus economy, in servicing routes that private operators considered uneconomic, and giving special rates (or, even, free rides) to the underprivileged, such as school children“ (Olukoju 2003: 133).

As a consequence of this far-reaching withdrawal of the public administration from the transport sector, only in the rarest cases do the vehicles on the streets of present-day Lagos meet basic safety or environmental standards, which repeatedly results in catastrophic accidents, not to mention the environmental damage they cause (cf. Amadi 2004). Moreover, these vehicles operate in a transport system that cannot cope with the growing influx of additional vehicles and in which traffic rules are more or less meaningless. This is due amongst other things to the immense increase in the number of motorcycles in city traffic, which were originally restricted to the outskirts by the city government, but since the 1990s they have come to dominate the entire city (cf. Ogunleye 1999). As „the car for the little guy“, motorcycles have become a social threat because only in exceptional cases do their riders have even the most basic knowledge of the traffic rules, not to mention passed a driving test; their recklessness causes serious accidents on a daily basis. However, quite apart from the social costs produced by this system of private self-organisation, it also fails to meet the transport demand. Nevertheless, the private transport sector has now attained an importance for the functioning of the city that is not to be underestimated. The public authorities are therefore reluctant to take any action that is directed against the commercial operators of minibuses (who are organised in two large associations), since such action is likely to lead to strikes, which can paralyse the entire city (cf. Olukoju 2004a: 227). As experts see it, the only way to escape from the daily traffic chaos is with a high-speed rail system.

„Rail-based public transport is first of all environmentally friendly; second, it can be used to transport significantly larger quantities of goods; third, it would greatly relieve pressure from the streets; fourth, it is much faster than any other means of transport [...]; fifth, it is cheaper for the user; sixth, it is safer; seventh, transporting goods is also cheaper; and eighth, railway lines are less susceptible to damage and devour less money for repairs than highways. Conclusion: A high-speed railway system is the most urgent task to which the Lagos State Government should devote itself“ (Olukoju 2004b: 58).

Announced for the 1980s, the railway system has still not been completed, which is not the least of the reasons why the traffic situation in Lagos is worsening from year to year (Fig. 46).

Lagos State has promised that the Red line would move its first passengers in the fourth quarter of 2022, as the state works towards bringing the first phase of the Blue line to passenger operation also in 2022 (cf. The Guardian 2021). This describes a fundamental dilemma for the city of Lagos: while the negative



Fig. 46: Planned Rail Network in Lagos  
Source: Lawal et al. 2016

effects of urban and transport development in recent decades strongly suggest the need for intervention by the authorities, a successful intervention appears relatively unlikely in the light of current political, social and economic conditions. Therefore, it seems inadequate to place one's trust solely in the healing powers of informal self-organisation, as has been variously proposed in recent times (cf. Koolhaas/Harvard Project on the City 2001; Koolhaas 2002). It is certainly impressive the way the citizens of Lagos, all on their own, and left in the lurch by the government, have in the last thirty years even managed to deal with disasters such as fires, floods and bombings. But precisely against

this background of decades of experience, it is far from clear how the inhabitants – having just their families and neighbourhood support services – should ever be able to create the equivalent of a state-operated and funded social security system. Rather, one has to agree with Matthew Gandy that, without the state, nothing can be done in this area either, and thus take a principled stand against all those who, with their neo-organicist perspective, allow themselves to be fascinated by the daily struggle for survival, and who thus fail to grasp the significance of poverty, violence and the infrastructural chaos:

„The key to any sort of progress would be fundamental reforms of legislation and taxation, and the adoption of regulations to improve professional manners, ensure a degree of transparency and re-introduce the norm of dependability“ (Gandy 2004: 30; cf. also Gandy 2006).

In fact, there are now the first signs of a new generation of planners who are giving thought to the possibilities of sustainable urban and transport development in Lagos, taking into account the conditions specific to the city (cf. Oduwaye/Gamu-Kaka 2007).

Lagos is a portent for future urban development in sub-Saharan Africa, whose urban population will more than double over the next two decades, from around 350 million to over 760 million people. At present, it is not possible to foresee whether the horror scenario will come true, as it has in the case of Lagos. What should be done to prevent it, however, is well known.

#### 3.2.2.3 The Oriental City – Cairo

At the end of this survey of global urban and transport development processes, our study of the Egyptian capital Cairo now leads us to the Orient and thus back to the origins of human settlement. It was here, about 6,000 years ago, that the first cities emerged. Cairo is representative of the cities of North Africa and the Near- and Middle East; as an oriental city, it constitutes its own specific city type, which in its original form and its specific structural features differs from both the European and the American city. One would therefore reasonably expect to discover distinctive, locally-specific forms of contemporary urban and transport development at work here. Instead, one finds that this city of the Islamic Orient has also long been in the grip of a general process of urbanisation that is typical of developing countries and which has largely overrun and even supplanted the city's urban structure as well as its culturally and spatially specific characteristics (cf. Ehlers 1993).<sup>14</sup>

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<sup>14</sup> I do not intend to enter into the controversial debate concerning the extent to which the oriental city actually constitutes a separate type of city, and what its distinguishing features are (cf. Wirth 2002 for the latest research). Generally speaking, there are many similarities

Due to its central importance, Egypt's capital serves as the motor of development for the country as a whole.<sup>15</sup> According to official statistics, Cairo has more than 16 million inhabitants, thus one fifth of the total population of Egypt and almost half of the country's urban population. As a consequence, the socio-economic development of Egypt as a whole is reflected in the urban development of Cairo. This applies both to the reign of Nasser (1954-1970), who modelled his policies on the state socialist regime in Yugoslavia under Tito, as well as to the more West-oriented policies of his successor, Anwar Sadat (1970-1981), who replaced his predecessor's „socialist“ economic policy of state control with liberal policies, opening the local market to foreign capital (cf. Waterbury 1983). Nasser introduced reform measures with the aim of achieving social equality and established a comprehensive system to promote the construction of state-funded housing. Under Sadat, a bourgeois-capitalist restoration took place, leading to the model of a free housing market, which still dominates urban development in Cairo today (cf. Shoukri 1979). The resulting social disparities led to fierce, often violent protests by the disadvantaged segments of the population, so that Sadat's successor, President Muhammad Hosni Mubarak, who came to power in 1981, was impelled to take national interests more intensively into consideration. At the same time, the highly indebted country is forced to comply with the structural adjustment measures imposed by creditors such as the World Bank and the International Monetary Fund. However, these measures threaten small businesses in Cairo and lead to additional social polarisation:

„Whereas – as is usual in the context of structural adjustment – the macroeconomic data showed an improvement in the course of the 1990s – e.g. inflation, the budget deficit, the trade balance and the currency (which had however undergone repeated devaluations) –, the number of unemployed increased, as did the number of underemployed rural inhabitants; there were more and more people living below the poverty line“ (cf. Meyer 1999; Schicho 2004: 167f.).

The intensification of unequal development and the deepening poverty caused a further radicalisation of the society, which manifests itself with increasing frequency in forms of violent resistance. The government's reactions, which were intended to prevent a further worsening of social conflicts and contribute to conciliation, were ineffectual in comparison with the far-reaching structural adjustments, and in part ended up having the opposite effect. For instance, the

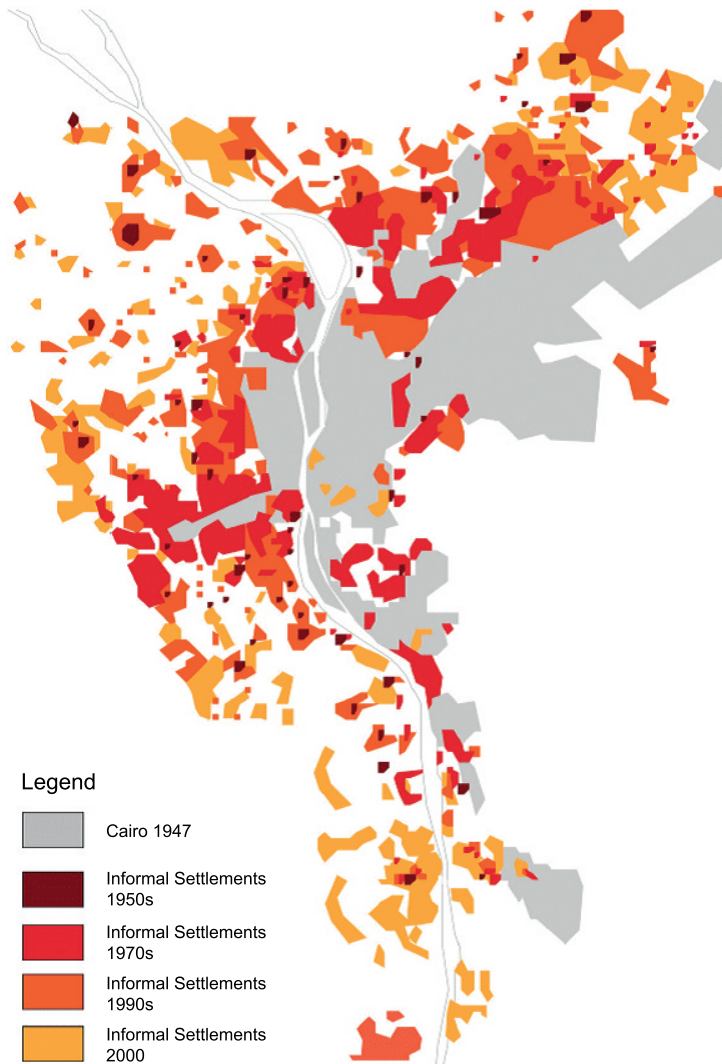
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with the typology of the Chinese city, described in chapter 3.3.1. Below I focus on urban and transport development in Cairo in recent decades, and assume that the key drivers of this process lie in social and cultural changes, to which we therefore devote special attention.

<sup>15</sup> If population growth continues as it has, by 2022 Cairo will have 20 million inhabitants according to official estimates. Unofficially, however, there are already an estimated 25 million people living in the greater Cairo area (cf. Geo-Trotter 2006).

partial retention of measures introduced during the Nasser regime – such as the freezing of rents in older buildings at levels from the 1950s, the introduction of rent controls (which made rental apartments unprofitable for private landlords) and strict protection against eviction for tenants – mean that large numbers of older buildings in Cairo are dilapidated or stand empty, because there are practically no incentives for private property owners to intervene (cf. Meyer 1996). While the state has almost completely withdrawn from housing construction and private investors focus on the middle and upper segments of the housing market, the poor, whose numbers continue to grow, can no longer find adequate housing (cf. El-Batran/Arandel 1998). The emergence of huge informal settlements, which are now home to around half of the population of Cairo, is a response born out of necessity to these enduring failings. In this way, Cairo has become a city of „apartments without residents and residents without apartments“ (El Kadi 1994: 147).





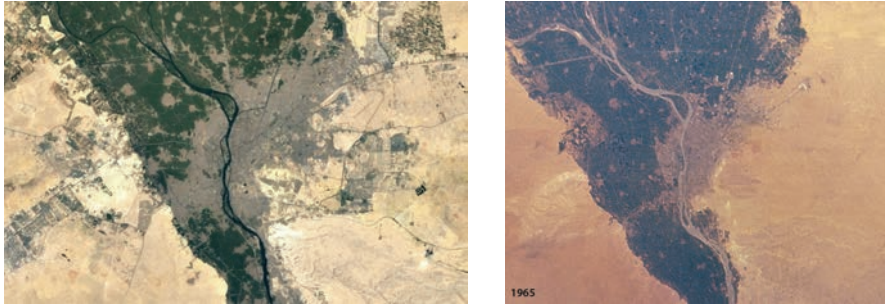
*Fig. 47: Expansion of the Informal Settlements, 1952-2000*

*Source: Amedi et al. (2010: 8)*

Neither Nasser's unilateral state interventionism nor the still-prevailing market strategy has succeeded in meeting the growing demand for housing, which was spurred by the rapid population growth that began in the early 20<sup>th</sup> century. After a period of orderly urban planning based on Western models in the second half of the 19<sup>th</sup> century, urban development in Cairo again proceeded in a largely unregulated fashion (Morgan 1999). Despite decade-long efforts on

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the part of the government, they succeeded neither in concentrating settlement expansion in specific centres in order to counteract rampant development, nor did they manage to restrict settlements to the desert areas in the east, so as to protect the fertile agricultural region in the west (cf. Yousry/Aboul Atta 1997: 137ff. and Figure 48 and 49). This of course only presents a century-long mu-



*Figure 48 and 49: The urbanisation of Cairo between 1965 and 2000. The new quarters of the Egyptian capital Cairo have not only eaten into the desert (right), fertile farmland (left of the Nile, below centre) has also been built on.*

*Source: Earth Sciences and Image Analysis Laboratory at Johnson Space Center*

tual process of urbanisation and mobilisation in Cairo, which has merely accelerated in recent decades. The city already experienced an initial burst of development at the end of the 19<sup>th</sup> century, when a tram network consisting of eight lines was established. In 1917 there were already thirty lines that connected the centre of Cairo with surrounding areas or linked newly built residential areas on the outskirts with the city centre (cf. Scharabi 1989). As was the case in many cities in western industrialised countries, the tram served as a vehicle for a first phase of suburbanisation (cf. for example B. Bratzel 1995). With the introduction of the automobile in 1903, a second phase of suburbanisation began, with an increasing number of settlements established along and between the axes of the tramlines. After an initially hesitant beginning, motorised individual transport tripled between 1945 and 1950 and from that point on it grew faster than the population. Cairo's response to the increase in traffic was one-sided planning in favour of MIV. While a massive expansion of the road network was carried out, public transport – which would have been preferable from an environmental point of view – was for a long time largely disregarded. Accordingly, empirical studies show a clear imbalance in the ratio between the different modes of transport.

Currently, MIV (taxis, share taxis and private cars) accounts for around 71 percent of the total traffic volume. In the period between 1982 and 2004 the number of automobiles registered increased by nearly 500 percent, from 330,000

to 1.6 million (cf. CAPMAS 2016). By contrast, between 2001 and 2011 the proportion of pedestrians fell from 36 to 26 percent. As a result of this development, the air pollution caused by traffic in Cairo has tripled in the last 25 years and exceeds almost all critical levels set by the standards of the World Health Organization (cf. MPF 2010).

„The negative impacts of traffic cannot be overstated. It has disastrous consequences on the environment, measurable in the tremendously high levels of air pollution. Increased rates of lung cancer and other diseases related to the respiratory organs are a clear sign of how the toxic, contaminated air affects the health of human beings“ (Al-Baaly 2005: 7).

Starting in the mid-1990s, the government adopted a comprehensive set of measures designed to counter these failings and encourage sustainable transport development (cf. WCTRS/ITPS 2004: 307f.). However, the regulations – which define certain limits on emissions, for instance – are not only completely insufficient, the public authorities also lack the necessary tools to enforce even these modest provisions.<sup>16</sup> As a result, urban and transport planning in Cairo is characterised by a severe lack of implementation. The situation is well summed up by Amira Sami Helmi, who points out that little attention has been paid so far to environmental considerations in the design of settlement and transport infrastructure in Cairo (cf. Helmi 2004: 77). In addition to the quantitative dimension of traffic congestion and the severe environmental problems, there are also the devastating traffic conditions, caused by the inappropriate behaviour of the road users:

„Traffic in Cairo is sheer chaos and probably only understood by native Egyptians. There doesn't seem to be any rhyme or reason to how they drive and they use their horns to excess. They are able to fit their cars into the tiniest spaces and park in the most unbelievable ways. They also don't use their lights at night! Crossing the street is an adventure in itself“ (Virtual Tourist Website 2005)!

The journalist Florian Harms also describes Cairo as a nightmare, as the end of civilisation or the end of the principle of the city, which one can only escape by fleeing to the underground rail (Harms 2006). Cairo is still the only metropolis on the African continent with an underground rail system – a relatively new achievement that initially contributed to a significant relief in traffic volume. The first line was opened in 1987 and it has continued to expand (cf. Hinkel et al. 2004). Today, there are two lines with a total length of 66 km; a third line, 34 km long, is in the advanced stages of construction. In the „Greater Cairo Public Transport Study“, published in 2000, three further lines were announced (cf. Groneck 2005): „Upon their completion, all of the major focal points of popu-

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<sup>16</sup> By international environmental standards, the limits on exhaust gas emissions in Egypt are still hovering around the levels of the 1970s.

lation, employment, training and education would be connected by the Metro network“ (ibid.: 38). However, should the development in favour of motorised individual transport continue as before, by 2022 the number of automobiles will increase to 2.5 million units and their share of traffic volume is expected to grow to more than 70 percent, at the expense of public transport. Even if the planned regulatory measures concerning MIV are actually implemented, the continued growth in traffic can be expected to eat up all the positive effects, as has been the case in the past. Also, on its own, a further expansion of the Metro stands little chance of being able to correct this development. There is therefore a broad consensus that a radical change in transport policy in favour of public transport is required in order to counter the catastrophic living conditions in Cairo (cf. World Bank 2010).

However, given the state's lack of competence in directing and controlling urban and transport development, the question arises as to how the far-reaching, west-oriented notions of planning can be implemented in the prevailing social circumstances, given that they are completely different to those in the West. Obviously, non-governmental forms of social self-organisation play a much larger role in the cities of developing countries than in the advanced industrial countries. Therefore, in recent years research on urban development processes in developing countries has increasingly focused on the specificity of the social conditions and social dynamics (cf. Simone/Abouhane 2005; Sims 2012). What repeatedly comes to light is the phenomenon of the non-simultaneity of development processes and the synchronicity of the non-synchronous, as Marc Ang  lil formulates it, invoking Ernst Bloch's concept with reference to the Chinese city:

„The new Chinese city is subject to the principle of the non-simultaneity of different temporal rhythms, cultural spaces and ideological orientations, which all occur simultaneously“ (Cf. Ang  lil 2006: 86).<sup>17</sup>

What Ang  lil describes with reference to the societies of Asian cities also applies to the urban societies of the Orient and can be illustrated using Cairo as a representative example. Similar to what has happened in China, in Egypt in the second half of the 20<sup>th</sup> century a new middle class emerged whose lifestyle is strongly influenced by Western values (cf. Amin 2000). Especially when the country was opened up in the wake of Sadat's policy of liberalisation, this social group established itself in the urban centres of Alexandria and Cairo. A rising income enabled them to lead a lifestyle characterised by individual preferences. Following close on the heels of the developed industrial nations, individual housing and mobility requirements have been steadily developing

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<sup>17</sup> On the Chinese city, cf. chapter 3.3.1.

in Egypt since the 1970s. This is one reason why the satellite towns on the city outskirts, built in the style of collective mass housing, were not as well received as originally expected (cf. Florin 2005). In this regard as well, a development that previously occurred in the western industrialised countries is being repeated here (cf. Kempen et al. 2005), where, contrary to what was planned, large housing developments were only affordable for members of the middle class. They in turn found that mass housing did not meet their increasingly differentiated housing requirements and – those who had not sought other solutions from the outset – thus soon moved away, to seek their fortune in a private house in a suburban development. For their part, the poor people – who still constitute the overwhelming majority of the population – adapt the existing older buildings to their individual housing needs, in the process developing creative strategies to circumvent the regulatory restrictions (cf. Ghannam 2002).

Transport development has also not remained uninfluenced by the specific demands of the middle class. One consequence of the automobile having become a guarantee of personal freedom and the emblem of a distinctive position in society is the rapid motorisation of society described above (cf. Amin 2000);<sup>18</sup> a further consequence was the decision to dispense with the planned links to rail-based public transport for large housing settlements. Since the large housing estates now generate additional commuter traffic, which can only be managed by resorting to private cars, the estates have themselves become a catalyst for non-sustainable transport development – contrary to their intended function, which was to take pressure off the centre of Cairo (cf. Steward 1996).

The manifold negative side effects of this process of social transformation, such as social disparities or sometimes catastrophic environmental damage, give rise to growing social protests, which particularly benefit those who have always spoken out against social modernisation along Western lines. However, a more detailed analysis of Cairo society shows that between the two extremes of a unilateral adaptation of modern lifestyles, on the one hand, and the backward-looking religious orientation of a fundamentalist Islam on the other, there is a broad spectrum of very different ways of life, which is reflected in personal attitudes as well as in various forms of institutional socialisation.<sup>19</sup> As an example of the ambivalences associated with the current social upheaval in Cairo, social scientist Farha Ghannam describes an adolescent male who exemplifies a generation that has grown up with the promises of a modern consumer

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<sup>18</sup> On the parallels between the USA and Germany as developed industrial countries, cf. the classic studies by Flink (1988) and Sachs (1992).

<sup>19</sup> A differentiated presentation of Islamic societies is rarely to be found in the Western media; what predominates is a generalised, diffuse Islamophobia.

society and is now deeply disappointed because these promises have not been fulfilled:

„Ali's desires and aspirations take him in different directions. He follows the struggles of Muslims in different parts of the world (from Bosnia to Chechnya) and talks about them as part of the same community. He also uses religion in his critique of government policies and actions and in his discussions of gender inequalities (especially when asserting the rights of men). Religion, however, is far from structuring his dreams and desires. Unlike his mother, who performs [sic] prayer on a regular basis, Ali rarely prays or goes to the mosque. He often refuses invitations to go to the mosque in favour of watching movies starring Arnold Schwarzenegger, attending [sic] local coffee shops, and smoking hashish with his friends. What will be the future role of religion for a young man like Ali, with his grand dreams and frustrated expectations“ (Ghannam 2002: 180)?<sup>20</sup>

These individual ambivalences are reflected in institutional establishments such as mosques which offer progressive education extending beyond the religious canon and advocate comprehensive medical care in line with modern standards. Technical artifacts like the bus not only stand for modernity but are also used by fundamentalist Muslims to spread their anti-modern messages and religious objects are placed in homes, businesses and vehicles. These examples illustrate both the advancing modernisation as well as a growing Islamisation of Cairo and its population (ibid.: 179f.).

The more closely one looks, the more difficult it is to make a clear distinction between traditional and modern forms of cohabitation (cf. Ismail 2006). Living in multi-family dwellings makes it practically impossible to maintain traditional gender roles, such as the spatial separation of men and women. The reaction is often an increased veiling of women, whether voluntary or forced. The result is, of course, in both cases the same, because the veiling serves to make modern lifestyles seem acceptable or simply to make them practicable in the context of the prevailing morality. Tradition and modernity form alliances that give rise to new meanings. Mona Abaza (2006) demonstrates this using, amongst others, the example of Cairo's shopping malls, which are springing up everywhere and are especially heavily frequented by young people. While in western industrialised nations shopping malls are often criticised as a relinquishment of public space because of their private „house regulations“, in

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<sup>20</sup> In his novel „The Yacoubian Building“ (2002), the Egyptian writer Alaa al-Aswani presents a colourful and multi-layered panorama of contemporary urban society in Cairo. Just how much the social conditions in Cairo have changed in the last fifty years can be gleaned from the novel „Midaq Alley“ by the Egyptian Nobel laureate Nagib Mahfuz (1992), which depicts the significantly less complex social microcosm of Old Cairo at the end of the Second World War.

Cairo they offer young men and women a rare opportunity to elude social control and to converse undisturbed.

„It is the place of entertainment, which replaces gardens, and public spaces, which are scarce in Cairo. One might even speak of their democratizing effects, as these spaces are accessible to all classes, despite the abrupt elimination of popular quarters and the economy of survival exemplified in the informal sector“ (ibid.: 293).

The shopping malls in Cairo enable young men and women to participate in a practice that was unknown in Egyptian culture until the second half of the 20<sup>th</sup> century, namely the „rendezvous“, a component of the form of romantic love that first emerged in modern capitalist societies of the 19<sup>th</sup> century (Il-louz 1997). Through the intermediary of capitalist consumer culture, the new gender relations are finding their way into Egyptian society. The social appropriation of the shopping malls by young men and women in Cairo is just one example of the way modern forms of behaviour establish themselves in – for Western observers – unexpected ways in traditional societies. The change of mentality is taking place not only in unusual ways and is therefore often invisible to the Western eye, it is also taking place much faster than in the West. In addition to the attitude to gender relations, this also applies to many other areas such as the relationship to the environment. While in the past government measures to regulate urban and transport development in Cairo – to the extent they were ever put into practice – were thwarted mainly by the behaviour of the population in the domains of housing and transport, there is now a widespread hope that a change of mentality could mean that in future the government will be faced with actual demands to improve the quality of urban life (cf. WC-TRS/ITPS 2004: 305f.). It is also conceivable that people will reflect more on their own behaviour and modify it in ways that are in keeping with sustainable urban and transport development.

Experience shows, however, that this kind of reciprocal relationship between the state and society develops only on the basis of a certain level of prosperity. This prosperity is a prerequisite for the adverse effects of unbridled traffic growth on people and nature alike being increasingly viewed as problematic by the population, meaning that governmental transport policies can then expect a higher degree of public acceptance and will have greater prospects of success. Accordingly, with respect to the development of western industrialised countries, the philosopher Hermann Lübbe predicts that:

„The potential for a rational transport policy grows along with prosperity and the resulting increase in the acceptance of restrictions that promise to relieve us of some of the detrimental effects of freedom of movement, which are now experienced as intolerable“ (Lübbe 2002: 20).

However, as long as basic existential needs are the determining factor for people's actions, it is hardly to be expected that they will confront the negative environmental consequences of their actions. This has been demonstrated repeatedly in recent years in studies on the attitude of Cairo's population towards issues of environmental protection. Amira Sami Helmi provides a concise summary of the results:

„As a result of their income levels, people's interests lie elsewhere. Most Egyptians are poor and are concerned with just getting by on a daily basis. The salaries of civil servants such as teachers, police officers or administrators are inadequate, so that they have to find additional work as taxi drivers, security guards, etc. Thus, they are primarily focused on their livelihoods and therefore on short-term factors. The population is indifferent to environmental concerns and is unaware of its responsibility towards the environment. For a majority of the population environmental protection is an alien concept“ (Helmi 2004. 211f).

Given this situation, current political developments in Egypt can only leave one skeptical. Taking Cairo as an example, Salwa Ismail (2006) shows that the remaining elements of welfare state policy are gradually being dismantled in favour of a neo-liberal reform strategy. The more the city relies on private sector involvement, the more policy options it relinquishes. Thus, it currently seems largely unrealistic to expect the announced policies and concepts for sustainable urban and transport development in Cairo to be implemented, an observation that also applies to most other oriental cities (cf. Sims 2012). The political unrest since the Arab Spring in 2011 has further worsened the situation.

#### 3.2.2.4 Summary

The African continent is comprised of a diverse assortment of countries in very different stages of development. The spectrum includes emerging economies such as South Africa, where urban and transport development is so far advanced that in many respects it is reminiscent of Western industrialised countries. Then there are countries like Nigeria, which are repeatedly shaken by violent conflicts and where there is little chance of establishing the orderly conditions that would be the prerequisite for progressive development. But there are also countries such as Egypt, which are characterised by an authoritarian constitution and a nomenklatura that controls the society's wealth, from which large sections of the population are excluded.

Notwithstanding the outward differences, African countries nevertheless share an array of structural similarities in their development. They all look back on a more or less lengthy colonial history, the effects of which are still felt today.



The precarious social conditions in most countries stand in the way of confronting this past, and thus it can hardly be a coincidence that South Africa – the most economically developed and socially stable of the countries in question – constitutes the only exception in this regard, having consciously dealt with the issue of the apartheid regime. Ultimately, with the end of colonial rule, the countries of the African continent switched from political dependency to economic dependency, and to this day they occupy a marginal position in the global context (cf. Falola/Salm 2004; Pieterse/Parnell 2014).

The broad exclusion of African countries from the global economic system is expressed in the peculiar phenomenon of rapid urbanisation in the absence of economic development (cf. Montgomery et al. 2004). On the one hand, the agricultural sector is also diminishing in economic importance – whether due to low world market prices or subsidised competing products from the Western industrial countries – and thus driving increasing numbers of job seekers into the urban centres. On the other hand, there is no corresponding development of the industrial and service sectors (cf. Rakodi 2006: 54ff.). While in western industrialised countries urbanisation was an expression of economic prosperity and took place in a planned fashion thanks to the available economic resources, the situation in African countries is different. Apart from exceptions such as South Africa, which is the economic powerhouse of the African continent today, with Johannesburg benefiting to the greatest degree, African cities have neither the necessary financial resources nor the administrative competence required to exercise a durable influence on their settlement and transport development.

„In sum, efforts to attain a balance between social cohesion and [social] opportunity are not easily governed. The prescription of particular practices, incentives, or penalties that would unequivocally bring about such balance is practically impossible in localities with little formal employment, education, and human resource provision“ (Simone 2004: 37).

As Richard Stren and Mohamed Halfani (2001: 482) point out, African cities are in the paradoxical situation of first having to identify their respective specificities and make these the starting point for structural reforms, in order to facilitate integration into the global economy. In this regard, there is now a consensus that one of the key tasks must be to at least supplement the huge informal sector with formalised organisational procedures. For instance, in the various countries there are a multitude of approaches to regulating the granting of land rights (cf. Wily 2006). Given the differentiated situation in Africa's urban centres, it has been demonstrated that Western planning concepts that are based on generalised solutions and mostly balk at specific circumstances and requirements, are of only very limited use.

### 3.3 High-Speed Urbanism in Asia

„Urban Planning in the North is not a ready-made blueprint for the South. Transferring knowledge from one urban policy environment to another one requires modesty, sensitivity and patience. Modesty to be aware of the very limits of one's own knowledge in managing the complex system of a city in a global context, sensitivity in the day-to-day intercultural communication, and patience when it comes to harvesting the outcome of transfer efforts. Guiding sustainable urban development is a long process, much longer than the life span of individual development projects and the job assignments of transfer experts. Cities in the South will develop the way their societies wish them to grow, whether idealistic planners in the North like it or not, just as cities in the North are not the outcome of rational urban master planning“ (Kunzmann 2006: 238).

In this regard, it would be inappropriate here to conclude by offering trite recommendations for sustainable urban and transport development in Africa (cf. Myers 2011). Most local authorities are already well aware of what needs to be done, and no one knows better than they do how to implement the necessary measures in the respective circumstances. So there is no lack of knowledge, just the means to implement it. Western planners do have the means, but are usually insufficiently knowledgeable regarding the conditions in developing countries. Thus, in order to take a step forward in sustainable urban and transport development in Africa, the cavernous gap between knowledge and power would first have to be at least partly bridged.

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In the course of human history the centres of urban development worldwide have shifted several times and currently a new, regional shift is taking place. Beginning with the first towns founded 6,000 years ago in the Middle East, the development of the ancient cities in Europe and the re-flowering of Islamic cities around 1000 BC, on up to the wave of European urbanisation in the wake of industrialisation – urbanisation has shuttled constantly between the southern and northern hemispheres (see Ribbeck 2005: 13ff.). As late as 1700, of the 70 major cities in the world, 60 of them were in the south (especially the countries of the Islamic world) and ten in the north (Europe). It was only in 1900 that the industrialised countries, with 200 large cities, attained absolute numerical dominance.

But not long afterwards a reverse trend emerged, again in favour of the southern hemisphere, so that by 1970 the south, with 1,000 large cities, had again overtaken the north. This trend has continued unabated since then; urbanisation in the north is stagnating, while the south continues its vigorous development. With the regional shift of the world's dominant centre of urban development to the Far Eastern countries, we are seeing the first indications of further impending epochal change.

„Dynamic regions define the culture of an era and bring forth new models in architecture and urban planning. In this sense, Europe marked the 19<sup>th</sup> century, and the USA the 20<sup>th</sup> century. It seems that the standards for the 21<sup>st</sup>-century city are now being set in the Far East“ (Ribbeck 2005: 32).

If in connection with Latin American countries it has been established that they have so far been pursuing a catch-up modernity due to the one-sided influence of the developed industrial nations, in the case of Asia, the direction of the influence could be reversed. Would it thus be possible for Asia to provide an impetus for a new form of modernity in the Western industrialised countries? And is it conceivable to envision this new modernity on the basis of urban development in Asian countries? Should the urbanisation that Asia is currently undergoing even serve as the model for future urban development worldwide, as prominent observers such as Rem Koolhaas (2001: 309) or Manuel Castells (2010b: 464) predict, and if so, how can one characterise it?

Today, more than half the world's population lives in cities – a billion in cities in the northern hemisphere and two billion in those of the southern hemisphere. All predictions indicate that the global urban population will double again in the next three decades, with Asia as home to more than 60 percent of the world's population in absolute terms by 2050. Future urban development is highly likely to be concentrated mainly in India and China, which together already account for 40 percent of the global population (cf. Wagner 2004: 33). They will therefore be given special attention in the following pages.

#### **3.3.1 China – From the Corporate State to Mobile Society**

Currently half of the population in China still lives in the countryside, but the number of city dwellers is expected to increase by least 200 million in the next two decades, with the level of urbanisation rising to more than 60 percent by 2030. It is predicted that, at that point, 800 million people will be living in cities (cf. Fig. 50). If car ownership continues to increase and anywhere near as many Chinese end up driving cars as Americans do currently, „the carbon emissions from transportation in urban China alone would exceed 1 trillion tons, roughly as much as [is] released from all transportation worldwide today“ (Worldwatch Institute 1999: 23). Even now, many millions of Chinese migrant workers have left their villages to work in the „special economic zones“ in the south (cf. Baur et al. 2006). In this respect, the economically-driven dynamic of development is not just changing cities, but is also connected with the increase in social and geographical mobility. Therefore, the number of motor vehicles worldwide is expected to increase rapidly, with the highest growth rates forecast for the non-OECD countries undergoing industrialisation. Ac-

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Fig. 50: China's Cities by Number of Inhabitants  
Source: Staiger et al. 2003: Table XIII

According to the International Monetary Fund, the number of motor vehicles in the OECD is predicted to increase from 625 million in 2002 to 920 million in 2030 (IMF 2005: 182); in the non-OECD countries, an increase from 126 million to 741 million is anticipated over the same period. In Asian cities where there is a high level of personal income, this will mean about 210 car owners per 1,000 inhabitants and about 105 per 1,000 in cities where personal income is low (cf. Kenworthy/Laube 2001; Kii/Doi 2013). At present in China there are already 173 vehicles per 1,000 inhabitants, compared with 589 in Germany and 837 in the USA (cf. Statista 2021). Should the prospering economy lead China to follow the same path taken in the developed industrial nations, then there alone the number of motor vehicles is projected to rise to 387 million in the year 2030 (cf. Mackett et al. 2013).

Both of these dynamics of development – urbanisation as well as the mobilisation of Asian societies – are reminiscent in some respects of the industrialisation of Europe in the 19<sup>th</sup> century. However, Asian countries are faced with radically different temporal and spatial dimensions of urban and transport development than Europe was back then. The different stages of European urban development often occur in parallel rather than sequentially (cf. Ipsen 2004).

Generally speaking, the changes in the urban agglomerations are unfolding much faster than those in the large cities of the 19<sup>th</sup> century, where the growth was driven by the onset of industrialisation. Lastly, the urban and transport projects in China are appreciably larger in scale than those in 19<sup>th</sup>-century Europe. Thus, a city like Beijing, with its twentyone million inhabitants, has already undergone several transformations in just the last 50 years, first from the „feudal city of consumption“, to the „productive industrial city“ and, in the last twenty years, to the „international metropolis“. 1.5 million new apartments are planned, to be built by 2020; the surface area of the city is supposed to double. Developments that in the cities of Western industrialized nations have often required 200 years here are taking place here as if in fast motion, so to speak, within only a few decades. Nevertheless, the developments in question are basically familiar to us from Europe – and not just from the 19<sup>th</sup> century. Thus, one can confidently state that in contemporary Asia visions of the city are being implemented that, looking back, were planned in Europe in the 1960s – obsessive visions of modernity based on the principle „urbanity through density“ – but which were rarely and then only relatively modestly realised, for example in the form of large housing estates (cf. Kempen et al. 2005).

Parallel to this is the rapid development of the transport infrastructure, designed to connect the different regions of the vast country. To this end, 15,000 highway projects and 162,000 kilometers of new regional roads are currently being built, to connect the roughly 100 Chinese cities that have a million inhabitants. In this way, the previously neglected western part of the country, as well as the old industrial northeast, are to be connected to the economically booming east.

What is true for urban development is also true for the construction of transport infrastructure: it is taking place many times faster than in Western countries (cf. Fig. 51). „In the space of ten years, China has created a highway network that in developed countries would have taken three or four times as long“ (Zhang Chunxian, Minister for Communications, quoted in *Wirtschaftswoche* 2004: 87). Since 1980, China's road network has already more than doubled in size. But the country is also systematically pressing ahead with an extensive rail network (cf. Neiberger 2006).

„However, the government is investing even larger sums in infrastructure in the metropolises Shanghai and Beijing. For China requires not just a well-developed network connecting the various widely separated parts of the country, it also requires functioning centres. These are currently enduring a huge population influx from rural areas, with grave consequences for transport and traffic“ (*Wirtschaftswoche* 2004: 88).

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Fig. 51: China's Transport Network  
Source: Staiger et al. 2003: Table XIV

Nevertheless, in most Asian cities the development of transport infrastructure is lagging behind the rapidly increasing demand (cf. Kenworthy/Hu 2002). Although car registrations are often politically restricted and multi-storey, twelve-lane highways are being cut through the megacities, permanent traffic jams are the rule, which contribute to a very low average travel speed. Overall, the rapid, politically largely unregulated urban and transport development is accompanied by serious environmental problems (cf. Sternfeld/Waldersee 2005; Sternfeld 2006). The head of the State Environmental Protection Administration, Pan Yue, recently pointed out that China had achieved as much economic success in the past twenty years as the West in over a hundred years, but in the same short period of time had also created a corresponding degree of environmental problems (cf. Yue 2007). Experts calculate the environmental damage caused by the rapid economic growth at up to twelve percent of GDP (cf. Hutton 2007). Of the twenty cities worldwide with the worst air quality, two of them are now located in the People's Republic. In light of these entirely new challenges for urban and transport development, the situation can be described as a laboratory for shaping urban growth (cf. IQ Air).

Notwithstanding the problems associated with the rapid motorisation, both the national and the international auto industry are banking on growth in the Chinese market. A pioneer here is the VW Group which in 2003 for the first time sold more cars in China than in Germany, with China now accounting for more than one third of the company's profits. But undoubtedly even more significant is that China is preparing to build up its own automobile industry (cf. Anderson 2012).

Therefore, it has a vested self-interest in mass motorisation. By contrast, mass transport in Chinese cities, as in most Asian megacities, remains barely developed. In China, urban public transport consists almost exclusively of buses.

This means two possible future paths of development come into consideration: either a fast-tracked motorisation, which would require a massive amount of road construction. This option appears problematic in that the road density in Asian cities is only about one-seventh to one-tenth of the road density per inhabitant of European cities (cf. Kenworthy/Hu. 2002: 6). Moreover, since there is hardly any space available for additional road construction, going down this path would first require wide-ranging demolition measures. The alternative would be a massive expansion of public transport, which would be particularly dependent on extensive government planning and financing. Some economically successful megacities like Hong Kong and Singapore have gone down this path and have thus largely been able to avoid both ecological and social disruptions. „Hong Kong and Singapore are two cities with a liberal economic system and a policy of selective but decisive intervention in settlement structure and transport, amongst other areas“ (Gaebe 2004: 284f.).

The post-Maoist economic system, which was long characterised by government control and the restriction of market forces, has changed since the mid-1990s (cf. Gittings 2005). Until then, it was still possible to pursue a development policy with clear goals, assisted by the large state-owned enterprises and banks and motivated by a strong interest in social stability and stable employment, and which would have facilitated a relatively stable transition to a market economy. In the mid-1990s, however, the privatisation of large state enterprises began, and the switch was made from the development of the domestic economy to international free trade.

„Initial reservations towards the („hostile“) bearers of capitalism at home and abroad gave way in the course of the reforms to the growth imperative, which gradually took on the traits of a growth fetishism: everything that leads to growth is now attributed to the progress of socialism. Instead of social revolutionary equality and justice, the spirit of profit became the guiding principle. The Communist Party leadership largely closes its eyes to the adverse effects of growth – the gigantic hordes of the unemployed, the



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extreme gap in wealth between rich and poor, the city and the countryside, between inland and coastal regions“ (Cho 2006: 71).

The focus on economic development is having an effect on commercial transport in particular. The proportion of road transport in this sector has increased by 4.2 percentage points in recent years, while rail-based transport has decreased by 5.4 percentage points (cf. Table 1). While observers see great potential in a combination of road and rail transport, as well as ship and rail (cf. CRT-Intermodal 2016), it will depend on the political commitment of the central government whether this unsustainable development can be halted and whether rail-based freight will gain in importance in the future (cf. ADB 2012a; Blancas et al. 2015). The process of social dynamics and income differentiation is

Mode Year	Rail	Road	Waterways	Air	Pipeline
2010	19,5	30,6	48,2	0,1	1,5
2011	18,5	32,2	47,3	0,1	1,8
2012	16,8	34,3	47,0	0,1	1,8
2013	17,4	33,2	47,3	0,1	2,1
2014	15,5	31,3	51,1	0,1	2,4
2015	13,3	32,5	51,5	0,1	2,6
2016	12,8	32,7	52,2	0,1	2,3
2017	13,7	33,8	50,0	0,1	2,4
2018	14,1	34,8	48,4	0,1	2,6

Table 1: Modal split in freight transport in the People's Republic of China (kilometre tonnes as a percentage of the total).

Source: NBSC 2020

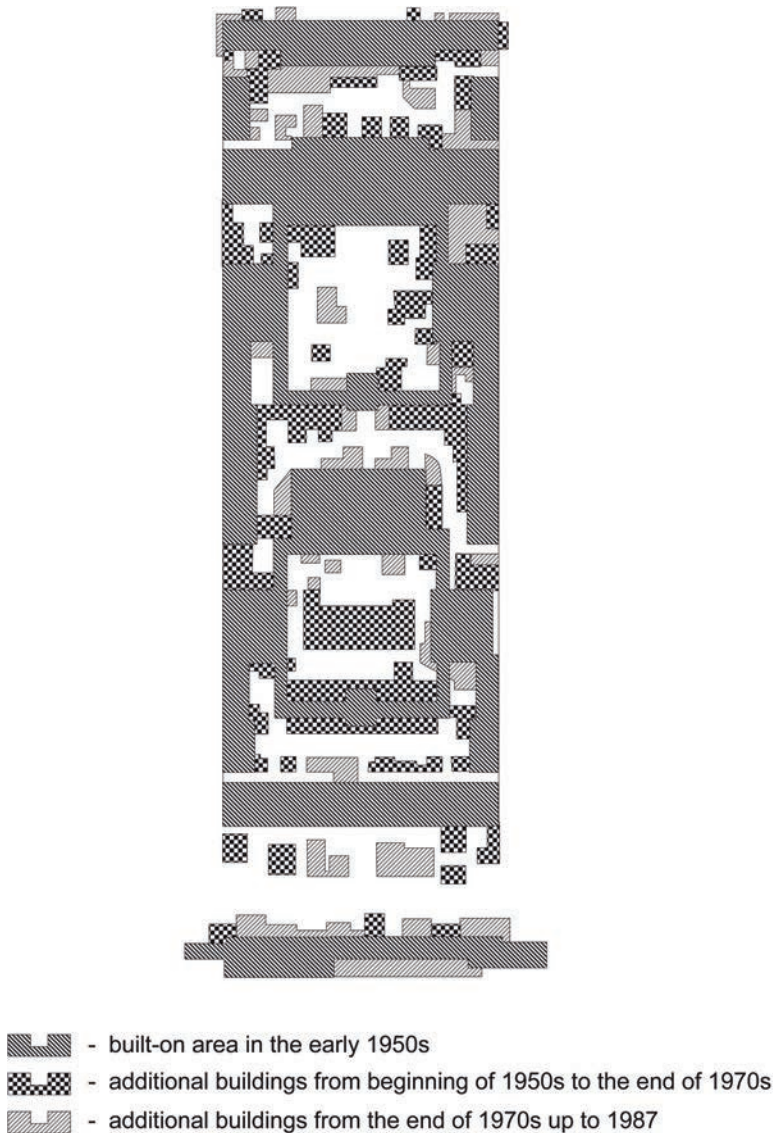
also reflected spatially in the urban structure. There is a strong trend to Micro Residential Districts (MRDs), erected by private development companies. These are settlements with 7000-15000 inhabitants, formally similar to the gated communities already described for Latin America and the USA. They are not a mere urbanistic import, however – rather, the MRDs are an extension of a long urban tradition.

„Phenomena such as the segmentation of urban space into gated communities, its fragmentation by swathes of traffic and the ostensibly definitive realisation of the modern city *à la* Corbusier and his *plan voisin* originated from, and can be explained by, Chinese tradition. These phenomena are perfectly consistent with the Chinese idea of ‚correct‘ social and spatial structure“ (Münch 2004: 44).

Chinese society was based on a tight clan structure. Due to the lack of state infrastructure, people were thrown back on their own resources and forced to provide collectively for their basic needs (cf. Hanlin 1991). The self-referential clan structure was expressed in the urban structure in the form of courtyard



houses, screened off from each other by a wall (cf. Fig. 52). Since all the nec-



*Fig. 52: Extended Courtyard House in Beijing*  
*Source: Taubmann 1992*

essary facilities for everyday life were available inside the spatial boundaries of the courtyard house settlements, their residents hardly ever had to leave the immediate neighbourhood; outside the sphere of their courtyard houses urban

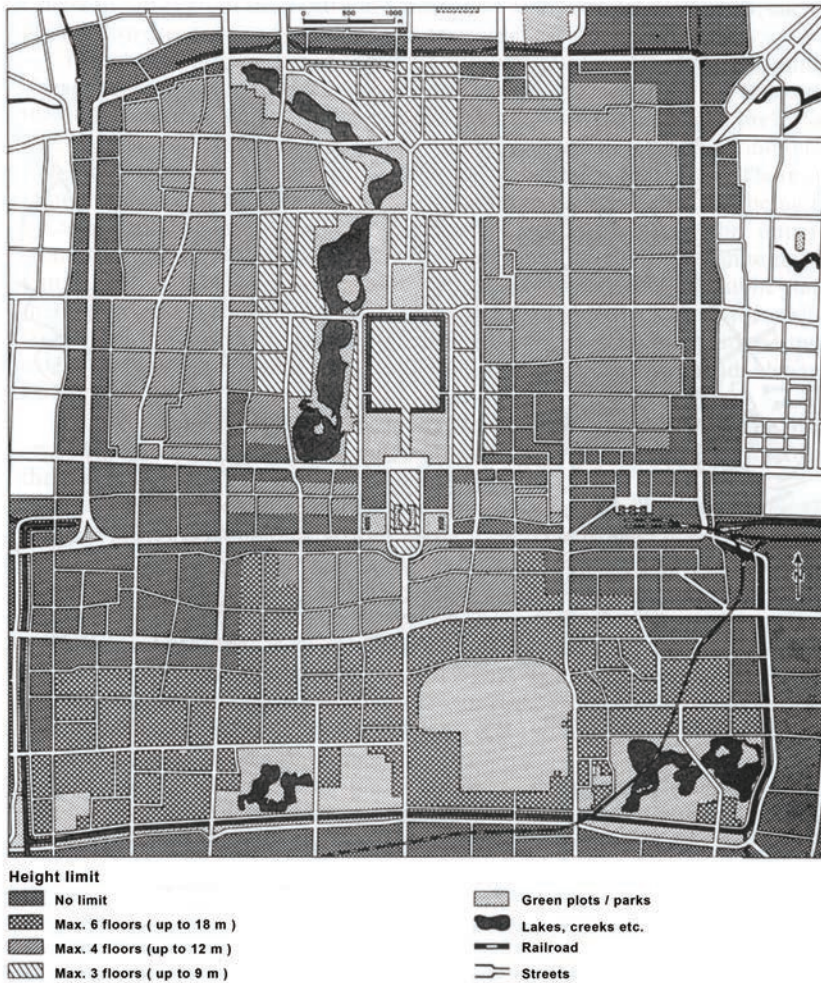
space did not exist for them. For this reason, an urban public sphere along the lines of European cities was never established in Chinese cities. The new China undergoing industrialisation built on these social structures by setting up collective workers units (*danweis*) that corresponded to the clan structures. Corresponding to the *danweis* were the urban district units (*dayuan*), which in turn were largely managed autonomously. „This meant that the cities continued to grow, adding walled-in units, which were not just a substitute collective for the members, but also provided them with a new sense of territorial cohesion“ (Münch 2004: 45).

Against this background, the present MRDs do not initially appear to be a new principle of urban structure – as is the case in Europe, the USA and Latin America – but rather the continuation of a traditional design with a new look. However, while this principle of urban structure ostensibly suggests a substantial continuity with the past, at the same time a significant social transformation is taking place, which is hastening a spatial segregation between the different income levels. Since the different income groups are concentrated in group-specific MRDs, the traditional mosaic of the Chinese city is also undergoing a process of differentiation.

Since the urban fragmentation into closed settlement units is a traditional part of their culture, the added emphasis of divisions resulting from roads seems not to pose a problem for the Chinese. While in the context of a European city in a case like this one talks in terms of carving up the body of the city, roads that cut a swathe through a Chinese city are viewed as an additional accentuation of the traditional urban fabric. They lie outside the parameters of the settlement unit and are regarded as non-space, thus as non-disruptive, added to which they symbolise technological progress. While the health and environmental problems resulting from the fast-tracked pursuit of mass motorisation are now being acknowledged and intensely discussed in official circles (cf. Hook/Replogle 1996), the majority of Asian cities still do not have a plan for dealing with the traffic problems (Peng et al. 2011; ADB 2012b). Rather, the development is reminiscent in many respects of the history of transport in industrialised countries, where the car has increasingly displaced the bicycle as the main means of transport (cf. Hook /Ernst 1999). Although the bicycle has fallen victim to the car in Chinese cities in the last twenty years and has been largely displaced from the public streetscape in order to create space for motorised traffic, in recent times its merits are again being recalled (cf. Pan 2012, 2013). But apart from a rudimentary willingness to find a remedy for the situation, it is still largely an open question whether the Chinese government will succeed in establishing a political framework which will enable an

integrated planning strategy and lead to sustainable urban and transport development (Yang/Gakenheimer 2007; OECD 2015).

The various dimensions of China's urban and transport development and the various ways of dealing with it can be demonstrated particularly clearly by examining the cities of Beijing, Shanghai and Guangzhou.



*Fig. 53: The Historical Centre of the ideal Chinese City, Beijing*  
*Source: Taubmann 1992*

#### 3.3.1.1 The Traditional City – Beijing

The process of transformation of the traditional Chinese urban structure into a modern metropolis can be followed by examining the former imperial city, seat of the emperor from the 10<sup>th</sup> century onwards (cf. Taubmann 1993; 1999). Beijing still represents the ideal city, shaped by the Confucian worldview (cf. Fig. 53). This was an image of the cosmos with its circular heaven and square earth. The palace of the Emperor, the Son of Heaven, stood in the centre, with the residential areas and courtyard houses grouped around it, in a strictly hierarchical fashion, according to the social status of the residents.

„In the pre-industrial Chinese city, four generations lived under one roof. The extended family networks had up to 1,000 members. The city was comprised of complexly interwoven courtyard house enclosures, with a hierarchical system of internal courtyards, which were connected to each other via passageways. The complex was walled off from the street, with access through a single gate. The decoration of the houses and the use of certain colours were determined by the social status and not by the personal taste of the residents. The relationship with the emperor on the one hand and, on the other hand, the connection to one's ancestors who were venerated in ancestral halls, were the indicators of the social order and therefore also of the city itself. The family was central for the individual and the most important point of reference within society“ (Kögel 2004: 52).

Unlike Europe, the Chinese city offered no promise of freedom from traditional feudal power relations – on the contrary, it was precisely the locus of feudal control, „which was alleviated by – amongst other factors – the grouping together of its inhabitants in (often walled) contiguous units“ (Taubmann 1999: 183).

As a result and in contrast to European cities, in China no social class emerged that was comparable to the European bourgeoisie. Chinese cities were not (as was the case in Europe) places of production which entered into active trade relations with their rural environs, but rather the seat of feudal rule which, with its passive-consumptive stance, was directly dependent on agriculture (cf. Taubmann 2003). Early on, Max Weber (1968) saw in this specific constellation the central reason why Chinese cities failed to initiate an independent process of modernisation and industrialisation. They were not the bearers of a progressive bourgeois class, but rather the buttresses of a feudal social order.

This lack of a social dynamic was also reflected in urban and transport development. Unlike European cities, which organised their growth along radial traffic arteries after the city walls had been demolished, the development of

Chinese cities remained primarily inwardly directed, and their expansion took place along ring roads that were placed around the old town (cf. Fig. 54).

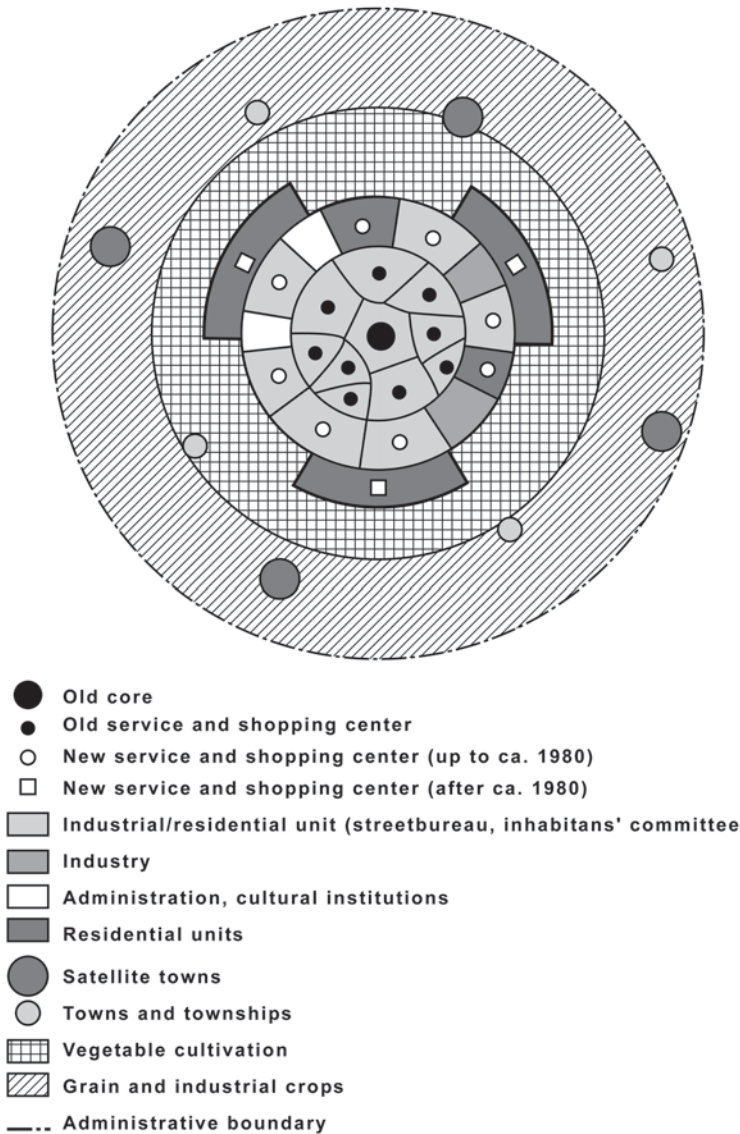


Fig. 54: A Model of Urban Development in China  
Source: Taubmann 1992

While European cities were internally perforated, so to speak, by rapid traffic growth, and outwardly the centrifugal forces of increased mobility created



widely-strewn urban structures, Chinese cities have mostly retained their compact, pedestrian-friendly character, familiar to us from medieval towns in Europe.

An initial re-moulding of the traditional urban structure came in the mid-19<sup>th</sup> century, with the semi-colonial influence. Especially in coastal cities such as Shanghai and Guangzhou, which were economically interesting for foreign investors, the cityscape was influenced by European and North American architectural styles, which is why Shanghai is sometimes referred to as an open-air museum of western architecture of the late 19<sup>th</sup> and the first half of the 20<sup>th</sup> century. Although in some places this led to a change in the city's appearance, the urban structure remained essentially intact. This only changed when, after the founding of the Socialist People's Republic of China in 1949, a systematic transformation of cities was carried out. Initially, their parasitic character was criticised, the productive rural population proclaimed as the ideal of an uncorrupted social class and extolled as the future bearer of the new socialist society, but soon it was realised that the cities were indispensable for socialist modernisation. Under the slogan „converting consumer cities into producer cities“, a wave of industrialisation was set in motion, with no regard for outdated structures (cf. Gittings 2005). As part of this transformation, the bourgeois aspects of Beijing dating from the brief republican phase (1911-1949) were also eradicated to make way for industrial plants.

What is interesting here is that even in the industrial transformation of Beijing, old structural principles were drawn upon. Thus, the new 120-metre-wide east-west axis, Chang'an Avenue, was intended to contest the dominance of the old feudal central axis which ran north-south, while Tiananmen Square took over the central function of the Imperial Palace. Beyond that, however, the original urban structure was perpetuated by the newly established urban living and working quarters, the *danweis*, with their spatially isolated contiguous units.

„The ‚city within the city‘ was to be found not just in the cellular structure or the walled contiguous units of the feudal city [...], but remains even today a characteristic element of the Chinese city of almost every size“ (Taubmann 1993: 425).

The *danweis* are large collectives within which all domains of life are located and organised, including work, living quarters, and leisure time. This results in the dual character of security and social control which is typical of collectively practiced close social relationships.

The structural self-referentiality of the Chinese city is one reason for the pronounced urban-rural opposition which still prevails in China; another factor is the political instrument of the so-called household registration, introduced in 1958 and still in force today (cf. Wang 1997). At that time, the migration

from the country to the cities began, which resulted in increased unemployment and, secondly, the provision of basic supplies to the city was jeopardised. In response, and in order to be able to regulate the influx into the cities, the central government divided households into urban and rural. This status could be inherited only from one's mother, because for women the chances of finding a job in the city – which still remains a prerequisite for obtaining a residence permit in the city – were usually lower than for men. In this way, the demolished city walls were replaced by „invisible walls“ (Chan 1994). Once the rural-urban migration was thereby almost completely brought to a halt, occupational mobility within the city was also largely suppressed. The workers in the city were not allowed to seek employment outside their *danwei*: „They were permanently bound to their work unit, on which they were ultimately dependent in virtually all areas of life“ (Taubmann 1999: 185). This resulted in an extremely immobile, corporative society, in every respect.

The decision in favour of a fundamental economic reform in the late 1970s set the static social conditions in motion and prompted a transition „from the corporative state to a mobile society“ (Scharping 1996). First, the introduction of the so-called household responsibility system led to a special dynamic in rural areas (cf. Heberer/Taubmann 1998). Farmers were now permitted to keep part of what they produced for themselves. This led to the establishment of private markets, which contributed to rapid economic growth and which were accompanied by an enormous increase in social and spatial mobility. The productivity gains associated with the agricultural reform have so far made about 250 million rural workers redundant, who, in search of work, have made their way from the interior to the special economic zones of the coastal regions, in order to hire themselves out as migrant workers (cf. Miller 2012). The authorities are essentially no longer able to control this „floating population“ (cf. Scharping 1997). Although formally speaking the strict residency requirements for the big cities still apply, the reality is that many millions of migrant workers live in the urban centres of the special economic zones. Not infrequently they comprise 30 percent of the urban population but nonetheless live mostly unnoticed in spatially isolated enclaves. Crowded together with two square metres per person, and with a working day of twelve to fourteen hours, seven days a week, the army of day labourers is confronted with precarious living conditions that are reminiscent of the situation of the proletariat in the early stages of capitalist development (cf. Bronner/Reikersdorfer 2016).

In the capital Beijing, of the over 15 million inhabitants of the administrative region, about 12 million are registered as permanent residents and 3.4 million have a temporary residence permit, which means that around 28 percent of the total belongs to the „floating population“. The social polarisation indicated

### 3.3 High-Speed Urbanism in Asia

by these figures is also reflected in an urban spatial segregation (cf. Chan et al. 2000). While the residents of the walled-in neighbourhood units were formerly distinguished by a high degree of social homogeneity, a social differentiation is now taking place that is drawing on the architectural tradition of walled-off demarcation. This development is being fostered by a dynamic land and housing market, driven by the private sector, which began in the 1980s when an increasing number of cities received the right to regulate their economic affairs independently of the central government. Since then, they have been competing for private investment capital. In the construction industry, investors are responding to the socio-economic differentiation of China's population structure with a colourful variety of very different types of housing for almost all income groups (cf. Fig. 55 – 58). For all their differences, these settlement



*Fig. 55: Golden Ghetto for the Upper Classes on the Outskirts of Beijing*  
*Source: Webster et al. 2006: 159*

types are nevertheless similar in that they incorporate the traditional urban cell structure and convert formerly public housing into private property.

„Economic reform injected more locally-based resource control into these structures and transformed a territorially fragmented autocracy into a competitive market of micro-spatial governments. The emergence of China's modern ‚gated‘ urban ecology is explained by the infrastructural and institutional legacy of socialism which delineated the boundaries of joint consumption rights far more clearly than was the case in non-socialist cities. What the market is now doing is delineating private consumption





*Fig. 56: Brown Ghetto for Retired Teachers in the Beijing Inner City*  
*Source: Webster et al. 2006: 160*

rights in a way that socialism could not. The result is a city of residential club realms governed by varying models of the condominium“ (Webster et al. 2006: 167).

Lastly, the socially homogeneous settlement units of the new middle classes are increasingly being built on the outskirts of the cities, so that the annular mode of development long typical of Chinese cities is more and more taking on the pattern of suburbanisation familiar from western cities (cf. Jie/Taubmann 2004 and Fig. 59).<sup>21</sup>

„[In these middle class settlements], the city has changed substantially due to the massive areal expansion. In the high-rise neighbourhoods on the outskirts one finds neither the typological order nor the characteristic urban spatial feature of the old city, namely the distinction between inside and outside. In the new quarters, separated off from the rest of the city, one finds a growing section of the public that defines itself on the basis of income. The open spaces in these quarters are laid out with gardens and impeccably maintained, despite the water shortages every summer. The two or three entrances to the quarter are guarded by private security services who turn away any unwelcome visitors. The new middle class's need to put its wealth on display and the unbridled creativity of the architects results in life in a theme park“ (Kögel 2005: 30).

<sup>21</sup> The Communist Party expects the Chinese middle class to increase to 500 million by 2020, with the number of private cars increasing to 140 million.

### 3.3 High-Speed Urbanism in Asia



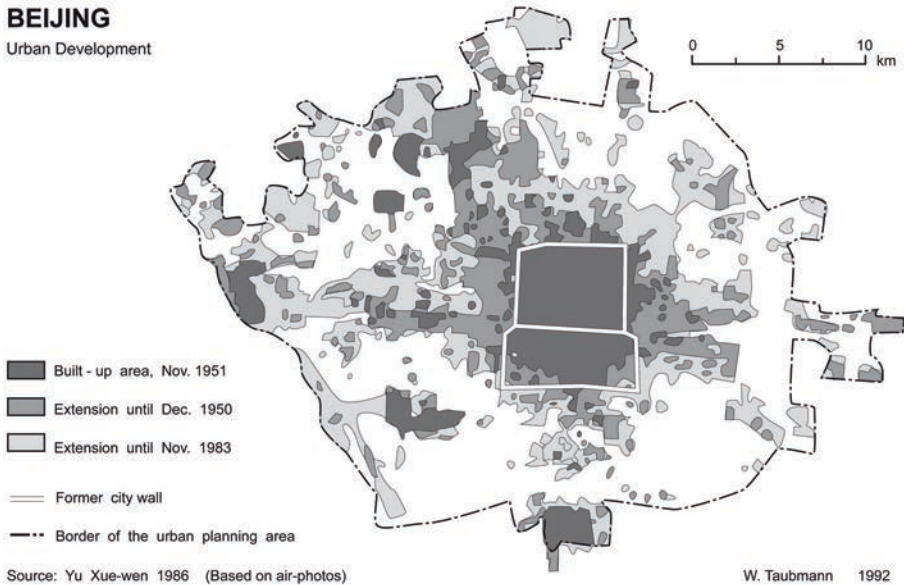
*Fig. 57: Green Ghetto for Families in the Countryside, 50 km from Beijing*  
*Source: Webster et al. 2006: 164*



*Fig 58: Red Ghetto for Committed Communists*  
*Source: Webster et al. 2006: 166*

#### BEIJING

Urban Development



*Fig. 59: Beijing: Development of the City from 1950 to 1983*

*Source: Taubmann 1992: 25*

All in all, what is being repeated here is a local variation of a form of urban development that is evident in all modern societies, beforehand in the US and Latin America, and for some time – in a rudimentary form – also in Europe.

In 2001, after Beijing had been awarded the right to host the 2008 Summer Olympic Games, the building boom took on a dimension that is inconceivable from a Western perspective (cf. Edelmann 2005). The plans went not just as far as 2008 but to 2020 and beyond. Thus, following the „Plan 2020“, adopted in 2004, the modernisation of the city continued up until the Olympics, with a view to turning Beijing into „a capital city, a global city, a cultural city and an outstandingly liveable city“. The city also benefited from a change in the elite, a process initiated by the President Hu Jintao.

„Now, silently and avoiding all sensation, following ‚the gang of Shanghai‘ there is now a new power elite, which some call the ‚clique of Tsinghua‘, referring to Beijing’s most attractive neighbourhood. Although there are still numerous cadres from Shanghai in the government, Hu and his ministers have almost imperceptibly changed course“ (Ibid.: 50).

Since then, Beijing has been receiving special attention from policy makers. Increasingly evident, however, are the social and environmental problems associated with the intensive development being actively pushed by those in power. Thus, the largely unbridled liberalisation of land policy and the commercial-

### 3.3 High-Speed Urbanism in Asia

isation of housing markets are causing a gradual dissolution of the formerly particularly compact Chinese urban structure (cf. Sternfeld 2000). Here the appreciation in value and revamping of the inner cities and the process of sub-urbanisation are mutually reinforcing. While the old buildings in the inner city are increasingly falling prey to private investment interests, more and more people are forced to relocate to the outskirts. This is accompanied by a functional differentiation of the activities of living, working, shopping and leisure, which were previously spatially integrated in the *danweis*. This inevitably results in the necessity to traverse ever greater spaces and distances.

The pedestrian-friendly city Beijing, like most other Chinese cities, is unable to cope with the associated rapid growth in traffic. The annual growth rate of automobile traffic stands at 15 percent in the capital (the highest level of all), with over 5 million vehicles, again more than all other Chinese cities. The authorities react to the constantly increasing traffic volume first and foremost with massive road building projects:

„Similar to Haussmann’s upgrade of Paris, Beijing’s agenda for the construction of new streets includes the same three major targets: improvement in the economy – through efficient flow of goods and services, upgrading the cityscape – following the dream of a mobile city of individual transport, and finally better control – since new and wide streets also cut through the maze of old housing areas that are difficult to oversee“ (Schmidt 2007: 88).

In contrast, road construction has trailed well behind. The length of road per person is 0.3 metres in Beijing, making it 22 times lower than in the cities of the USA and eight times lower than in Europe (see Zhang/Hu 2003. 4).

The uneven development of growth in the number of vehicles and infrastructure to cater for them causes frequent traffic jams. This in turn is reflected in an average speed of 17 km/h, very low by international comparison – in the USA it is about 51 km/h and in European cities 33 km/h. In combination with relatively high exhaust emissions, the result is that Beijing suffers from an extremely high level of air pollution (cf. Table 2).

City	Annual Average Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	Annual Average Concentration of NO <sub>2</sub> (µg/m <sup>3</sup> ) <sup>2</sup>	Annual Average Concentration of PM <sup>10</sup> (µg/m <sup>3</sup> )	Annual Average Concentration of CO (µg/m <sup>3</sup> ) <sup>2</sup>	Annual Average Concentration of O <sub>3</sub> (µg/m <sup>3</sup> ) <sup>2</sup>	Annual Average Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Days of Air Quality Equal to or Above Grade II (day)
Beijing	4	37	68	1.4	191	42	240
Shijiazhuang	16	46	118	2.4	206	63	174
Hangzhou	7	41	66.0	1.1	181	38	287
Guangzhou	7	45	53	1.2	178	30	293
Shenyang	21	36	77	1.9	155	43	284
Kunming	11	31	45	1.0	134	26	356
Jinan	15	45	106	1.6	201	55	182
Haikou	5	13	32.0	0.9	144	17	342
Zhengzhou	9	45	99	1.6	194	58	177

Table 2: Ambient Air Quality by Main Cities (2019)  
Source: NBSC 2020

Despite the recent signs of a dramatic change in urban and transport development, the historically-specific structures of the Chinese city and the resulting traffic conditions have remained substantially unaltered.

Like most other Chinese cities, Beijing continues to have a relatively high population and employment density, although the jobs are not concentrated in the inner city (which is now common in the Western industrialised nations), but instead evenly distributed over the entire city. This intact mixture of living and working spaces is the reason why most residents only have to negotiate very short distances, which they mainly cover by bicycle or on foot (Yang 2010). Accordingly, non-motorised traffic in Beijing comprises about 70 percent of the total amount of traffic. If one includes public transport, which consists mainly of buses, about 92 percent of the traffic is handled by forms other than individual motorised transport. With 456 trips per person annually, Beijing is situated at the top in international comparison in terms of public transport. This means that every single person uses public transport more than 1.2 times a day (0.9 Europe; USA 0.2). By contrast, annual car use, which stands at 1141 km per person, is still very low compared to the USA (11,155 km) and European cities (4519 km). Beijing has a very good developed public transport system,

Region	Total (absolut)	Railways	Highways	Waterways
Beijing	264	60,23	39,77	
Guangdong	2126	48,12	51,41	0,47
Shanghai	227	51,98	48,02	0,44
Jiangsu	1566	55,17	44,57	0,26
Shanxi	396	59,85	40,15	
Hebei	1311	83,14	16,86	
Zhejiang	1129	65,91	33,48	0,62
Hunan	1443	69,72	30,01	0,21

Table 3: Passenger Traffic by Region 2019 (in % of passenger-km)

Source: NBSC 2020

and the same is true of Chinese cities generally. This is especially true for rail transport, which accounts for sixty percent of public transport (77% in Europe; USA 32%). Apart of rail transport strategic planning in Chinese cities is also focused on an expansion of the bus system (cf. Liu 2005). For one thing, road infrastructure already exists, at least to some extent, or it can be further developed at a relatively low cost compared to rail infrastructure. In addition, a bus system can be used much more flexibly and comes closer to providing door-to-door service than would be possible even for a tightly interlocked rail network. And not least of all, the bus uses the same infrastructure as that most fervently



coveted means of transportation, the automobile – in China the ultimate emblem of modernity, individuality and freedom<sup>22</sup>.

Against the background of the historical development outlined above, the urban researcher Zhu Jianfei sees Beijing in a state of transition from an imperial to a hypermodern city. He argues for a dialogue on equal footing between both traditions, which should be developed into a qualitatively new, mutually fruitful line of development.

„The real problem is not either one of these two models, the modern Western or the imperial Chinese, but rather their interactions in modern Beijing, with their conflicting conceptions of space but a common tendency towards the large scale. While the modern Western current demands open space, an efficient traffic system and monumental buildings, the imperial Chinese tradition works with layers of walls and demarcations, with buildings merged into an organic fabric of courtyards and alleyways. [...] Modern Beijing is undoubtedly the result of a Western transformation of an imperial Chinese capital, yet the scale is both Chinese and modern. The symmetrical base configuration remains recognisably Chinese, but it is being refashioned by modern designs“ (Jianfei 2006: 332).

Zhu thus proposes a synthesis of Chinese urban planning, with its human scale and holistic approach and modern Western urban development, with its technical rationality and tendency to functional differentiation.

But even from a Western perspective arguments are being put forward to support the preservation of the specificity of Chinese urban structures (Hu 2003; Barter et al. 2003). Accordingly, the compact Chinese cities, with their short distances and relatively low volume of traffic are appraised as particularly environmentally friendly. Many Western observers even see in the Chinese city the realisation of what they have been pursuing for many years as a programmatic model, namely the „city of short distances“. Many Western observers see in Chinese cities a real opportunity for globally sustainable urban and transport development, but which is endangered by Western influence (cf. Newman 2003).

Lastly, the specific socio-political conditions are proposed as a further argument for the option of a special path in Chinese urban and transport development (cf. Heilmann 2016). Many years of experience with centralised planning procedures means an opportunity to exert particularly strong political influence and to redefine global trends in terms of a sustainable development strategy (Barter et al. 2003).

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<sup>22</sup> Even though some observers already talk about 'peak car' (Gao/Newman 2018).

It remains to be determined to what extent the hopes being expressed are based on an accurate diagnosis of the current dynamics of development.

### 3.3.1.2 The Contemporary City – Shanghai

In Shanghai, much earlier than Beijing – namely since the mid-19<sup>th</sup> century – urban development was determined by a highly westernised international influence (cf. Fig. 60). In the second half of the 19<sup>th</sup> century, as a result of the „First Opium War“ (1840-1842), China saw itself forced to accept several „unequal treaties“, which enabled Great Britain and France, as well as the USA and Russia to impose their economic interests. Due to its favourable transport conditions, Shanghai came to have strategic importance. Thanks to the „Long



Fig. 60: Shanghai: The Circular City (1817)  
Source: Vöckler/Luckow 2000: 194

River“ (Yangtze), China’s most important transport route, the port of Shanghai was connected to the Chinese hinterland via a comprehensive, 800,000 kilometre-long network of waterways (cf. Shulin et al. 2010). With the increasing internationalisation of trade relations, the city developed into China’s largest trading centre. Already in the 1930s, 40 percent of the total industrial capital was invested in Shanghai-based companies and more than 50 percent of the country’s industrial products were manufactured here (cf. Englert/Reichert 1985: 59).

With the establishment of branches of Western enterprises, different areas of the city were established with different social and cultural milieus. This led to an unusually disordered settlement development, by Chinese standards of the time. Unlike the case of the capital Beijing, where no building was allowed to outshine the Imperial Palace, in Shanghai the specifications and constraints on planning were nowhere near as strict. Having evolved in the early 20<sup>th</sup> century into a social and cultural melting pot, Shanghai can probably be considered the first Chinese city to have met the criteria for a global metropolis.

„The city by the sea had not in any way stood out as a centre of culture and education until well into the middle of the 19<sup>th</sup> century. With its rise to a metropolis of international trade, commerce and finance, however, new forms of culture developed here that ensured Shanghai became not just a distinctive place in its own right, but a very important place in the cultural development of China as a whole. In competition with traditional and modern Chinese high culture, which was mainly represented by Beijing, Shanghai now began to contribute to a significant plurality in the cultural landscape of modern China“ (Pilz 1997: 181).

The English language, which was dominant in the city from an early stage, served as a link between the emerging hybrid cultural forms. Unlike in India (see below in section 3.3.2), the linguistic dominance of English did not overly influence the cultural development of the country, a circumstance which is generally attributed to the resistant qualities of Chinese culture. Even in the socio-cultural melange of Shanghai, a specifically Chinese character trait is said to have remained determinative (cf. Murphey 1977). Nevertheless, a unique combination of Oriental and Western cultural traditions took shape in Shanghai, which led them to establish qualitatively new connections with each other.

„Traditional Chinese culture reached so deep [...], it was possessed of such strong reserves of inertia and such a strong desire for distinctiveness that everything that came from outside China lost its original form or was completely deformed. Shanghai was a special case in this regard. In Shanghai [...] something actually began to open up, here the isolation from the outside world and the new was prised open, with the new then being reworked from the inside. In the field of politics, economy, culture and even city administration, a development took place here that was superior to everything that been set in motion by the Qing, the warlord government in Beijing and the GMD in



the south, and in Nanjing. This ‚something‘ lies between isolation from the outside on the one hand and uncritical acceptance of foreign cultural forms on the other hand – it is a creative synthesis, which views internationality as something positive“ (Pilz 1997: 182).

But in contemporary Shanghai, it is not the impression of a successful synthesis that prevails. Rather, the cityscape and urban development (both programmatic and real) are marked by the strong influence of modern urban planning (cf. Chu 2003). This applies to the architectural language and urban planning both in the time before and after the Cultural Revolution. In the 1920s and 1930s, Shanghai was heavily influenced by the Bauhaus, and the „Great Shanghai Plan“ from 1927-1929 was clearly oriented towards the 1893 World's Fair in Chicago, which for its part influenced urban development USA until the 1930s (cf. Kaltenbrunner 1991; Jiang 2000). In addition to developing an imposing city centre, it is telling that traffic and transport assumed a special status.

The influence of modern urban planning is even more evident in the „Master plan for Greater Shanghai“, drafted in 1946 by a city planning commission and in which the Bauhaus architect Richard Paulick played a major part. The plan for the sprawling, segmented city with ample green spaces was based on the same model that was implemented in the post-war period in all western industrialised countries, in the form of satellite cities. After the Cultural Revolution (1966-1976), socialist China also drew inspiration from this project, under the new socio-political conditions, although it turned away from the „decadent, western“ Bauhaus tradition in order to embrace the Soviet architectural tradition (cf. Schurmann 1969: 180f). The result for the cityscape was, however, almost identical.

The reason for the long delay in implementing the plan was the central government's doctrine of the „victory of the country over the towns“, proclaimed well into the late 1950s, which meant the coastal cities remained largely left to themselves. Shanghai was busy struggling to recover from the Japanese bombing. It was only when the government – contrary to the officially proclaimed doctrine – increasingly recognised that the cities as industrial bases made an indispensable contribution to the economic development of the country, that the coastal cities, especially Shanghai, returned to the spotlight. Without preparation for its role as a centre of economic growth, a largely unregulated process of urban growth then began.

„One has to bear in mind the growth figures in order to understand the amount of pressure placed on Shanghai: in 1949 the city was home to 4.5 to 5 million people. By 1953 this figure had already risen to 6.2 million. In 1955, with the ‚return to the countryside‘ program known as Xiafang, about 500,000 rural migrants were transferred out of the city. However, the birth rate had been rising since the mid-1950s, and with

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the collectivisation campaigns in agriculture and significant increases in wages for industrial workers, about 750,000 farmers left the land. Shanghai's population grew to around 7.2 million by the end of 1957. The population growth, which stood at an average of four percent in 1950s, exerted huge pressure on the urban infrastructure, which was already completely overburdened. In 1957, the living space per capita in Shanghai was much lower than at the beginning of the 1950s" (Kaltenbrunner 1999: 1340).

The response to the worsening situation came with the General Development Plan of 1957, which involved an approach to planning known as decentralised concentration, at the time widespread. In order to take pressure off the central city, the plan stipulated the construction of satellite towns around Shanghai and in the immediate vicinity of the industrial enterprises that were to be set up in the area. The evolving understanding of planning was thus based less on ideals of urban planning than on abstract indicators considered necessary for the desired economic development, such as traffic frequencies, figures on population density, forecasts regarding growth and specific localities, employment and population figures, in which an exact knowledge of political decision-making processes was always a precondition. The result was a functionalist zoning concept, which prevailed in the developed industrial nations (in the East and the West) at the time. This policy of decentralisation is still pursued in Shanghai today, apart from the fact that in the 1980s the inner city area – until then largely neglected – was rediscovered and became the object of extensive planning measures.

But this also means that Shanghai is afflicted by the problems caused by large housing estates familiar from the advanced industrial countries (cf. Hess et al. 2018). The new towns mostly lack essential utilities such as schools, shops, leisure facilities, etc. and the transport connections to the „mother city“ are generally inadequate. The urban problems and the respective approaches to solving them in Shanghai resemble those of the advanced industrial countries. New concepts were required to deal with the challenges of rapid economic and demographic development and the associated trade and traffic flows. In this respect, Shanghai is still today considered an exception in China, which can undoubtedly be attributed to the long-lasting Western influence. An associated and ultimately determining factor is the enduring importance of Shanghai as the economic centre of the country. It was the dominance of economic requirements that led to the emergence of a new „urban governance“ in Shanghai (cf. Wu 2002). On the one hand, the political influence of the central government was curtailed in favour of the local authorities, who in turn have been vying for private investment in order to promote more local development, which means the efforts are primarily oriented towards short-term business interests. Thus,

cities are building ports and airports in the Pearl River and Yangtze River Delta without considering how these fit into a regional transport system (see 3.3.1.3 below). This combination of local vested interests, where one loses sight of overarching regional contexts, and the quest for rapid profits from corporate investments, without taking into account long-term social and environmental consequences, leaves scarcely any room for political planning and design.

„We are back where we started in the planning euphoria of the 1950s and 1960s (in China) or the 1960s and 1970s (in Germany). Widespread hostility towards planning due to ideological bias and special interests (neo-liberalism), distrust of public policy-making and the so-called bureaucracy, the tendency to apply indiscriminately the principle of the free play of forces to both private and public endeavours, insufficient co-operation between market forces and public authorities, as well as a lack of insight on the part of politicians, the private sector and the public into the complexity and scope of urban and regional planning“ (Kaltenbrunner 2002: 399f.).

The city of Shanghai, which has provided an important impetus for the country as a whole for the last twenty years and which is therefore referred to as the „dragon head of the Yangtze Delta,“ was an exceptionally enthusiastic proponent of this kind of development, right up until recent times (cf. Ross 2006).

The largely uncoordinated expansion of the city has also been accompanied by an ongoing, erratic growth in traffic. While up until the 1980s there were no traffic-related problems, thanks to a low demand for transportation (cf. Zhang. 2003), this changed abruptly with the liberalisation policy. In the 1990s alone the volume of traffic tripled, but where bicycles and buses still constituted the main means of transport. Even though the annual investment in road construction exceeded the total outlays of the previous fifty years, the demand for transport and traffic infrastructure could not be met. Accordingly, the city continues to be plagued by chaotic traffic conditions, in spite of the adoption several years ago of the Urban Development Plan for Shanghai 1999-2020 and the General Traffic Plan 2000-2020, where, for the first time, two well-planned development concepts were presented that went beyond mere *ad hoc* adjustments (cf. Shanghai 1999; Shanghai 2000). These concepts involve a dual strategy: first, providing the city with a hierarchically structured road network consisting of freeways and primary and secondary main roads.

In addition, planners are now realising that simply expanding the road infrastructure will never be sufficient to cope with future increases in traffic. There are therefore plans to build up public transport, with a special focus on the development of an effective rail transport system. The first underground rail line was not opened in Shanghai until 1994; previously there had been only buses. There are now four lines in operation and four more under construction. By 2030 it is planned to extend the underground rail network to 1000 km. While

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Berlin has continually expanded its underground network in the course of a century to 155 km, Shanghai is preparing to build a rail network more than six times as extensive in a third of the time. Ten tram lines totaling 120 km are also planned and as well as several regional train lines that extend to the outer districts (cf. Fig. 61).



Fig. 61: Shanghai Underground Rail Network 2021  
Source: Fan Pei 2021

From the point of view of Western European planners the city is facing major challenges arising from specific constraints on the possibilities of intervention:

„On the one hand, in comparison with German cities, Shanghai is still lagging well behind in the area of traffic and transport, but it will develop formidable momentum. It is this combination of trailing behind and dynamic development that constitutes the specificity of Shanghai’s predicament. The drivers of traffic and transport development and, in the near future, of the increasing traffic-related problems will be a) the reduction of population density in the inner city, b) the continuing suburbanisation due to the rapidly increasing demand for living space and c) the intense construction of new

buildings. The resulting longer travel distances cannot automatically be offset by the increasing availability of automobiles, since the development of the necessary infrastructure cannot keep pace, despite high growth rates. Even more so than in German cities, it will be necessary to combine car ownership and public transport use. Even if the demands for a further expansion of the road network were to become ever louder, in order to divert and avert unmanageable levels of motorised private transport the authorities must press ahead with an accelerated expansion of the rail infrastructure, introduce regulatory measures such as placing restrictions on parking, and possibly also road tolls. Undoubtedly necessary, these actions are more the result of objective constraints than socio-political value systems“ (Zhang 2003: 95).

Nevertheless, one should not underestimate the changing socio-political values and the resulting political impetus. For the economic development has now reached the hinterland, due to massive infrastructure projects promoted by the central government. The more the living conditions improve in the hinterland, the greater the proportion of the rural population that chooses not to migrate to the coastal towns in search of work. This has made itself felt in recent years with the increasingly common shortages of labour (cf. *Wirtschaftswoche* 2005). If one also adds the growing conflicts between the Chinese rural population and local officials, it is clear that policymakers in particular are under pressure to act (cf. Fan et al. 2006).<sup>23</sup>

In this respect, a pattern of development is emerging which is familiar to us from the advanced industrial countries. After a period of accelerated, one-sided economic development, which led to an extensive disembedding of the dynamics of economic development from erstwhile political and social contexts, a reaction finally came in the form of a re-articulation of social and political interests and their re-embedding in the context of new socio-political conditions (cf. Polanyi 2001/1944). Nowhere is this trend more apparent than in Shanghai:

„What we have seen in this context is the leading role of the state in re-establishing its contact with these mobilised elements (such as private entrepreneurs, laid-off workers and migrants). Fostering urban communities is seen by the state as an urgent matter [in order] to achieve dominance in governance“ (Wu 2002: 1090).

There are many indications that in Shanghai new forms of governance are being established, similar to those to be observed elsewhere, in the context of the capitalist transformation currently taking place (cf. Joerges et al. 2005). In this respect the advanced development in Shanghai indicates that in the near future China will face similar challenges to those facing capitalist societies with regard to the readjustment of the relationship between politics and economics,

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<sup>23</sup> In 2004 alone, 10,000 protests took place across the country, with several million people participating.

and between the state and society (cf. Brook 2013) – even if the challenges of urban and transport policy in China are many times greater because of its particular circumstances.

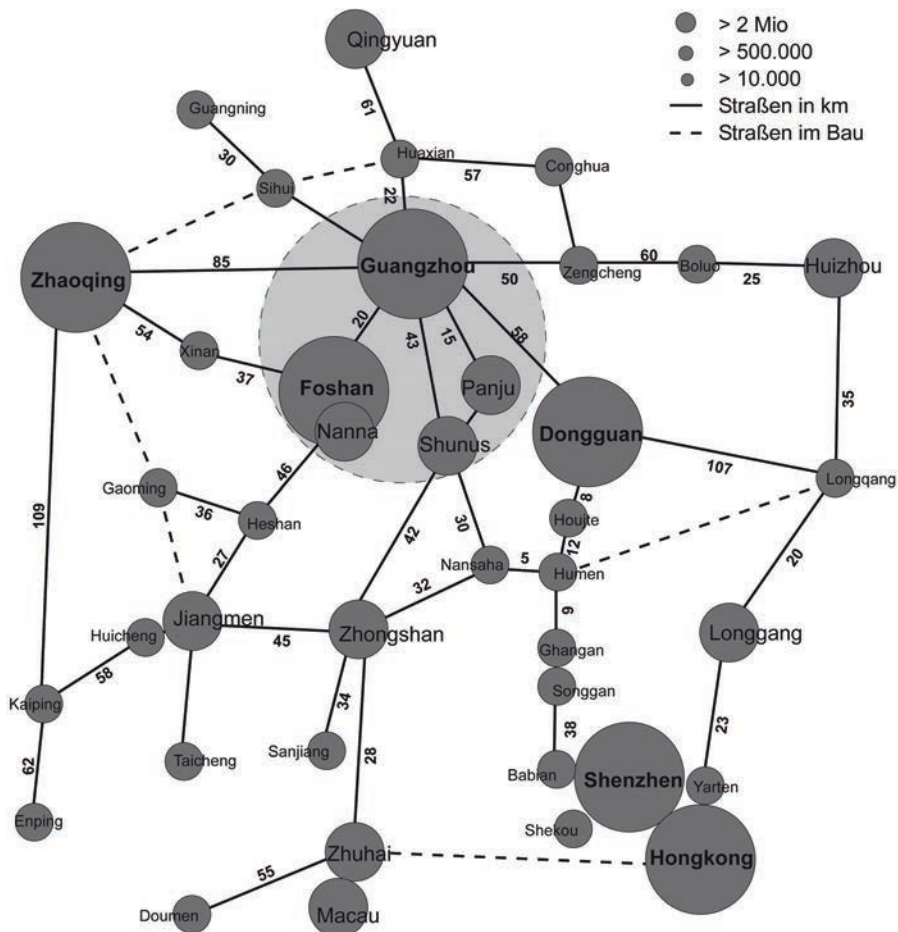
#### ***Traffic Offenders Pilloried***

*The dichotomy between traditional, politically and culturally specific forms of behaviour that have developed over a lengthy period and the challenges of rapid social change repeatedly produces peculiar bloomers. For example, the rapid growth of traffic in the cities means that people have difficulty adapting their behaviour to the new requirements. The chaotic conditions on the roads are in fact not just the result of road congestion, but also of the stubborn refusal of the road users to abide by the traffic rules. Therefore, the Shanghai authorities have introduced a new method for disciplining the population. The offenders are photographed by plain-clothes police and the photographs forwarded to the „Civilisation Office“. The Office decides on the severity of the offence and, where appropriate, forwards the photo to the relevant employer. The latter is then required to display the photo of the employee for all to see, thus shaming him. The fact that this medieval method of education in China is now no longer considered controversial illustrates the difficult process of transformation that the society is undergoing. Some see in this „strong medicine“ an appropriate measure to rectify misconduct and place their trust in traditional values, since ultimately no Chinese wants to lose face (‐mianzi‐). „Others, however, consider the actions of the authorities to be excessive. This is a violation of human rights [...] and a throwback to the old days‘, states the Beijing Morning Post, quoting from a post on the Internet“ (Maass 2006).*

The example demonstrates the transition from an upbringing reliant on applying external force to the forms of self-discipline that prevail in the developed industrial societies. It should not be forgotten, though, in the latter case the imposition of certain traffic regulations also met with tough resistance. This is particularly true for the requirement to wear seat belts, a more recent civilisational attainment. Still today one often has the impression that the Chinese are not the only ones who regard the wearing of seat belts as a sign of weakness. However, while the populations of developed countries had this demand imposed on them only at the end of a learning process that lasted almost a century, the Chinese population sees itself confronted with completely new behavioural requirements practically overnight, so to speak. In order to bring people into line and prevent them from going to rack and ruin, certain forms of public chastisement are still necessary.

### 3.3.1.3 The City of the Future – The Mega-Urban Region Pearl River Delta

If Beijing, which has preserved much of its original architectural structure, represents the city of the past and Shanghai, which has been subject to a strong Western influence in the course of its entire development, the city of the present, then the development of the future is looming in the mega-urban region of the Pearl River Delta (Fig. 62). If there is to be a qualitatively new combination of urban and transport development in China, it will probably emerge there, due to its special situation (cf. Lin 2002).



*Fig. 62: The Mega-Urban Region Pearl River Delta*  
Source: Woo 1994

The Pearl River Delta is located in Guangdong Province, with the capital Guangzhou (formerly Canton), covering approximately 43,000 square kilometres, which is not even one quarter the size of Germany. With a population of 48 million people, 13 million of whom are migrant workers, the region has recently developed into China's most populous province. The population density of 1,116 people per square kilometer is also above average compared with other Chinese provinces.<sup>24</sup> The rapid development of the past 15 years was preceded by a decades-long period of stagnation. The starting point here, as elsewhere, was the groundbreaking speech given by the party leader Deng Xiaoping in the late 1970s, in which he advocated a more pragmatic economic policy.<sup>25</sup>

The year 1980 essentially marks the transition from a state-run, centrally-planned economy to a free-market economy largely free of political influence. At that time the first four special economic zones (SEZs) were set up in the Pearl River Delta in order to accelerate economic development. The SEZ Shenzhen and Zhuhai were specially selected due to their strategically favourable location adjacent to the economically prosperous colonies of Hong Kong (United Kingdom) and Macau (Portugal). Brokered via the western colonies, the SEZ did indeed benefit very quickly from direct foreign investment. More and more international companies settled there to take advantage of the favourable production conditions. Illustrative of this process is Shenzhen, which has developed in less than thirty years from a fishing village into one of the largest and richest cities in China.

But Shenzhen also represents a marked form of particularism, introduced as a result of the economic competition. Because ever more cities in the Pearl River Delta benefited from the economic freedom of movement and up to the early 1990s interest was focused exclusively on economic prosperity, the respective local political representatives competed for foreign capital. In order to attract flows of foreign investment and become the centre of economic development, each city or municipality created the urban and traffic infrastructures it deemed necessary, without consulting the others. The construction of transport infrastructure went ahead with no regard for the existing demand. Airports sprang up, quite a few of which still remain under-utilised because they have never had to fulfill their intended function. The speculation thus resulted in an unprecedented inequality of development between winners and losers in the region as a whole (cf. Campanella 2008).

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<sup>24</sup> Germany – a densely-settled country by European standards – has a population density of 231 people per square kilometre.

<sup>25</sup> He is said to be the author of the slogan: „It doesn't matter whether a cat is black or white; the main thing is that it catches mice“.



This one-sided economic integration, to which social and environmental dimensions are subordinate, was supported for a long time by the central government, for example by repeatedly extending the special zones and reducing trade restrictions, especially with Hong Kong, most recently with the Closer Economic Partnership Arrangement (CEPA), which came into force in 2004. This assured companies from Hong Kong preferential access to the mainland and guaranteed the largely duty-free importation of products from Hong Kong (cf. Li 2005: 20).

Only in the early 1990s did it become clear that the purely economic integration and the competition between cities were leading to a spatial fragmentation that threatened to become a hindrance to the further economic development of the region. The provincial government of Guangdong responded in 1994 with a coordinated planning strategy for the mega-urban region of the Pearl River Delta (cf. Fig. 63).

„In this plan, they started for the first time to stress balanced and sustainable development in the region with functional system [sic] and spatial integration carefully planned. Apart from the design of two economic development axes or corridors from Guangzhou to Shenzhen and Guangzhou to Zhuhai, three urban rings – the central zone, the east coast zone and the west coast zone – were mapped out in detail. In order to make full use of the infrastructure and resources of the delta, 7 other sub-axes were planned as well, centred on Guangzhou, Hong Kong and Macao for the development of connected places of the delta, the east wing based on Huizhou and the west wing based on Jiangmen and Zhaoqing. This plan is no longer the simple designation of the delta region either in 1985 and 1987 just for the purpose of attracting foreign investment. It is, however, a scientific strategic plan which guided and influenced the regional development for the following 5 to 8 years“ (ibid: 21)<sup>26</sup>.

These government measures made it possible to balance out the spatial disparities, by and large, although they are still significantly more pronounced than they were before the reform process began in 1980 (cf. Shen 2002). The main centripetal force that facilitated the spatial integration was the development of transport infrastructure between the urban centres that, as supposed competitors, had previously deliberately kept their distance from each other. Serving as a symbol of this shift towards greater political cooperation is the Lindingyang Bridge (cf. Li. 2006), the construction of which was recently decided by the central government in Beijing.<sup>27</sup> It is intended to span the Delta over a distance of 40km, providing a direct connection between the former colonies Macao and Hong Kong for the first time. The bridge symbolises a process of political

<sup>26</sup> Original English text slightly modified by the translator.

<sup>27</sup> But the hectic infrastructure expansion has also repeatedly taken its toll. Thus, in recent years, many newly-constructed bridges have collapsed due to flaws in their construction (cf. Maass, 2007b).

### 3.3 High-Speed Urbanism in Asia



Fig. 63: Official Planning Area Greater Pearl River Delta  
Source: Planning Department of Hong Kong 2009

and economic integration, which gained additional momentum with the retrocession of the former colonies of Great Britain (Hong Kong 1997) and Portugal (Macau 1999). It is part of a wide-ranging transport infrastructure which has been created in recent years in the Delta region and which has greatly helped to strengthen trade relations.<sup>28</sup>

All segments of the transport sector benefited from the massive infrastructure expansion of the 1980s and 1990s (cf. Shen 2002: 104ff.). Thus, the size of the road network more than doubled between 1980 (12,921 km) and 1998 (27,471 km). In the process, 3,000 road bridges were also built. In addition, the rail network more than doubled in size during the same period, growing from 1,003 km to 2,028 km (cf. Table 4). In 1998, the first high-speed line (200 km/h)

<sup>28</sup> At the same time, the project demonstrates the financing and coordination problems that are associated with a purely private transport infrastructure development. Hong Kong does not want to participate in the financing of the roughly US \$6 billion bridge project and has opted for a „build-own-operate“ (BOO) solution. As of mid-2007, however, it had not been possible to find a private investor willing to take on the risk without government support. In addition, this project is assessed very differently by the local authorities. While cities in the western Pearl River Delta such as Macau and Zhuhai would suddenly find themselves placed in the centre of the region thanks to the new connection, Shenzhen in particular fears the competition and has announced its own, private bridge project.

went into operation between the provincial capital Guangzhou and Hong Kong. Today China's high-speed rail network comprises a total of 16,000 km, used by 2.5 million passengers per day. In the wake of these measures, passenger

Year	Railway (km)	Index (RW)	Highway (km)	Index (HW)
1978	1.003	100	52.194	100
1980	1.006	100	49.495	95
1985	1.006	100	51.288	98
1990	1.287	128	54.671	105
1995	1.861	186	84.563	162
1998	2.028	202	92.713	178
2011	2.303	230		
2013			202.915	389
2015	4.100	410		

Table 4: Infrastructure Development in Guangdong 1978–2015

Source: GTAI 2016; Statista 2016

volume has increased tenfold in rail transport and even fourteen-fold on the road. At the same time, a rapid expansion of river and sea ports has taken place. Existing ports have been expanded and new ones built, some of which – the port of Shenzhen, for instance – now count amongst the largest container transshipment centres in the world (cf. Wang 2006).

Freight transport by road experienced a more than forty-fold increase over the period 1978–1998, whereas the volume of railway and waterway transport only increased by 251% and 190 %, respectively. However, waterways remain the most important mode of freight transportation, especially for low-value but bulky goods (cf. Shen 2002; CARS 2014).

In addition, as mentioned above, in the Zhujiang Delta region seven completely oversized international airports were built in close proximity to each other, some of which today still suffer from under-utilisation. This example clearly demonstrates both the extraordinary dynamism of the development as well as the limited planning competence, which persists to this day (cf. Fang/Yu 2015). The result of the infrastructure development has been the acceleration of mobility and urbanisation throughout the province, although the volume of traffic on the urban outskirts is now more substantial than in the inner cities.

„Delivery is now being offered by private companies, especially small, private truck companies whose depots are spread across the major urban areas of China. [...] Inevitably this ever-growing activity is leading to traffic problems on the roads. As a

### 3.3 High-Speed Urbanism in Asia

result of the fierce competition between companies, there are many empty trips being made, especially since most of the factories and warehouses use their own trucks. They are primarily concerned with meeting the immediate needs of their factory or warehouse rather than with the flow of traffic in the metropolitan region as a whole“ (Comtois 2003: 730).

In 2006, policy-makers, responded with a second, comprehensive planning initiative for the entire, ever-expanding Guangdong Province (cf. Yang 2009). Once again, the policy-makers saw it as their task to render the undirected development processes controllable by channelling them in certain directions. „Now the state particularly favours the notions of ‚integration‘, ‚coordination‘, ‚harmonization‘, and, ‚comprehensive arrangement‘“ (Po 2007: 17; Ma 2012). In this way, mistakes from the past are meant to be corrected and where possible avoided in the future.

In the Mega-Urban Region of the Pearl River Delta one thus encounters an iterative process of disintegration and reintegration, which the social scientist Stephan Rammner (2008) has described as a distinctive feature of modern capitalist societies. According to him, there is an affinity between modernity and mobility, which is expressed in an evolutionary spiral of increasing mobility, in the course of which phases of disintegration are followed by phases of integration. This pattern of development of modern capitalist societies is especially evident in the transformational processes of the Pearl River Delta. Even if in this case the phases of disintegration and reintegration succeed each other at extremely short intervals and are so interwoven that they are scarcely recognisable as phases, the indications are nevertheless that we are dealing with an essentially similar process of development (cf. Wu 2015).

However, this appears to be contradicted by the fact that apparently an unusual type of urbanisation has emerged in the Pearl River Delta of the post-reform era, which is characterised by two parallel paths of development (cf. Wong et al. 2003). First, a state-subsidised and officially controlled urbanisation is taking place, with its associated mobility (UMo), above all in the metropolises that have long enjoyed the attention of the central government. Secondly, a spontaneous and informal UMo is taking place in the rural areas.

„What has taken place in the corridor since the reform is, therefore, an ‚urbanisation of the countryside‘ in which peasants of the region ‚leave the soil but not the village‘ (Litu Bulixiang) and ‚enter the factory but not the city‘ (Jinchang Bujincheng). A derived outcome of this process has been an intensive mixture of industrial/agricultural or urban/rural activities therein, making it a zone of what the Chinese have called ‚urban-rural integration‘ or ‚urban-rural interlocking‘“ (Li 2005: 105).

All in all, the growth of cities in the last decade of the 20<sup>th</sup> century mainly occurred in cities with less than one million inhabitants (cf. Taubmann 2003: 719).

If at first glance it seems as if a new UMo type has emerged in China, a closer look reveals familiar patterns of development. Thus, the urbanisation of rural areas resembles the ever-increasing processes of suburban sprawl in developed industrial nations. The impression that one is possibly faced with a qualitatively new form of development stems from the fact that, in the past, the different phases of development have taken place in succession, whereas in the case of China they overlap, due to the extreme acceleration.

Whereas in the West urbanisation had its origin in the cities, which served as integration machines for the masses from the rural population that they attracted, and only then a second phase of de-urbanisation began in favour of rural areas, in present day China these two developments are occurring simultaneously. On the one hand, more and more cities are expanding and turning into megacities; on the other hand, rural areas are undergoing industrialisation and urbanisation (cf. World Bank 2015).

Consequently, the traffic and transport problems associated with these developments are similar in both Europe and China. China today has to meet two challenges simultaneously: it has to find a way of managing its urban traffic as well as provide transport infrastructure for vast rural regions like the Pearl River Delta (cf. Li et al. 2013). The plans for doing so are reminiscent of the concepts proposed by developed industrial nations for the so-called regional metropolises (cf. Ache 2004). In both cases it is a question of how to prevent patterns of development that are so unduly fine-grained that it becomes virtually impossible to interconnect them.

As has already occurred in Western industrialised nations, China intends to establish development corridors, to prioritise developments with a view to „decentralised concentration“. Because such corridors can be provided with an efficient transport infrastructure, they facilitate an economic, political and social integration of the entire region (see above, chap. 3.1 ).

Serving as the major driver of development in the Pearl River Delta is the „global city“ Hong Kong (see Breitung 2002, 2007). With its new Chek Lap Kok Airport, opened in 1998, the city functions as the focal point in a radius of five flying hours, which encompasses almost the entire Asian continent with about three billion people, thus roughly half the world's population. The neighbouring Pearl River Delta is part of this massive force field, as it were, and is therefore affected in a singular way.

### 3.3 High-Speed Urbanism in Asia

Figure 64 shows the boundaries of the Special Administrative Regions (SAR) Hong Kong and Macao, as well as the surrounding Pearl River Delta region and the Special Economic Zones (SEZ) of Shenzhen and Zhuhai. The latter have less political autonomy and are part of Guangdong province. In spite of their respective differences, a trans-boundary regional metropolis is emerging. Particular attention is therefore being paid to the construction of cross-boundary traffic infrastructure, such as the projected bridges to Shekou and Zhuhai. As



Fig. 64: Hong Kong and the Pearl River Region  
Source: Maps-of-the-world.net 2016

a result of a migration surplus, the population of Hong Kong increased from five and a half million in 1991 to seven million people in 2006, growing by 27 percent. Taking into account the fact that, at the same time, the household size continues to fall while the need for housing increases, there is an annual increase in the need for housing of about five percent. Hong Kong is therefore expanding, especially to the north and into the still largely rural New Territories, where large new housing estates are being built for 200,000 to 300,000 inhab-



itants. Today there are almost three million people already living there. These new settlement areas have also been provided with transport infrastructure. In the city centre and neighbouring districts, in addition to the well-developed underground rail system, there is a diverse and very efficient bus service, while the outlying areas and the New Territories (cf. Figure 65) are steadily being provided with a rapid transit rail system. The city traffic and transport system thus now extends far beyond the original centre of the conurbation. The

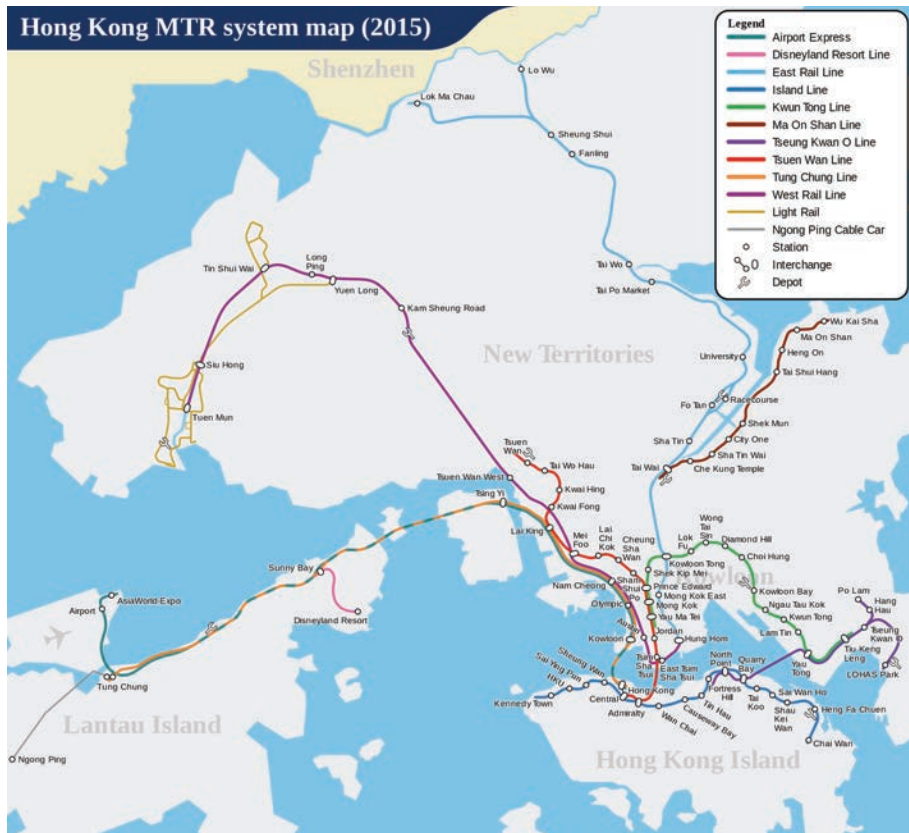
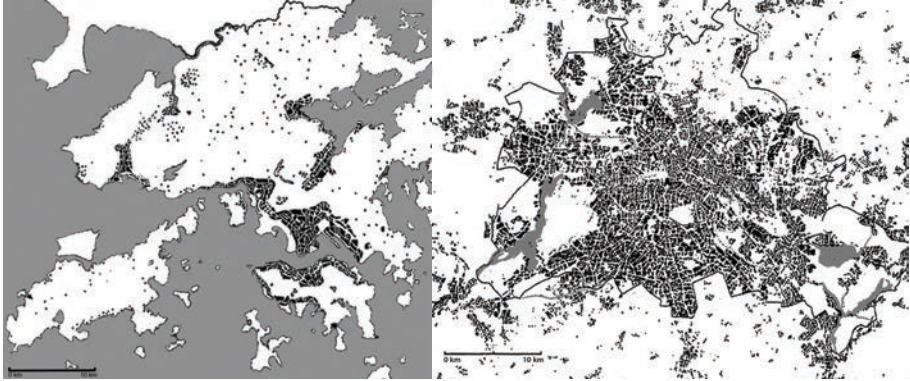


Fig. 65: The Current High Speed Railway Plans for Hong Kong  
Source: Wikipedia 2016

New Territories are expected to advance to the position of the new population centre. At the same time, the settlement development would shift in the direction of Shenzhen, which for years has essentially been serving as a suburb of Hong Kong. Thus, in addition to the absolute growth in population, a further decentralisation can thus also be expected. The associated potential for urban sprawl in Hong Kong becomes clear when one considers the population den-

### 3.3 High-Speed Urbanism in Asia

sity of 6,380 people per square kilometre, which is unimaginable by European standards. The consequences can be illustrated by a topographical comparison with Berlin, where the population density (2,813 people per square kilometre) is not even half as high (cf. Fig. 66). If Berlin were as densely settled as Hong Kong, there would be roughly 80 million people living there, thus almost the entire German population. With the further development of the transport in-



*Fig. 66: Built-Up Areas in Hong Kong and Berlin*  
*Source: Martin/Hoffmann 1997: 1993*

frastructure and its increasing differentiation, which makes it possible to cover ever greater distances and facilitates the spatial development of entire regions, sprawling urban development is becoming increasingly likely in Hong Kong. Hong Kong is expected to develop along the path of the increasingly interconnected transport infrastructure in the Delta region, eventually merging with the urban region of Shenzhen. Hong Kong is thus a good example for the Pearl River Delta UMo as a whole, which is tending to develop into one large „Pearl City“ (cf. Martin/Hoffmann 1997). In this respect, only at some point in the future will the Mega-Urban Region of the Pearl River Delta really do justice to its name.



### ***Sustainable Consumption***

*A particular architectural expression of the western lifestyle is currently springing up on the outskirts of Chinese cities – the shopping mall. The malls exhibit a new lifestyle and a new form of consumption for ever larger sections of China's population. At the same time, the temples of consumption are a further example of China's accelerated development on all fronts. While in Europe they are still a relatively new phenomenon and are only tentatively being adopted from the United States, in China they are emerging in the context of a dramatic process of overall social transformation, detached from all traditional bonds. In Europe, because of the importance attached to the inner city, shopping centres are for the most part located there and adapted to the existing structures, whereas the Chinese versions are generally being built far outside the main urban centres, thus imitating their American models. Because they lack any relationship to the existing city, they are completely without proportion, just like their American counterparts.*

*However, they outdo their models many times over. While shopping malls in the USA measure around 100,000 square meters, the largest Chinese shopping temple, measuring 560,000 square metres, is one and a half times larger than the Pentagon. With their overblown dimensions, the Chinese malls are another depressing expression of the prevailing quantitative development, with no trace of any qualitative innovation. This is a further sign of development comparable with Western countries. More than that, China is demonstrating that it is not just able to catch up, but also able to overtake. However, unlike the USA, the reason for the attractiveness of the malls is not the desolation of inner cities associated with massive suburbanisation. Rather, it is the pollution in the big cities that is driving people out, which in turn recalls the conditions in European industrial cities of the 19<sup>th</sup> century. In the formerly important main shopping streets there are often only second- and third-rate businesses to be found, while the others have settled in the air-conditioned shopping paradises on the fringes of the cities. Thus the shopping malls take on the function of green oases to which the people flee because they can no longer breathe the air in the city. At the same time, as a result of their location on the outskirts, the malls create constant additional traffic, which has now been recognised as a major cause of air pollution in the cities.*

#### 3.3.1.4 Summary

The process of urbanisation and mobilisation in China (UMo) is typified by three formal characteristics. First, measured against comparable processes in the past, the overall development is unusually rapid. Villages or small towns are growing in the space of two decades into cities with over a million inhabitants and cities of a million or more are expanding in the same period into megacities with populations exceeding 10 million. At the same time, the transport infrastructure required for the mobilisation of the city and rural populations is being created.

Second, processes of development that previously occurred in succession are now overlapping. In Europe, the phase of the rural exodus was accompanied by the growth of cities, followed by a phase of people fleeing the cities, which then shrank, a process which is ongoing. In China, the accelerated urbanisation of cities is taking place parallel to the urbanisation and mobilisation of rural areas. Here the tremendous speed with which the catch-up modernisation is being pursued and the parallelism of the development processes are mutually dependent. They want it all, and without delay.

Third, from a European perspective the dimensions of development are almost inconceivable. The sheer size of the country as well as its population make urban and transport projects necessary the scale of which no European country has ever come anywhere near achieving. Therefore, the country is facing enormous challenges, which, compared with all known historical precedents, are not just gargantuan but also spatially and temporally concentrated. While in Europe problems were able to be solved in succession, at different times in different places, in China problems demand solutions in the same place at the same time, and all within a very short period. This is particularly evident in the domain of traffic and transport development. While in all western industrial nations the railways and public transport developed before individual mass motorisation began, China is faced with the task of finding a way forward that brings the two modes of mobility together in a way that is compatible with sustainable transport development.

Due to the above three characteristics, which are not just inseparable but actually bound up with each other in specific ways, the Chinese UMo appears to be something quite unique. Especially for Western observers, the scope and speed of the UMo are almost incomprehensible; events follow each other in quick succession, at a breathtaking pace. In addition, the contradictions inherent in this development process have never been greater than they are in China. There is no country on earth that in such a short time has lifted so many people out of abject poverty and at the same time has so deepened the divergence

between rich and poor (cf. UNDP 2005). Against this background, it seems appropriate to describe it as the greatest social experiment of our time, as Oskar Negt does (2007). At first glance, therefore, the developments in China at times appear to be a fundamentally new phenomenon.

But a closer look reveals that even though the Umo is proceeding spatially and temporally in an exceptionally compressed fashion, it is nevertheless essentially based on familiar patterns of development. Whether, as in the case of Beijing, the traditional city structure is being augmented by massive urban expansion in the form of satellite towns on the edge of the old town, or, as in the case of Shanghai, the development of the city is directly and indirectly influenced by a long tradition of modern urban planning and construction, in both cases, major stages and aspects of modern urban development can be discerned that have unfolded in a similar fashion in the western industrialised countries. This applies both to the urban expansion outside the cities – the greenfield developments – as well as the systematic demolition of old buildings in favour of new construction in the city centres. The same is true for urban and transport development in the Pearl River Delta, which is currently receiving a great deal of attention and is seen by many observers as a specifically Chinese UMo (cf. Lin 2002). However, as has been demonstrated here, the Pearl River Delta region is not a specifically Chinese, qualitatively new urban development, but rather the simultaneous superposition of different processes of development. This is also true of traffic and transport development, for it is not the case that the simultaneous establishment of public and private transport has led to new forms of utilisation, such as creating close links between the two transport systems (cf. ADB 2012a). Instead, in China as in the western countries, we find a parallel development of public transport and motorised private transport (MIV), where the latter is assuming ever greater importance (cf. May et al. 2013).

Thus, the UMo in China has a number of fundamental features in common with the corresponding developments in western industrialised countries. The emergent trends also point towards an increasing convergence with modern urban and transport development in the West. This can be seen most clearly in the problems resulting from the widespread processes of suburbanisation and the immense growth in traffic volume, problems which differ from those in the West in their magnitude, at most. But this also means that the pressure resulting from problems in the area of sustainable urban and transport development is many times greater.

This raises the question of the designability of a sustainable Chinese UMo. Paul Barter has studied the possibilities of using political influence in order to

promote sustainable urban and transport development, using East Asian cities as examples (cf. Barter 2000; Barter et al. 2003). He shows that it is precisely in Asian cities with a high per capita income, such as Hong Kong, Singapore and Tokyo (see. Chap. 3.1), in which one would expect a high level of affinity for cars, that one actually finds both a low rate of car availability as well as utilisation. For all the cities in question, Barter shows that, at an early stage of their development, they made a political decision to restrict private transport in favour of a systematic expansion of public transport. Barter sees in these examples a well-founded hope for political intervention promoting a sustainable UMo in China. He therefore addresses his recommendations to up-and-coming Chinese cities, to decide as early as possible to develop attractive public transport and to support non-motorised transport. In the long-term, this means lower costs, less pollution, lower energy consumption and fewer traffic accidents than a policy favouring private transportation (cf. also May 2013).

This argument is supported by studies carried out by Gang Hu (2003), who foregrounds the particularly favourable structural conditions for a sustainable Chinese UMo. As he sees it, due to their exceptional population density and their functional concentration on the inner city, Chinese cities are perfect candidates for the „city of short distances“, which can largely be traversed using non-motorised transport, and would only require some supplementary public transport, at the most. Given these circumstances, an infrastructure based on private transport makes little sense.

Both arguments are in themselves convincing and are even mutually reinforcing. The historically specific urban and traffic conditions in China do indeed indicate the advisability of a policy favouring public transport, combined with a more restrictive approach to private transport. The examples of successful sustainable urban and transport policy are encouraging, enough so to demand just such a policy for all cities in the process of development. In fact, the central government has now recognised the problem and under the banner „Build a Harmonious Society!“ is striving to curtail the dynamic economic development in order to achieve more balance (China Daily, 6.10.2005).

However, the hopes associated with this scenario are unfortunately negated by all comparable historical experience. Thus, it should give us cause for concern that the internationally-renowned transport expert Jeffrey Kenworthy, who views China as a standard bearer for sustainable urban and transport development, previously had the same expectations for the compact European city (cf. Newman/Kenworthy 1989). In the early 1990s, the European Transport Minister Neill Kinnock pointed out that the „majority of EU households do not have a car“ (COM 1992: 25) and saw this as an opportunity for a sustain-

able European transport policy. The reality is that urban and transport development in all western European countries in the subsequent decade continued in the direction of private transport. In the European Union's 2001 White Paper on Transport, in which the policy guidelines were formulated for the period to 2010, in light of the exceptional importance of public transport in the Eastern European States, advocates seizing this historic opportunity to maintain the particularly high proportion of this environmentally friendly mode of transport in the overall volume of traffic (cf. COM 2001). In contrast, in the 1990s in all Eastern European countries there was a reduction in public transport by an average of 50 percent. The recently published interim report of the European Union on the White Paper on Transport in fact indicates a development running counter to the original goal of sustainable transport development in Europe, and predicts more of the same for the future (cf. COM 2006). Accordingly, the European Union stated in its second White Paper on Transport that transport development is not yet on the path to sustainability and, given the current conditions, the prediction is for developments that run counter to the original aims of sustainable European transport development (cf. COM 2011; 2015). Lastly, against this background, reference is made to the special formative power of government policy in China, which can tip the scales in favour of a sustainable UMo:

„There is no doubt that China is at the crossroads in dealing with its urban transport system. Nevertheless, [the country] can call on a long tradition of government planning and stewardship in its efforts to balance the positives and negatives of a trend towards increasing car ownership and use“ (cf. Hu 2003: 199f.).

Apart from the fact that this perspective focuses on the advantages of an undemocratic social system for an authoritarian planning strategy, it also overlooks the overall social transformation currently taking place, which goes hand in hand with the establishment of a differentiated civil society, rendering this kind of centralised political interference even more improbable in the future (cf. Turner/Zhi 2006). On the one hand, the one-party state attempts to initiate such changes in the structure of civil society from the top-down; on the other hand, civil society actors are already increasingly calling into question the political legitimacy of the government system and thus simultaneously undermin-

ing the old regime's capability to govern (Heberer 2006).<sup>29</sup> This short-sighted political and strategic orientation is therefore liable to be thwarted once again.

A very different perspective emerges if one abandons the normative claims of democratic procedures and turns one's attention to alternative political solutions (cf. Yu 2010, Lend/Chu 2010). Then functional equivalents to the political settlement mechanisms familiar from democratic regimes appear, which make it possible to achieve a balance of interests between various groups in society – although without meeting the requirements of democracy (cf. Heinelt 2014). According to Heilmann and Perry (2011), the Chinese government is still influenced by „Mao's Invisible Hand“, whereby for the past thirty years the highly successful post-Maoist authoritarian rulers have been pursuing a „guerrilla style policy“, which is characterised by a low level of institutionalisation and at the same time a high level of adaptability.

Thus the Chinese government is responding to the increasing civic engagement in the population by on the one hand trying to prevent uncontrolled activities by means of systematic persecution and, on the other hand, by announcing the development of their own form of civil society, distinct from the Western democratic model (*The Economist*, 2014). The success of future social development in China will greatly depend on whether it is possible to establish such a „state-led civil society“ (Frolic 1997), which would constitute a functional equivalent to the Western democratic alternative (cf. Dillon 2011). Regardless of whether the diagnosis is correct, namely that a constructive social development that enables a sustainable Umo is dependent on a policy change in favour of democracy, or whether the authoritarian regime succeeds in treading an entirely new path in order to tackle the challenges at hand, one can at present only repeat what John Friedman noted a decade ago: „China's urban transition is an unfinished story. Moreover, its outcome is unpredictable“ (Friedman 2005: 123).

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<sup>29</sup> Thus the government recently saw itself obliged to change the way it communicates the one-child policy to the citizens. While previous slogans exhorted the people to „Have fewer children and raise more pigs!“, or „Nurture the first child, avoid the second child, do away with the third!“, or „House destroyed, cows confiscated – that's what happens when you oppose the abortion injunctions!“, the message now is „Mother Earth is too tired for even more children!“, and, referring to gender-specific abortions: „Boys and girls are equally dear to the hearts of parents!“ A report by the National Commission for Population and Family Planning states that the old slogans could create the impression that people were forced to avoid having more children: „this could lead to misunderstandings and even harm the image of the government“ (cf. Bartsch 2007).

### 3.3.2 India – The Mobilisation of the Caste System

India and China are currently experiencing what is probably the most rapid migration from rural areas to the city in human history. While the Chinese dragon awakened quite some time ago, the Indian elephant has only recently stirred. It is said that he is neither as erratic as the Asian tiger, nor as short-tempered as the Chinese dragon, but once in motion, he relentlessly pursues his goal. In fact, it is already foreseeable that in the first half of the 21<sup>st</sup> century, at least in terms of its population, India will have overtaken China, which has practiced a strict population policy of the single-child family for many years – although it was only in the early 1990s that India began its policy of liberalisation and is therefore lagging a good ten years behind developments in China. Provided the dynamic economic development continues, India is also expected to undergo a rapid urbanisation, during which the number of megacities is expected to increase from the current 35 to 70 by the year 2026 (cf. Dyson 2004). The urban population of India is anticipated to increase from the current 32 percent to 50 percent. Therefore, India is facing the same economic, social, political and – not least of all – environmental problems, with which China is already struggling (cf. Elkington/Thorpe 2007). As far as the level of air pollution caused by road traffic is concerned, the major Indian cities, like their Chinese counterparts, are globally already in the forefront (cf. WHO 2016). Since 2000, the number of vehicles in India has increased by an average of 9 percent annually. In 2018 there were 22 private cars per 1,000 inhabitants (cf. The Economic Times 2018).

The dangers associated with the economic hyper-growth have now been acknowledged by the Chinese government. The political authorities have also become aware of the social disparities associated with the unregulated economic development, manifested in a growing gap between rich and poor and threatening to turn into an explosive socio-political force. The mounting numbers of civil society actors protesting against economic precariousness constitutes for both the Chinese and the Indian governments a political challenge which is increasingly being met solely by repressive measures (cf. Fulda 2020; Roy/Keane 2021). The same applies to the environmental abuses that are now ballooning into ever more formidable environmental disasters and having a steadily greater impact on people's lives.

If only because of the sheer size of the two countries, which accommodate about one third of the global population, these are not purely national problems – rather, they have an ever-greater bearing on global society. This applies equally to the energy consumption bound up with the current economic growth, to the food consumption linked to urban population growth, and not

least of all to the ecological burden caused by the social trajectory of growth in general. Thus it is already plain to see that, for these two countries, a growth strategy based on fossil fuels is essentially inconceivable.

„Statistics reveal the challenge. China currently uses one fifteenth as much oil per person as the United States does, while India uses one thirtieth as much. If over the next several decades both countries were to reach even half of U.S. levels of consumption – about the current level of Japan – they alone would be using 100 million barrels per day. In 2005, total global consumption was just 85 million barrels a day. That would imply total worldwide consumption in 2050 of well over 200 million barrels per day. Few geologists believe that output will reach even half those levels before beginning to decline“ (Flavin/Gardner 2006: 10).

This is important for our purposes, since it concerns in particular the question of the feasibility of a transportation system based on fossil fuels.

Similarly problematic from today's perspective is the growing demand for food, which is due not just to the absolute growth in population, but also to a generally rising standard of living. This leads to higher meat consumption and therefore to higher grain consumption. Currently neither China nor India is reliant on foreign grain imports, but this hard-won autonomy risks being compromised, even though it is by no means guaranteed that other countries could or would offset a grain shortfall. In addition, the anticipated urban and transport development will further reduce the already small area of farmland.

„Grain area in the two countries is very small relative to their populations – just one-and-a-half basketball courts per person, or some 600 square meters in China and 650 in India, compared with about 1,900 square meters in the United States. With most available farmland already in cultivation, grain area per person will inevitably shrink as the populations of China and India increase and as cities grow ever larger“ (Flavin/Gardner 2006: 13).

China like India must therefore have a vested interest in a form of urban and transport development that does not necessitate encroaching on agricultural land. Ultimately, in light of the expected economic growth in both countries, the question of the limits of global ecological capacity has to be raised (cf. Millennium 2005). Measured against the criteria of the so-called „ecological footprint“, which determines the relationship between the human consumption of resources and natural regeneration ability, global bio-capacity is now already exceeded by 20 percent. In concrete terms, it means significantly more carbon dioxide is being emitted than can be converted by nature into oxygen through photosynthesis. More forests (which, along with marine plankton, bind carbon dioxide) are being cleared than can be reforested. And more groundwater is being consumed or polluted than is being recovered through the natural cycle. At the same time, the use of resources is very unequally distributed in popula-

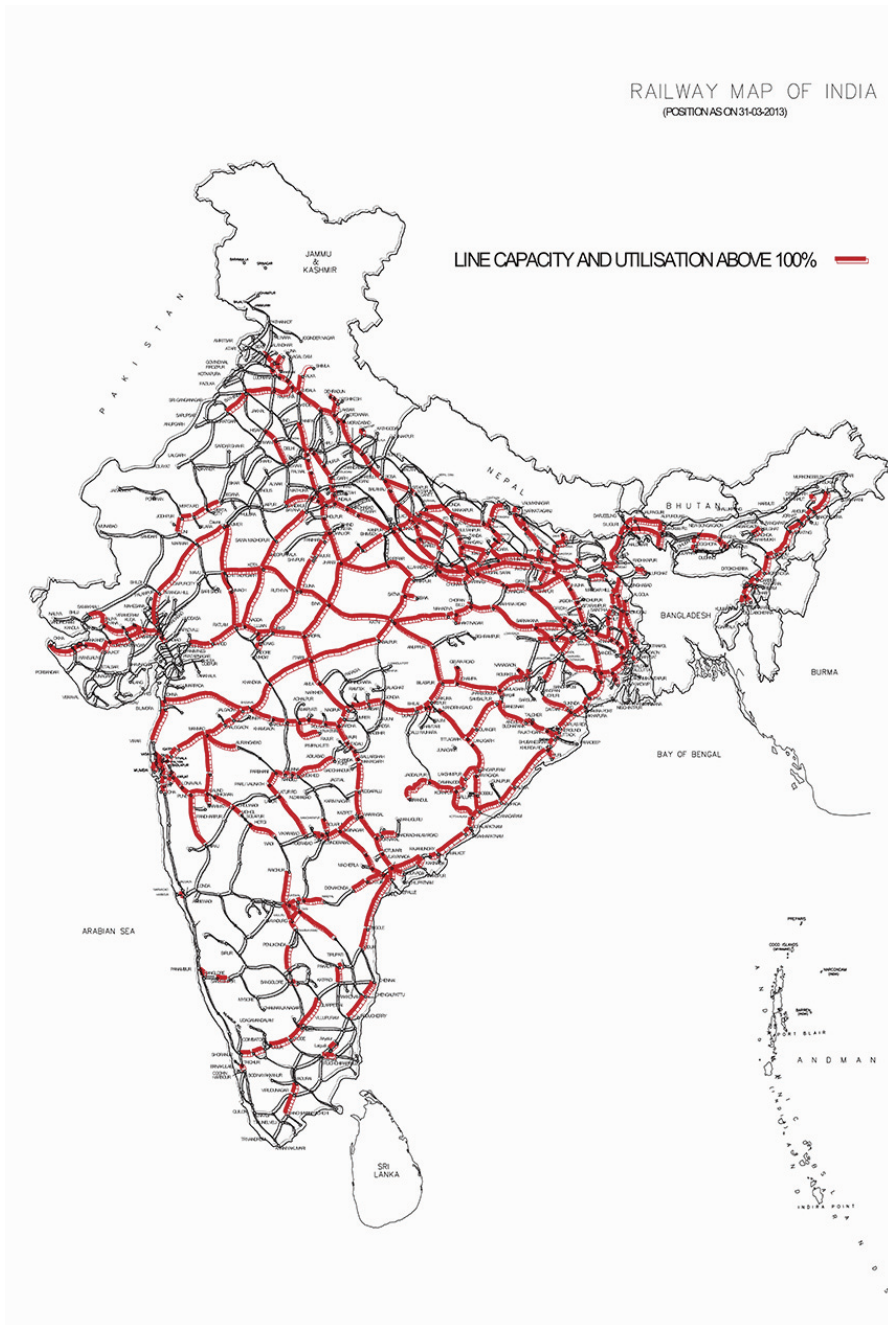


tion terms. Thus, India uses about the same proportion of global bio-capacity as Japan (7% and 5% respectively), although with more than a billion people its population is a nine times greater than Japan's. The same disparity prevails in relation to China and Europe, each of which uses about one fifth of global bio-capacity. All alone at the top is the United States, where 4.5 percent of the global population consumes 25 percent of the total bio-capacity. This means that the ecological footprint per capita in India and China is many times lower than in the advanced industrial countries. This also implies, however, that if the rapid development in India and China continues, the projected global ecological impact would no longer be manageable, according to many observers.

„The world's ecological capacity is simply insufficient to satisfy the ambitions of China, India, Japan, Europe and the United States as well as the aspirations of the rest of the world in a sustainable way. Indeed, if by 2030 China and India alone were to achieve a pro-capita footprint equivalent to that of Japan today, together they would require a full planet Earth to meet their needs. While the ecological footprint is an accounting device and does not imply particular policies, such figures suggest that the twentieth-century resource-intensive development path is a dead end. The challenge for the global community is how to provide prosperity and opportunity for all, but within the limits that are laid down by nature“ (Flavin/Gardner 2006: 18).

While the problems facing both China and India are thus similar, the socio-political frameworks within which these problems have to be dealt with are often enough very different. (cf. Bronger/Wamser 2005). Contemporary India is still strongly marked by a centuries-long colonial influence (cf. Hinüber 2005; Mishra 2011). The country was dominated by foreign powers from the 16<sup>th</sup> century onwards, beginning with the Portuguese, followed by the Dutch and French in the 17<sup>th</sup> century, through to the colonial rule of the British, which lasted from the 18<sup>th</sup> century until independence in 1947. Unlike China, where the influence was limited to privileged foreign trade contacts and was therefore spatially concentrated on the coastal cities, the British in India changed their policy, opening up the interior in order to appropriate the natural resources by force (cf. Robins 2006). So as to be able to cover the vast distances associated with armed conflicts as quickly as possible, in the 19<sup>th</sup> century the British began to construct a rail network across this vast country. Following the largely effective pacification, the initial military-strategic considerations increasingly gave way to the pursuit of the political and economic integration of the country, in which the railway also played a central role (cf. Fig. 67).

### 3.3 High-Speed Urbanism in Asia



*Fig. 67: Present-Day Rail Network*  
*Source: Government of India 2015: 48*

„The construction of railways was an important measure that not only enabled rapid troop movements, but also made it possible to transport food into areas that had suffered poor harvests. The improved food supply, combating epidemics and the prevention of war led to rapid population growth. In addition to the railways, the introduction of the telegraph and a rapid postal service contributed significantly to the dissemination of new ideas in India“ (Stang 2002: 54).

In this way, India experienced a previously unknown political and economic unity, which found its expression in 1877 with the establishment of the Indian Empire, at the head of which stood Queen Victoria, in the tradition of the erstwhile Mughal emperors. However, there was always a noticeable tension between the thoroughly successful political and economic modernisation and the diverse and divergent culture of the country. The mental development could not keep up with the political and economic development, which led the population to react by returning to cultural and religious values, which ultimately led to the ever-increasing desire for national self-assertion.

Indian society is marked by a caste system based on Hinduism, the foundations of which were set forth roughly four thousand years ago in the Rigveda, the oldest work of the Holy Vedas. Here the hierarchical division of society into four social groups is ascribed to the corporeal fragmentation of the original being, Purusha:

„Out of Purusha’s mouth grew the highest caste, the Brahmin, from his arms came the caste of warriors and the nobility, the Kshatriyas, from the thighs came the caste of farmers and merchants, the Vajshyas. Lastly, from the feet of Purushas came the Shudras, the lowest caste, consisting of artisans, serfs and slaves“ (Ihlau 2006: 47).

Besides these four main castes, there are the so-called Dalits (the „broken ones“). They are regarded as untouchables (pariahs) and represent the lowest group in society, comprising around 240 million people, thus just under a quarter of the population. „This fifth caste of the unclean pariahs includes all the categories of people who are engaged in unclean activities – such as laundry workers, butchers and skinners, scavengers, weavers, leather workers, fishermen and coolies“ (Ihlau 2006: 47). India’s indigenous people, the Adivasi, who number 80 million and account for seven percent of the population, have a comparable status to the Dalits.

Reminiscent in many ways of the medieval, estates-based feudal society in Europe, the rigid Indian caste system assigns people a certain social status and a corresponding social function, thus working against greater social mobility and social participation (cf. Shah 2018). But while European societies were able to free themselves from the straitjacket of the corporative feudal system in a lengthy process that lasted several hundred years, following the economic

liberalisation that began in 1991, the Indian people found themselves abruptly forced to abandon their traditional ways of life and the associated values and norms, in an extremely short period of time. Although the caste system was officially abolished after independence in 1949, in rural areas it continues to determine the rhythm of life of two-thirds of India's population (cf. Anderson 2012).

#### **Pariahs**

*The position of the Dalits demonstrates the tremendous breach within Indian society, which on the one hand is characterised by rapid economic and technological development, and the other hand is marked by social and cultural barriers. Geographically, these cleavages are reflected in the classic opposition between town and country. In the eyes of the rural population the Dalits are still regarded as unclean. They therefore have to keep away from members of the other castes. Thus, they are not allowed to draw water from the village pond, because it is assumed that they pollute the water. Offences are still met with severe sanctions, including the death penalty. Stoning, for instance, is still a common practice. From the age of nine, daughters of Dalits are traditionally trained to be temple dancers (Matamas) and for the rest of their lives exploited as prostitutes by Hindus belonging to the upper class. The women are left alone to cope with the children who occasionally result from such liaisons.*

*In addition to these traditional forms of systematic discrimination in rural areas, there is also the everyday, mostly unrecognised abuse of socially declassified people in India's cities. Just one example amongst many of the overall social impact of the inhuman attitude towards the underclasses is the murder of 17 children and young girls by the businessman Moninder Singh P. and his servant Surendra K. in Noida, murders which for a long time remained undiscovered. Thus, not only do the members of the upper classes presumptuously arrogate special rights to themselves, they also receive the direct or indirect support of the police and politicians. „While six policemen have now been suspended, how little the lives of slum children are worth is revealed by the remarks made by Shivpal Yadav, the brother of the head of government in the state of Uttar Pradesh, while visiting Noida. He described the murders as a ‚minor incident‘, without reprimanding the police. ‚These things happen‘, he said. Indeed, while the authorities slowly began to work on the case of Noida, the next series of murders came to light: in Hyderabad in southern India, two men were arrested who confessed to killing eleven men, as well as raping and killing*

*two women“ (Möllhoff 2006). The increasingly frequent reports of women being raped in Indian cities confirm on the one hand that the patterns of cultural prejudice characteristic of the Indian caste system are still prevalent and are only slowly dissipating, even in the cities. On the other hand, the violent excesses directed against emancipated Indian women also have to do with the defensive reaction of men, who find themselves confronted with social developments that they cannot prevent. Seen in this light, India is possibly socially more advanced than the facade of violent reactions initially suggests.*

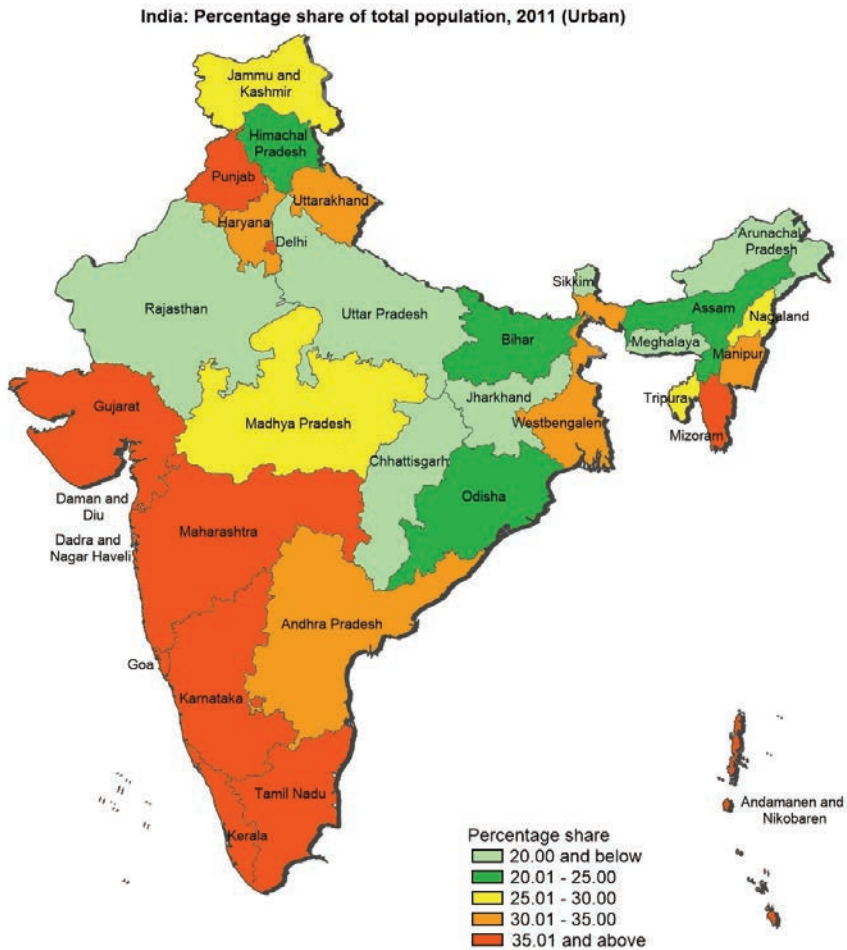
*Indian society continues to be marked by the simultaneity of the unequal political and economic and cultural-religious developments, which leads to a reciprocal blockade of the social development process (cf. Gupta 2009). On the one hand, there was no stopping the political and economic integration of the country set in motion by the British, not to mention reverse it. On the other hand, the cultural and religious conflicts have repeatedly hampered this development process. This is impressively demonstrated by the independence in 1947, organised by the British, which involved the partition of the country into Muslim Pakistan and Hindu India.*

„Under British rule, in the decisive phase of its early industrialisation and the establishment of transport infrastructure, the sub-continent had developed into an intertwined economy. In the chaos, it simply broke apart. Each part tried to break away from the other: transport links were cut, industries lost their resource base, agricultural regions lost their markets and cities their hinterland. The integration of the refugees who had lost their homes constituted an enormous burden for decades“ (Stang 2002: 57).

Although the restructuring is still not complete and the social conflicts within the Hindu caste system are assuming ever larger dimensions (cf. Masselos 1995; Kapur et al. 2014), the internal development of the country has continued to progress, as evidenced in particular by the degree of urbanisation and mobilisation (cf. Strobel 1997). Due to the improvement in living conditions for a growing middle class, the population of India initially grew steadily from the 1920s until the 1950s, at which point the process accelerated appreciably. Between 1951 and 2011, the population increased from 361 million to over a billion people, with the population density tripling to 378 inhabitants per square kilometre (Germany has 230 inhabitants per square kilometre). In rural areas, additional jobs were not as widely available, which resulted in a migration to the city, so that today 35 percent of the 1.4 billion Indians live in cities (cf. PRB 2021).

In the cities, however, it is becoming less and less possible to maintain the caste hierarchies and the social division of labour that goes with them. In public space, the city Brahmin who takes the bus or goes to the cinema is inevitably confronted with the pariah. Or in the public administration he encounters a supervisor who belongs to a lower caste than he himself. The spatial proximity imposes personal contacts that previously, in the countryside, were prevented by systematic rituals of distantiation. Even if in order to protect themselves people adopt the same blasé disposition (*Blasiertheit*) that Simmel describes (2010), referring to European city dwellers of the 19<sup>th</sup> century, the everyday experiences with people who are traditionally regarded as inferior make it impossible to maintain and legitimise the caste system under secular conditions. Indian cities today – like European cities during the era of urbanisation in the 19<sup>th</sup> century – function as huge integration machines. The social value of a person is less and less defined by traditional affiliation with a particular caste. At the same time, however, the settlement development in India's urban centres is proceeding in a socially highly selective fashion. There is a – for a Westerner – confusing juxtaposition of exceedingly prosperous neighbourhoods, in which one observes the processes of social integration described above, and depraved slums that remain largely left to themselves, forming a socio-spatial patchwork that has been conceptualised using the term „insular urbanism“ (see archplus 2007).

However, the degree of urbanisation is geographically very differently distributed (cf. Fig. 68). While in the south and west of the country it lies well above the average, it is lowest in the north and east.



*Fig. 68: Proportion of Total Population 2011 Federal States*

*Source: My own figures, based on Makaanaka 2016*

Developing the transport infrastructure of the country proved to be increasingly difficult in the face of the rapid population growth and the high level of migration to the cities, and the problem is still far from solved (cf. Singh 2005). While it is true that the railway network established by the British now covers 63,000 kilometres, making it almost twice as long as the German network (34,000 km), if one considers the size of the Indian subcontinent – around nine times the surface area of Germany –, one sees that the density of the rail network is nevertheless relatively low. Providing an extensive service is not possible on this basis. This function was increasingly taken over by the road

### 3.3 High-Speed Urbanism in Asia

system, which continued to be developed and by the 1970s had already surpassed the railroad as a significant means of transport (cf. Sriraman 1997). The paved road network covers a total of some 1.4 million km, but considering the size of the country and the population, it still remains relatively small compared to the German road network of around 230,000 kilometers (see Fig. 69).



Fig. 69: National Highways  
Source: NHDP 2012



About 40 percent of the total road traffic is carried by the well-developed national highway network, which, with its 34,100 km, comprises only two percent of the total road network (cf. NHAI 2006). These highways link the capitals of the states with each other and can be compared with the German federal motorways (12,000 km). By contrast, the 130,000 km of state highways, which are often equipped with only a single asphalted lane, are in much worse condition. Since, in addition, they are heavily used for freight transport, their capacity for carrying passenger traffic is minimal. Moreover, with an annual 80,000 fatalities, the Indian road network is regarded as one of the most dangerous in the world.

„Truck drivers turn driving on highways into an adventure. Drivers who have caused a serious accident in a village or have run over a cow, quickly flee the scene in order to escape lynching. In most instances, their truck is then set on fire. At night, four-lane stretches of the highway constantly provide unnerving experiences, such as tractors without lights and carts drawn by oxen or camels, coming from the opposite direction, on the wrong side of the road. The law of the jungle applies: whoever does not give way to the stronger party will be flattened. Indian behaviour on the roads possibly has something to do with the Hindu doctrine of success and justifiable egoism. In the heroic epic, *Mahabharata*, in the section entitled ‚seven ways of dealing with a neighbour‘, the reader is offered the following advice: ‚If people think you are docile, they will despise you. So when the time comes to be brutal, be brutal“ (Ihlau 2006: 81).

Because large parts of the subcontinent are still without transport infrastructure, in rural areas and on the outskirts of the cities the traditional ox cart remains of major importance.

„Their transport capacity is estimated at 10 billion tonne-kilometres, although they are mostly confined to short distances. They can use paths that are no longer passable for trucks – on the better roads, however, they constitute traffic obstacles – and they can transport goods where the use of a motorised vehicle would be uneconomical. In addition, transport by ox cart provides millions of jobs. [...] The ox carts will definitely continue to play an important role in transportation for a long time. But the tractor is gradually making inroads, not just for use in the fields, but, equipped with a trailer, it is also used to transport agricultural products to the market centres and to transport people“ (Stang 2002: 283).

The changes do not stop at the tractor, though. The government plans to modernise a total of 65,000 kilometres of the old road routes (cf. CIDC/Choy 2004). The most important of these are the just under 6,000 kilometres of motorway of the „Golden Square“ between Delhi, Calcutta, Chennai and Mumbai. This unquestionably represents the most important infrastructure project since the construction of the railways (cf. Morris 2004).

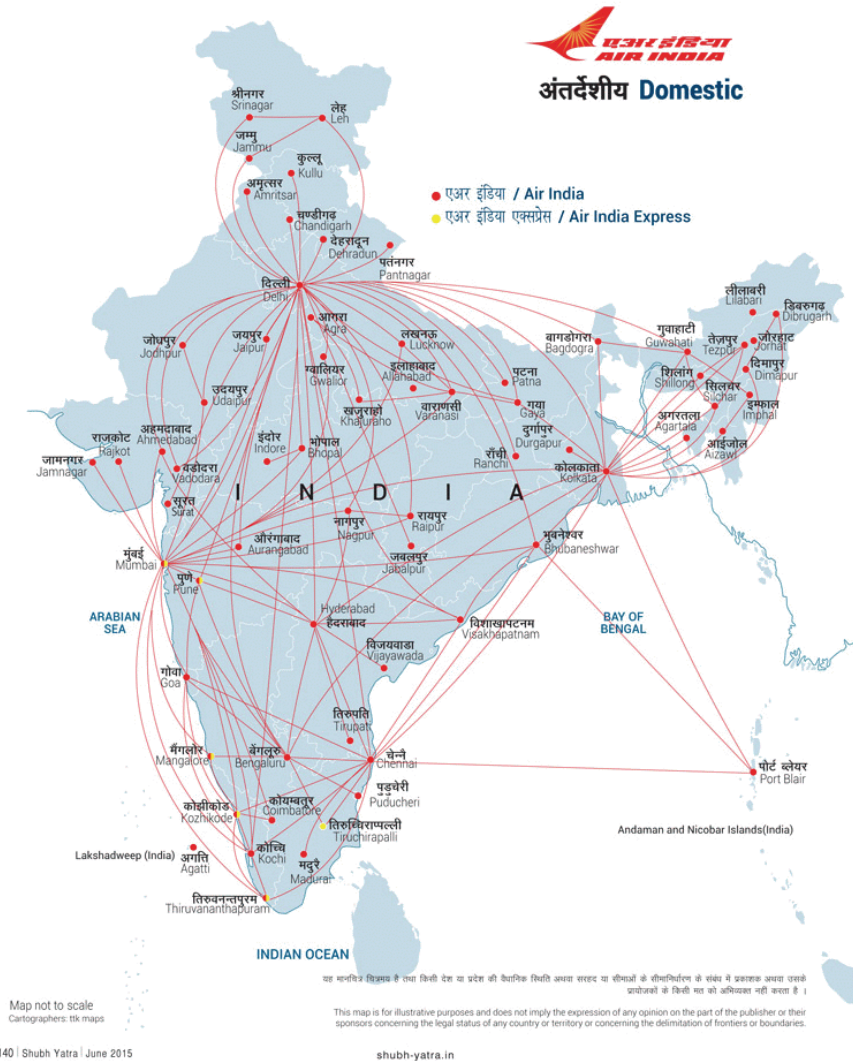
### 3.3 High-Speed Urbanism in Asia



*Fig. 70 – 73: Traffic in India*  
*Source: Stefan Carsten (Private Collection)*

Unlike in other countries, it was never possible to make up for the lack of land routes by turning to inland waterways. In contrast to China, where inland waterways still play an important role, in India the fluctuating natural conditions caused by the monsoon season have prevented a systematic expansion of inland waterway transport. In the monsoon season, the rivers turn into raging torrents, and in the dry season they shrink to shallow rivulets; in both instances, they are barely navigable.

For several years the shortcomings of traffic on land routes have been increasingly made up for by air traffic (cf. Fig. 74). In 1991, the government set about dismantling regulations that favoured the state-owned airline, which had held a monopoly until then; since that time, private operators have established themselves and dynamic growth has been the result. Airbus expects to sell 570 machines to India by 2033, and Boeing also wants to sell 500 machines. Standing in the way of this developmental perspective, however, are the 120 Indian airports, most of which are in need of major renovation. But here too, things are on the move: for instance, the Frankfurt-based Fraport AG, together with a consortium, was awarded the contract to expand the airport in Delhi, and Siemens has received an equivalent contract for Bangalore. In the name of complete-



**Fig. 74: Air Routes**  
**Source: Air India 2015**

ness, coastal and international shipping should be mentioned. Due to the geographical location of India, which largely precludes foreign trade by land, sea traffic has always been exceptionally important. Nevertheless, sea freight is still relatively insignificant considering the size of the country. This is partly because, under British rule, India was forbidden to develop its own merchant

### 3.3 High-Speed Urbanism in Asia

fleet. It was only after independence that the country built its own shipyards and is now engaged in shipbuilding (cf. Fig. 75). Only since the liberalisation of the market in the early 1990s has shipping increased considerably, and like China, the Government of India is reacting to the projected additional increase in global container traffic with an accelerated expansion of the major seaports (cf. CIDC/Choy 2004).

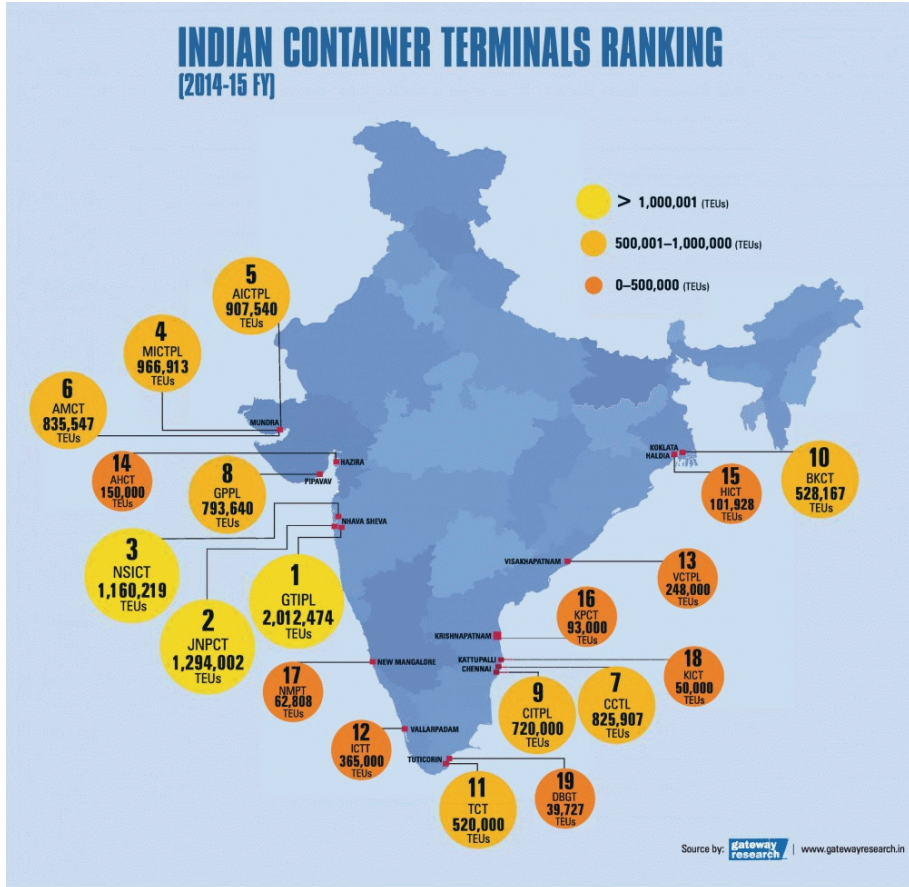


Fig. 75: The Major Ports  
Source: Port Technology 2016

An overall evaluation of the traffic situation in India therefore shows that the transport infrastructure lags far behind the rapidly growing demand. Estimates for metropolitan areas have shown that per day about 80 million journeys would be required. But the existing rail and bus system is capable of catering for only around 37 million journeys (cf. Government of India 2008). This

shortcoming is increasingly perceived as an obstacle to the planned consolidation of the economic, political and social integration of the subcontinent. The lack of transport routes is still a massive hindrance not just to trade relations but also to political interaction and social exchange – in short, social integration as a whole. However, connecting different parts of the country is rendered difficult not only by the gaps in the transport networks, cultural and administrative barriers also stand in the way. One must remember that the country was united by a central government which, when structuring the relations between states, oriented its efforts in accordance with the administrative regime of the British colonial powers. Just a short time later, there was resistance – in some instances violent resistance – to the borders, which ignored cultural diversity and took virtually no account of the geographical distribution of the ethnically and linguistically distinct populations. In the following decades, social unrest caused repeated administrative re-organisations, which are ongoing, and recently (in 2000) led to the founding of three additional federal states (cf. Stang, 2002: 68ff.). A further factor in the conflicts between the 29 states, and between the latter and the central government, are the 19 officially recognised languages, in addition to English, making the unification of the country even more difficult (cf. Fig. 76). To this extent, the problems of the vast subcontinent far exceed the dimensions of the federally-constituted European nation-states. The country is at least nine times the size of Germany, and the population of each state is in many cases close to that of European nation states. The state of Uttar Pradesh alone has a population of nearly 180 million people. In light of this situation, it becomes clear how difficult it is for the central government, despite its many powers, to deal with the separatist aspirations of such weighty states, let alone enforce an agreed uniform policy. This manifests itself, for instance when trucks have to pay duties on their freight at the state borders, as if they were entering a different country.

Despite the manifold opposition to the integration of the country, there is a massive effort on the part of the central government to impose this objective, especially with a view to establishing a single market and in this way maintain the economic upswing. Infrastructure, in particular transport infrastructure, into which 50 percent of all construction spending in the next decade is supposed to flow, plays a central role here (cf. Rastogi 2006).<sup>30</sup>

This rough outline of urban and transport development in India reveals a discrepancy between the demands made on a functioning transport system – demands that have arisen from rapid economic and social development –, and

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<sup>30</sup> However, aspirations and reality often diverge. Whereas India invests 2.5 million euros annually in road construction, China invests ten times as much.

### 3.3 High-Speed Urbanism in Asia

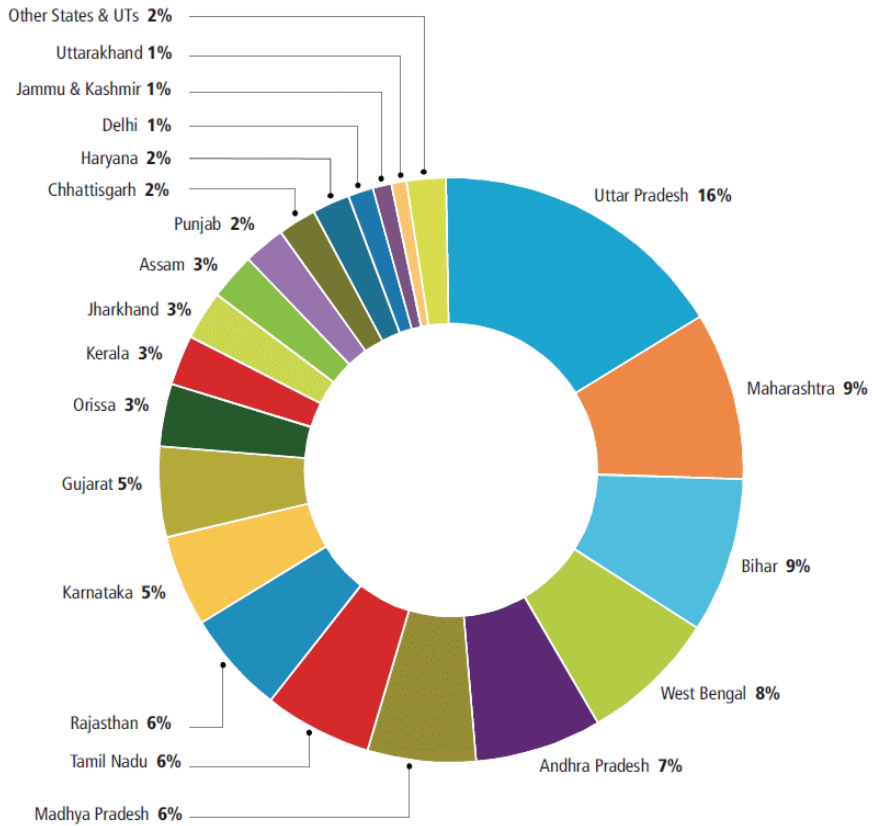


Fig. 76: Population Share of States and Union Territories, India: 2011  
Source: Census of India 2011

the still seriously underdeveloped transport infrastructure. The problems arising from this discrepancy are unmistakable, especially in the growing urban centres. Against this background, we will now examine the specific situation of urban transport, taking as examples the three major Indian cities of Delhi, Mumbai and Bangalore. Since each of the cities represents historically specific patterns of development, together they provide an overview of a range of different types of cities, thus capturing the essential features of current urban and transport development in India.

#### 3.3.2.1 The Colonial City – Delhi

The distinctive urban structure of India's capital, Delhi, is the result of a centuries-long, unusually chequered history. This history shows that profound



changes due to external influences have repeatedly been necessary, and that the city has been able to cope with them. Against this background, the current crisis-ridden urban and transport development in Delhi appears as just another episode.

The present „Old Delhi“ goes back to the carefully-planned founding of the seat of royal power, Shahjahanabad, in the 17<sup>th</sup> century by Mughal Shah Jahan. For many years, this was the centre of trade in the northern subcontinent and, in spite of its diminishing importance, it was able to maintain its influence as a sovereign city until the mid-19<sup>th</sup> century. It was only after the last Mughal was deposed in 1858 that Delhi declined to the status of a British-Indian provincial city. Behind this loss of significance was an uprising of the urban population against the foreign rulers, which the colonial power punished by placing a ban on the demolition of the city walls in order to deliberately hinder the development of the city and prevent the much-needed expansion of urban facilities. Contrary to customary practice, it was therefore not possible to build the railway station on the outskirts of the city, since the city walls would have blocked a connection to the city. Instead, when the railway reached Delhi in the 1860s, the city wall was summarily breached and the station was built in the city centre (cf. Mann 2006a: 128).

The situation of the city then changed fundamentally in 1911, when King George V proclaimed that the capital of British India would move from Calcutta (now Kolkata) to Delhi, which triggered a major wave of immigration. Within only a few decades, Delhi developed into a prestigious imperial city. In the south of the old city and completely detached from it, „New Delhi“ was then established as an administrative enclave, largely without a resident population.

„The traffic and transport infrastructure of the city was aligned with the requirements of the motorised colonial elite. The mostly four-lane, tree-lined roads, often interconnected by circular traffic systems, were less about controlling the flow of traffic – there were too few cars – than about prestige. Within the spacious city layout, which measured more than three kilometres from east to west and north to south, the intention was to place the will of the colonial rulers on display, not to facilitate urbanity. Due to its monumentality fixed in stone, the urban planning concept of New Delhi has justifiably been compared with the plans of Albert Speer for a new Berlin“ (Ibid.: 130).

Deliberately and systematically maintained by the British, the clear-cut separation between the old, poor district of the local population and the new rich district of the white occupiers and the more affluent local population still dominates the city today (cf. Dupont et al. 2000).

With the independence of India in 1947, a comprehensive exchange of populations occurred in Delhi (which had since been declared the capital), as the country was divided into the predominantly Muslim Pakistan and the Hindu-dominated India. Until then, both religious groups had been almost equally represented, but between 1947 and 1951, 330,000 Muslims left the region for Pakistan, while during the same period about half a million Hindus and Sikhs migrated from Pakistan to Delhi. The population growth, which continues unabated to this day, overwhelmed the young administration completely and made a controlled urban development process almost impossible (cf. Fig. 77). It was only after ten years, in 1957, that the Delhi Development Authority (DDA) was established, a body that was entrusted with the task of drawing up an urban development plan for Greater Delhi. The DDA was supported financially and in an advisory capacity by the Ford Foundation, whose experience was based on providing for mobility in western industrial cities, with the focus on individual motorised transport. The result was the master plan dating from 1962, which presented a far-sighted and comprehensive planning concept for a city of short distances that was unique on the subcontinent, and which determined planning for the following twenty years.

„The main idea behind this concept is integrated land use and transportation planning. This means building up self-sufficient neighbourhoods which can provide most of the everyday services to their inhabitants. This concept involves intense, mixed land-use schemes with high densities. The main aim of this system is to facilitate short trips, which are meant to be made on foot, using non-motorised vehicles or public transportation“ (Boedecker et al. 2002: 157).

However, due to administrative blockades, the lack of a political framework and competition with the central government, the implementation of this major undertaking constantly ran into obstacles. The slowly but steadily growing population exacerbated the urban and traffic problems. Whereas at the beginning of the 1970s Delhi had a population of five million people, within a few years the metropolis developed into a mega city, with more than ten million inhabitants. There was virtually no way for the authorities to control the settlement expansion associated with this growth. During this period, only about 37 percent of all residential areas were established in accordance with urban planning guidelines, with the majority being built without permission, meaning without urban infrastructure such as waste disposal, water supply, sewage, electricity supply and street cleaning. As in other Indian cities, a huge „informal sector“ has emerged, the economy of which is now indispensable for the established middle class of the „formal sector“ (cf. Singh 2006). At the same time, urban spaces are continually being created, the development of which it is barely possible to influence. „Urban planners, municipal institutions, city



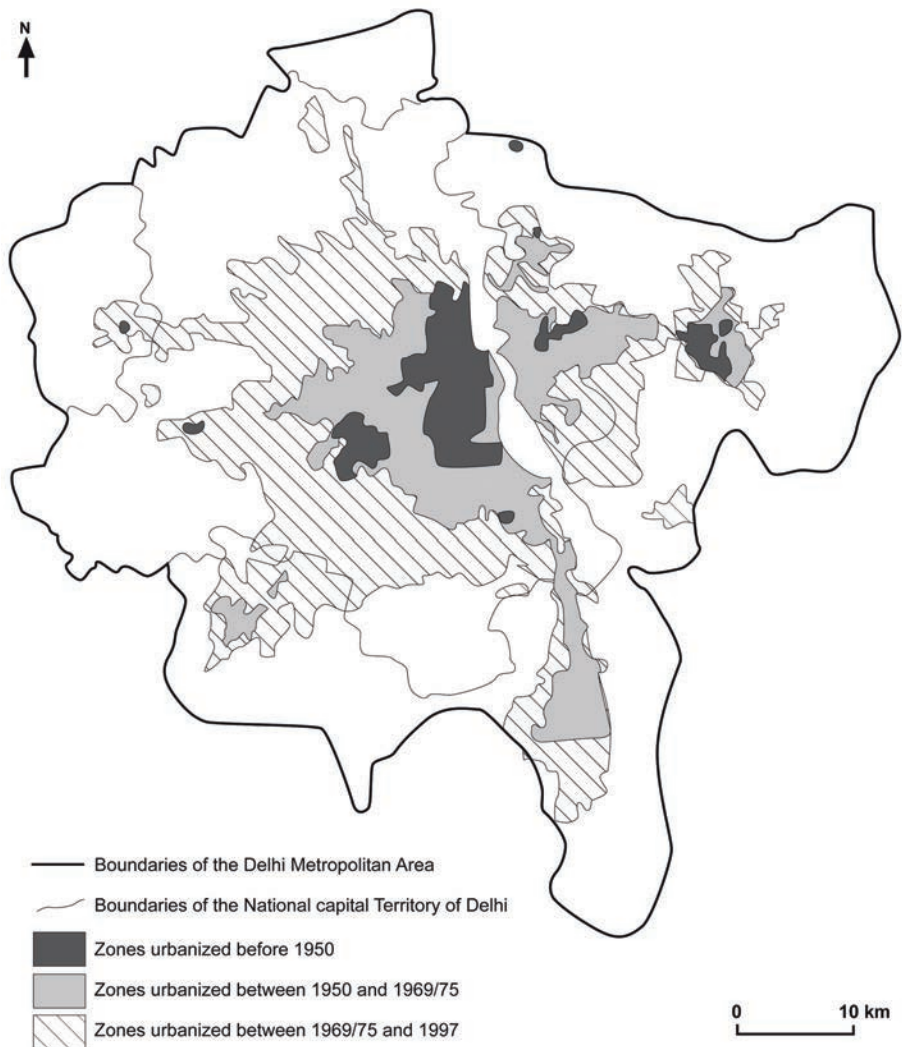


Fig. 77: Settlement Development in the Delhi Metropolitan Region from 1950 to 1997  
 Source: Dupont et al. 2000: 229

politicians and their federal counterparts, but also the industrial private entrepreneurs – they are all failing in equal measure to shape the urban environment in a responsible fashion“ (ibid.: 140).

In the 1980s it was realised that the Master Plan from 1962, with its small-scale neighbourhood approach, would not be able to meet the new challenges of urban and transport development in a megacity. With its goal of „decentralised

### 3.3 High-Speed Urbanism in Asia

concentration“, the new master plan was designed to relieve the pressure on the core city. By promoting eleven of the major cities within 350 kilometres of Delhi the plan was to encourage people to stay, who – so it was assumed – would otherwise migrate to Delhi (cf. DDA, no year of publication). But this strategy is also threatened with failure due to the lack of political willingness to cooperate and to the lack of financial support.

Today, the urban agglomeration of Delhi is spread over a radius of 100 kilometres, in which more than 50 million people live. The few settlements on the outskirts that were planned in the 1960s and 1970s have now been swallowed up by the growing hodgepodge of settlements (cf. Mistelbacher 2005; Mann 2006b). On the one hand, this has led to the emergence of an urban structure that makes additional mobility a necessity; on the other hand, a rising average income has made the purchase of motorised private vehicles increasingly affordable (see Table 5). As is generally the case in Indian cities, there is a diverse mix of vehicles, the overwhelming majority of which are small, low-cost mopeds, motorcycles and three-wheel scooters. They account for three quarters of all motorised vehicles. While the population in the city centre of Delhi has more than tripled in the last thirty years, now standing at about 17 million, during the same period the number of motorised private vehicles has increased more than twenty-fold. This means there are now 643 private vehicles per 1,000 inhabitants (Economic Survey of Delhi 2020). With its gener-

Year	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Name of the Vehicle</b>								
Cars and Jeeps	2483886	2625250	2790566	2986579	3152710	3246637	3249670	3311579
Motor Cycles and Scooters	4980227	5296163	5681265	6104070	6607879	7078428	7556002	7959753
Auto Rickshaws	76603	78750	81633	198137	105399	113074	113240	114891
Taxis	71112	74758	79606	91073	118308	118060	109780	122476
Buses	19942	19641	19729	34365	35206	35285	32218	33302
Other Passenger Vehicles	11380	11289	11284	6368	59759	76231	81422	85477
Ambulances	1459	1519	1527	2990	3059	3220	2358	2287
Tractors, All goods Vehicles & Other	142499	150904	161821	281159	300437	315080	246861	263112
<b>Total</b>	<b>7787108</b>	<b>8258274</b>	<b>8827431</b>	<b>9704741</b>	<b>10382757</b>	<b>10986015</b>	<b>11391551</b>	<b>11892877</b>

Table 5: Registered Motor Vehicles in Delhi

Source: Delhi Statistical Hand Book 2020

ous boulevards, built at the time for prestige purposes, Delhi is considered to be India's most car-friendly city. The proportion of road surface in New Delhi stands at 21 per cent of the overall surface area of the city and is higher than in all other Indian cities, which is why the city also has the lowest number of vehicles per kilometre of road. Nevertheless, the traffic conditions are more chaotic than in almost any other Indian city. The main reason for this is that there are no generally accepted, binding rules for behaviour in traffic. The road space is shared by all city dwellers – whether humans or animals, motorised or non-motorised – and used on an equal basis. On the mostly well-maintained streets that were designed for cars, one finds trucks, cars and buses in the midst

of an immense throng of two- and three-wheel motor vehicles, rickshaws, hand and ox carts, camels, elephants and stray cows, all moving at the same average speed of 10 to 15 km/h (cf. Tiwari 1998).

The substandard individual behaviour of Indian road users expresses a fundamental dilemma, namely that social development cannot keep up with the rapid economic and technological progress – similar to the situation in China.

In comparison with the growing importance of motorised private transport, public transport – which consists almost exclusively of buses – amounts to only one percent of all vehicles. Nevertheless, in 1990 public transport still carried the bulk of the traffic, with 57 percent of the total person-kilometres travelled; 43 percent went to private transport. Today, the ratio is almost reversed: about 52 percent of the transport services are provided by individual motorised transport. Should the authorities fail to take far-reaching measures to reverse the steadily diminishing importance of public transport, then a further increase in motorised private transport can be expected, with the associated negative effects on humans and the environment. Even now, more than 70 percent of air pollution is caused by urban transport (cf. Shrivastava et al. 2013), and with an annual average of 360 micrograms per cubic metre, the total level of pollution in Delhi is more than four times as high as the limit of 90  $\mu\text{g}/\text{m}^3$  specified by the World Health Organization (cf. HEI 2004).

The largely unregulated development in Delhi exemplifies the deficits of political control throughout the entire country:

„The principal transportation problem, according to a wide range of local experts, planners, policymakers, and environmental advocates, is that the transportation system in Dehli has too many organizations making disjointed decisions with little coordination and accountability“ (Bose/Sperling 2002: 3).

Although planning and policy are thus trailing behind the rapid development rather than directing it, the increasing pressure to find solutions to the problems has now led to a number of joint initiatives designed to counter the negative effects of uncontrolled urban and transport development. Thus, Delhi's city government has created the Special Purpose Vehicle (SPV), an administrative body with a budget of 200 million euros, whose task it is to establish the so-called Delhi Integrated Multi-Modal Transit System (DIMMTS) (cf. The Hindu, 10.03.2006). In doing so, the government is building on a concept dating from 2002, which envisaged the creation of an Integrated Metropolitan Transport Authority (IMTA) and a Delhi Transport Planning Group (DTPG), whose task in turn was to establish a transport system based on close cooperation, with a uniform tariff system, so as to facilitate a smooth transition between the various modes of transport, namely surface rail, bus and under-

ground trains (cf. GNCTD 2002). The concept was never implemented, but in more recent declarations the envisaged administrative bodies are still considered an important precondition for the establishment of an integrated transport system.

The Government of the National Capital Territory of Delhi (GNCTD 2005: 5) has adopted the following vision for the development of transport systems in Delhi:

- An urban transport infrastructure that encompasses a well programmed and integrated system for pedestrians, cyclists and public transport.
- A financial and institutional framework that leverages public/private funds and enables implementation as well as sustained operation of the envisioned urban transport infrastructure.
- Introduction of low-floor buses and phase-wise construction of exclusive busways.

The core concept is the heavy promotion of public transport, and the city is fortunate to be among one of only four cities in India that have a railway network in the suburbs (in addition to Delhi, these are Mumbai, Kolkata and Chennai). Accounting for 5.5 million journeys, this rail network is instrumental in coping with daily commuters. The main focus, of course, is on the optimisation of bus transport, which is by far the dominant form of public transport. Accordingly, a comprehensive, efficient, rapid transit bus system is to be constructed, covering 300 km (cf. GNCTD 2005). As a first step, fifteen corridors of 100 km in length were identified where a Bus Rapid Transit (BRT) network, also known as High Capacity Bus (HCB), is to be constructed, similar to the project trialled in the Brazilian city of Curitiba (cf. Fig. 78). However, in 43 corridors with a total length of 575 km, a traffic volume was measured that, at peak hours, exceeds 5,000 passengers in each direction. So far, the BRT in Delhi is only 6 km in length and suffers from serious coordination problems, which make the system unattractive for users (cf. UNEP 2013: 33ff.) Since buses cannot cope with this volume, in future trams are to be used on these key routes, where possible. In addition, the underground rail system that was opened in 2002 and which already eases the burden to a certain extent, is to be expanded in the coming years from the present 180 km to 250 km. However, observers believe that even a massive furthering of public transport, in combination with energy efficiency measures (gas-powered vehicles, etc.), will on its own have no significant effects on energy consumption and air pollution (cf. Das/Parikh 2004; Wright/Fulton 2005). And economic growth – which is hoped for and feared to the same degree, and pursued as a necessary pre-condition for the financing of sustainable transport services – is being increasingly problematised because of its negative effects on humans and the environment, the fear being that it will



*Fig. 78: The Rudimentary Bus Rapid Transit in Delhi*  
*Source: ITDP 2013*

simply eat up the gains made in sustainability. The Indian government has also recognised that a paradigm shift is necessary and that this can only be done with a holistic, integrated transport policy, involving the other sub-sections of society. Other disciplines, too, such as city and land-use planning, financial and economic policy, as well as social and environmental policies must be included in transport policy deliberations, in order to encourage the potential for innovation.

„This is a big challenge for the coming millennium. It is necessary to formulate an integrated transport policy to ensure adequate, efficient and high quality of transport infrastructure and services with a view to achieving maximum efficiency at minimum cost, to the end that mobility of goods and people may be assured. While formulating such a policy, it is important to visualise the transport system as an integrated structure of different modes and services functioning as distinct entities in a level playing field, with the element of inter-modal and intra-modal competition ensuring organisational efficiency and individual viability. This will require reorientation in our transport policy. The emphasis will have to shift from merely providing transport infrastructure and services to technological upgradation [sic] and modernisation of the same in order to ensure mobility and not only accessibility“ (PCI 1999).

India's capital is a clear example of the challenges faced by the cities of the subcontinent. In many respects, they are reminiscent of the situation of European cities in the second half of the 19<sup>th</sup> century. Then, as now, catastrophic living conditions are producing significant pressures that can no longer be resolved by the familiar mechanisms and procedures (cf. Ruet 2005). This applies to the unsustainable settlement and transport development in Delhi as well as to the desolate living conditions for ever larger segments of the population in the increasingly large slums. Both ultimately have an adverse effect on economic development. The future development of megacities will therefore largely depend on whether the political leaders (like their counterparts in European cities who in a similar situation all created new city infrastructures within a very short time) manage to learn the lessons to be drawn from ecological disasters, social conflicts and economic prosperity (cf. Jessen 1997).

Perhaps out of necessity the megacities will show the Western world how to go about implementing the integrated transport policy that it has so far only programmatically advocated and, at best, halfheartedly implemented.

#### **3.3.2.2 Maximum City – Bombay/Mumbai**

The „good bay“ (Bombaim or Bom Bahia), as the Portuguese named the island group in the 16<sup>th</sup> century, is also strongly marked by colonial influence. The excellent natural conditions for the establishment of a port played the decisive role. The British ruled the city from the 17<sup>th</sup> century on and leased it in 1665 to the East Indian Company, which then moved its headquarters from Gujarat to Bombay. From that point on, Bombay developed into a metropolis of international trade and is still distinguished today by an unusual openness to diverse cultural influences, with a pronounced cosmopolitanism.

The starting point of the city's development was the fort complex, built by the Portuguese and expanded by the British. This settlement, set off from the mainland and supplied by sea, became the Old City and still serves as the Central Business District (CBD). An extension of the district in the direction of the mainland was for a long time not possible since these onshore areas were dominated by the powerful Marathas tribe. Therefore, the seven islands of the lagoon were first built over, to the point where they were consolidated into a unified urban structure. Thus, more than half of the present settlement area was claimed from the sea.

It wasn't until the beginning of the 19<sup>th</sup> century that the British had established their power to the point where they were able to break the rule of the Marathas, which made it possible to expand Bombay to the mainland. The construction of the first road to the hinterland in 1830 and the first railway line in 1854

marked the beginning of a rapid economic development of Bombay, which by the early 20<sup>th</sup> century had developed into the most important industrial centre in India.

„If one recognises the crucial importance of the 19<sup>th</sup> century for the formation of the metropolis Bombay, it is nevertheless clear that the decisive impulses for the city's development always came from the outside, precisely due to its colonial dependence. The British world domination as the leading land and sea power was primarily based on the navy and merchant marine, followed by the construction of railways. The port cities built by the British formed the junctions between these two networks on land and at sea – while centres of Indian culture and politics that were thousands of years old diminished in importance. [...] Starting from the port cities, the construction of the extensive rail network facilitated the penetration into the interior and the societal transformation, such as the destruction of the highly-developed cottage industries and the expansion of global trade flows. After thousands of years of predominantly inward orientation, India was thus forced into a colonial-induced outward orientation, which also resulted in a complete change in the hierarchy of the cities“ (Nissel 2006: 23f.).

Bombay then evolved into the second largest metropolis in the British Empire after London and proudly called itself „*urbs prima in Indis*“ (cf. Fig. 79).<sup>31</sup> The industrialisation of Bombay, dominated by the textile industry, proceeded in a similar fashion to that of Manchester or Liverpool. While an increasing number of production sites were established outside the city and attracted masses of workers, the desolate housing conditions worsened in the old town “Fort Area“ as well as in the adjacent „New Town“, both of which were experiencing rampant growth. But it was not until plague broke out in 1896-97 that the city administration stirred into action, setting up the famous Improvement Trust, modelled on Glasgow.

„Endowed with considerable powers, this body was in a position to significantly alter the physiognomy of the city, particularly in the nineteen-twenties. They initiated the demolition of entire rundown neighbourhoods, had the streets widened in densely built-up areas, and had middle-class settlements laid out and built north of the industrial belt (Matunga, Dagar, Sion), following the design principles of the *garden city*. These residential areas remain in demand today“ (Nissel 2006: 25f.).

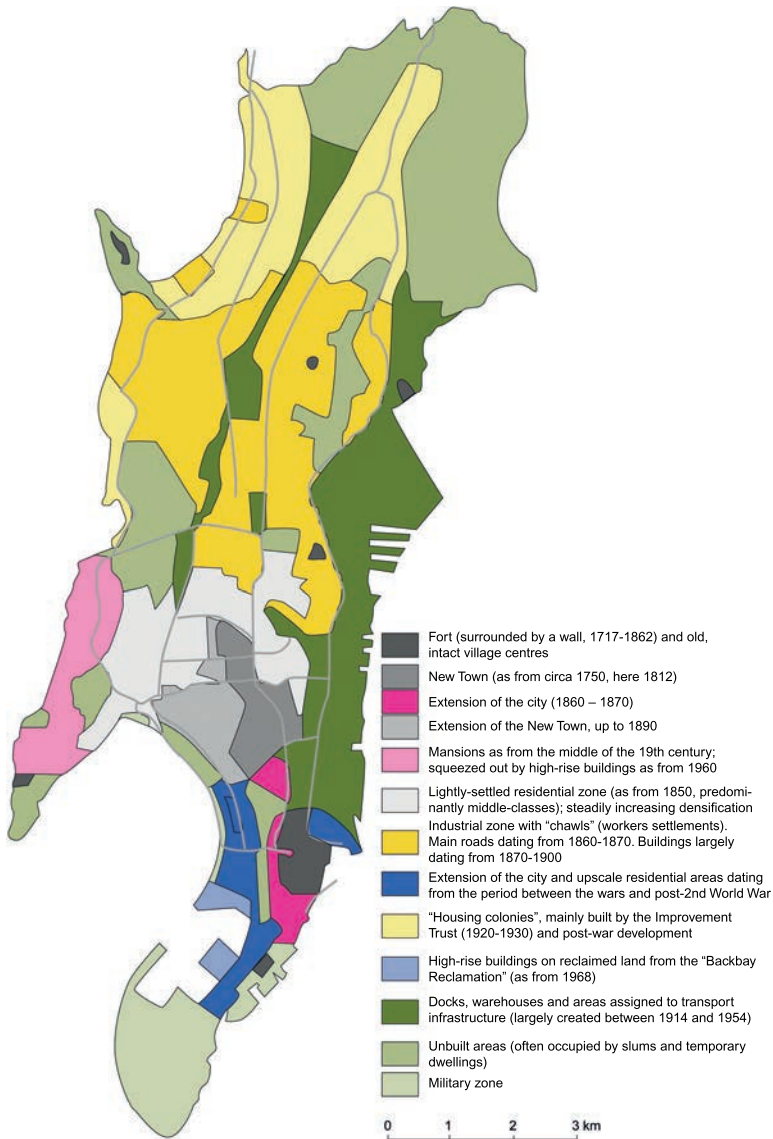
The urban development of Bombay from 1945 up to the present day has been based on the foundations laid down at that time, with no qualitatively comparable building programs having been carried out since. Instead, due to the rising price of land, urban development in Bombay has been characterised by a vertical compression and simultaneously a horizontal differentiation. Accordingly, high-rise buildings with luxury apartments are being built for the urban elite, with their own infrastructure and hermetically cut off from the outside world,

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<sup>31</sup> Today, on the website of the city administration, Mumbai is referred to as the „*urbs prima in orbis*“, confidently announcing the city's future global ambitions.



### 3.3 High-Speed Urbanism in Asia



*Fig. 79: Settlement Development on the Island of Bombay*

*Source: Nissel 1999: 378*

while tenements are built for the poor population. In turn, the buildings in the old town centre are largely in a state of decay, which is producing a social segregation of these areas. Slums are springing up across the entire city, because the city administration has long had no idea how to deal with the population growth caused by immigration and the birth surplus. While in the 1960s only



ten percent of the population lived in slums, it is now about 60 percent – and added to this are the 700,000 homeless people, who do not even have a place in the slums (cf. Mukhija 2016).

The process of vertical compression and horizontal differentiation of recent decades replaced the previously dominant large-scale segregation in favour of a small-scale settlement structure within which the social divisions are reflected in a mosaic-like pattern (cf. Patel/Masselos 2003). Individual high-rise palaces often stand as solitary structures in the middle of a slum. They are the expression of an enormous social polarisation which has set in as a result of the New Economic Policy (NEP) introduced in 1991 (cf. Nissel 2004). At that time, the entire social system was converted practically overnight from a planned economy to the model of a „free“ market economy. In this manner, Bombay was re-inserted into the world market and established itself as a *globalizing city*. The dynamics of development associated with this change is reflected not only in the deepening social cleavages, but also manifests itself in an ever-expanding settlement development.

As from the 1960s, policymakers responded to the increasing suburbanisation with various development concepts. These were initially limited to the designation of building land, which involved only non-binding recommendations, however, which the local political authorities were not obliged to follow. This strategy of decentralised concentration, which was pursued for decades, involved the creation of centres of development in the surrounding hinterland, which were meant to relieve the pressure on the island of Mumbai. But because the guidelines were not binding, this policy has so far been implemented in a rudimentary fashion at best. It was not until the 1990s, when the problems associated with suburbanisation had become so extreme and the momentum of development had accelerated so greatly, that the necessity for more comprehensive political planning efforts became evident.

This realisation was expressed first of all in the gradual expansion of the administrative territory (today covering approximately 4,500 square kilometres), after the designation of the Bombay Urban Agglomeration (BMR) as a unitary administrative area in 1991. The last census (2011) recorded a population of over 18 million people, of whom just over three million live on the island of Bombay, renamed Mumbai (Mumba Ai – „great mother“) in 1995 by the nationalist Hindu party Shiv Sena, the reference to a national protective goddess being intended to eradicate the colonial influence (cf. Eckert 2006b). Mumbai is therefore rightly regarded today as a „maximum city“ (Mehta 2006), being by far the largest city in India. If population growth continues at this pace Mumbai could eventually even replace the region of Tokyo-Yokohama as

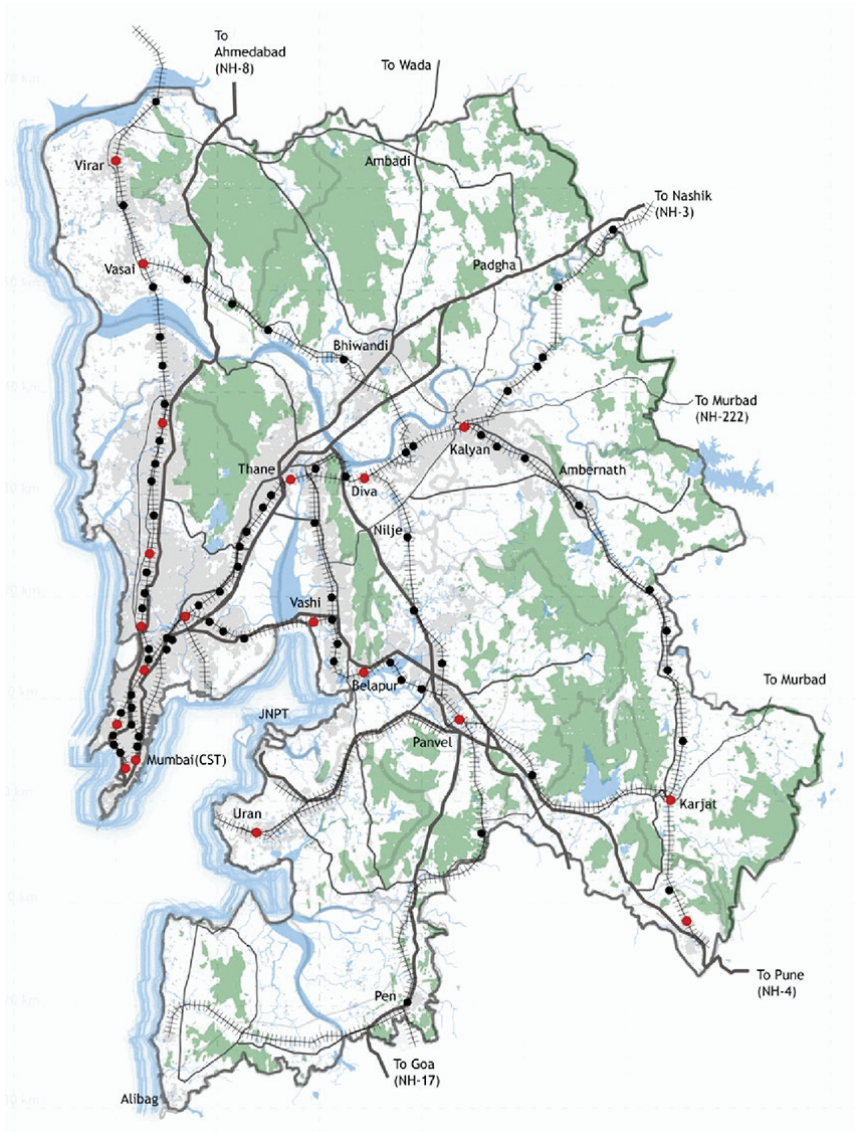
the largest urban agglomeration on Earth between 2025 and 2035 (see Chapter 3.1.3).

Against this background, the Mumbai Metropolitan Region Development Authority (MMRDA), equipped with extensive planning powers, created the regional plan for the metropolitan region of Mumbai for the period 1996 to 2011 (cf. MMRDA 1996), with priority assigned to dealing with the negative effects of decades of unregulated urban and economic growth. The structural transformation from an industrial to a service economy is seen as a particular challenge in this process. This necessary change is said to be blocked primarily by the sprawling settlement structures that are a legacy of the past. According to this view, an orderly development of the city is mainly being hampered by the poor of Mumbai with their illegal, informal settlement activities (cf. Mukhija 2016).<sup>32</sup>

In addition to this, Mumbai has a completely outdated transport infrastructure that is in no way able to meet the massive increase in demand (cf. Fig. 80). A further impediment is the old town centre, spatially highly constrained by its insular nature, which still dominates the entire region and attracts most of the activity. As a result, especially in the morning rush hour, there are enormous frictions in the traffic flow. In general, the traffic in the central business district (CBD) reaches an average speed of only 15 km/h. This also affects the buses, which, with four and a half million passengers a day, are the most important mode of transport, along with the railways. But even the trains are not able to move much faster in the rush hours, because they are also completely overloaded – trains that, including standing room, are designed for 1,750 people at the most, find themselves carrying 4,500 passengers. This is the reason for the everyday scenes in India, where one sees masses of people sitting on the roofs of trains that are slowly meandering along.

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<sup>32</sup> Since I cannot enter into a detailed discussion of the living conditions here, I refer to the contributions in Patel/Masselos (2003), which are exclusively devoted to analysing the changing living conditions of the poor in the course of the processes of urban transformation.



*Fig. 80: Road and Rail Network in the Mumbai Metropolitan Area*  
 Source: MMRDA 2015

But as dismal as the public transport situation may be, most Indians are dependent on it. In the Mumbai Metropolitan Region (MMR) it accounts for around 88 percent of the total traffic volume. However, the increasing average income of a growing middle class also means more motorised private transport, although this mainly consists of three-wheeled scooters or motorcycles. From

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1981 to 2001 the number of private vehicles grew from 252,445 to 1 million, an almost fourfold increase, and according to the most recent survey from 2011 the number of registered vehicles had reached 2 million altogether. According to this survey, there were 35 cars and 62 motorcycles per 1000 inhabitants. This is still a relatively low number in comparison to Western industrialised countries, where the figure stands at 400-800 vehicles per 1,000 inhabitants, but the existing road infrastructure in Mumbai still could not cope with the anticipated volume. At the same time, public transport has become less important (cf. MRTTH 2012).

In contrast, the Regional Plan for metropolitan Mumbai, where the planning horizon ranges from 1996 to 2011, emphasizes the particular importance of public transport:

„Public transport is the only solution to provide adequate accessibility for a region where a large number of households will not own a car in the foreseeable future. The suburban rail network can provide the core of the transportation system for the enlarged conurbation by using the linear urban form to advantage. The economic analysis shows that the aggregate economic return is the highest for a strategy with substantial investment in the metropolitan railway system and a modest investment in the road system; this strategy is also beneficial from an environmental standpoint“ (MMRDA 1996: 288).

Accordingly, it is also recommended that the railway be expanded and made the backbone of a transport infrastructure covering the entire metropolitan region (cf. Fig. 81).



Fig. 81: The Railway System in the Mumbai Metropolitan Area  
Source: Maps of India 2012

It is further envisaged in the regional plan to develop bus services as a complementary transport system, with particular attention paid to the demand from the growing middle class. The aim is to discourage this income group from opting for a private vehicle by making public transport more attractive. This aim is to be achieved firstly through increased comfort, for instance by provid-

ing air-conditioned buses, which, by stopping at fewer bus stops, will be able to travel at a higher overall speed. Beyond this, however, it would be necessary to consider a new design for the bus system, with a finer, more differentiated spatial division of the region and in this way meet the increasingly individualised mobility needs of ever larger parts of the population.

It is also planned to shore up the strategic orientation in favour of public transport by means of regulatory and fiscal measures that make the use of private vehicles more difficult. In addition, the regional plan advocates fees for parking throughout the metropolitan area, as well as the introduction of toll zones (ibid.: 292f.). In light of the general increase in traffic volume due to population growth and the rising average income, expanding the road network is not considered to be a realistic prospect. Here Mumbai's extremely dense urban structure constitutes a traffic obstacle that cannot be circumvented.

However, even though Mumbai's urban and transport policy expressly assigns priority to public transport and places it at the centre of a sustainable development strategy, the actual programs are marked by deep contradictions.

„For example, while programmes are being undertaken for developing and improving the mass transit system at governmental level in the public sector, the ‚liberalization‘ lobby of the same governments promotes road-based, privatised vehicular transport projects in complete disregard of the environmental effects. The powerful road lobby of Mumbai, a feeder group of the national lobby, enjoying considerable State support under the New Economic Policy, has been instrumental in pushing forward mega-projects that aggravate environmental degradation of the city and cause deterioration of the health of its residents“ (Banerjee-Guha 2003: 174).

Due to the rapid increase in the number of private vehicles, the road transport policy has become much more important. In addition, the change from the former socialist planned economy to the New Economic Policy (NEP) in the early 1990s has also contributed to a reorientation in transport policy. Since then, public transport, which has traditionally received special support, is being pushed into the background to the benefit of the private transport (cf. D'Monte 2001: 3). The latest transport concept for Mumbai's metropolitan area, drawn up by the American consulting firm Wilbur Smith, is based on three central pillars: a four kilometre long highway bridge over a strait to the mainland, several dozen road bridges and an extensive highway network. Accordingly, the current „road map“ for the future development of Mumbai, the Mumbai City Development Plan 2005-2025, envisages a thoroughgoing restructuring of the entire urban landscape. The slum areas would have to make way for the space-devouring road infrastructure projects, with the demolition being carried out in abrupt cloak-and-dagger operations: „About 90,000 hutments have been

demolished since December 2004 and NGOs estimate at least 400,000 people are now homeless“ (Nandgaonkar 2005).

Beyond this, the recently adopted urban restructuring plan, which is based on the McKinsey study *Vision Mumbai. Transforming Mumbai into a World-Class City*, envisages the gradual demolition of the entire stock of old buildings over a period of several decades and replacing them with new structures. „What this means is that entire city blocks will have to be demolished and rebuilt with modern infrastructure: earthquake resistant buildings, wide roads, correct infrastructure and open areas for gardens“ (MCDP 2005).

These proposals are reminiscent of the equally radical urban development and transport policies in the industrialised nations of the 1960s/1970s. Back then it was also about remodelling the cities to make them more traffic-friendly and demolishing older buildings on a large scale to make way for modern housing. These measures were soon stopped, however, due to massive protests from the affected population. It had become manifest that a development strategy solely based on the principles of modern urban planning, and which is especially concerned with ensuring a smooth flow of traffic, does not automatically correspond to the needs of city dwellers (cf. Schmucki 2001).<sup>33</sup>

Against the background of these experiences, critics warn against a strategy that is based primarily on criteria of economic efficiency, since these are not compatible with sustainable urban and transport development (cf. Low et al. 2000). Developing countries such as India have an opportunity not to repeat the mistakes of the industrialised nations and from the outset take into consideration the social and environmental dimensions of urban and transport development (cf. Kumar Maitra/Krishan 2000). As a counter-model, urban and transport researchers have designed a comprehensive planning strategy in which urban and transport development are conceived in more reciprocal terms than has usually been the case, and in which economic, social and environmental factors are assigned equal weight (cf. Patankar 2000). According to this strategy, on the one hand it is right to make public transport compete with private providers (cf. Sriraman 1997); on the other hand, if one wants to avoid negative social and environmental effects, public transport cannot be managed solely on the basis of economic principles (cf. Mohan 2005). For, as in most other Indian cities, the majority of the population in Mumbai is reliant on a subsidised

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<sup>33</sup> Similar conflicts with the population were sparked by the government's recent plans to demolish Dharavi, Asia's largest slum, with its approximately 600,000 inhabitants, in order to replace it with new housing. Although every family was initially promised a new apartment by the government, the population remains skeptical due to negative experiences in the past (cf. Chattaraj 2016).

transport service. The absence of an affordable and – in relative terms – environmentally friendly transport service would only lead to a rapid increase in the demand for small, inefficient private vehicles, which would be harmful for the environment.

Critics therefore argue for an integrated approach to policy and suggest – to take one example – that the public authorities set up a „transport development bank“, into which the different user groups – thus, those who use the transport services or make use of the transport infrastructure – pay the corresponding contributions into the bank (cf. Banerjee-Guha 2003: 181f.). This would make it possible to direct funding to the desired settlement and transport developments on the one hand, and to place appropriate financial burdens on undesirable developments on the other. The prerequisite for such a coherent strategy is, of course, a broad political commitment to a sustainable development strategy, able to prevail over resistance even from powerful social interest groups.

#### **3.3.2.3 The Global Metropolis – Bangalore/Bengaluru**

With its more than six million inhabitants, the metropolitan region of Bangalore is the capital of the southern Indian state of Karnataka. It is home to around one third of the total urban population of the state. Like Delhi and Mumbai, the spatial development of Bangalore is marked by the dualism of colonial and indigenous structures (cf. Strobel 1997: 88). This is expressed in a striking manner by the juxtaposition of numerous parks and temples. While the parks were built by the British as part of the „Garden City“ designed in the early 20<sup>th</sup> century, the temples represent the centuries-old cultural heritage of India (cf. Srinivas 2001). Bangalore is considered on the one hand as the most cosmopolitan city in India; on the other hand, the dualism between tradition and modernity repeatedly makes itself felt in everyday life. This is apparent, for instance, from the fact that, despite fierce protests, Bangalore was the venue of the „Miss World“ contest in 1996, which would have been unthinkable in any other Indian city. That same year, however, the Government of Karnataka also decided to change the name of the city from the English „Bangalore“ to „Bengaluru“, its name in the local regional language *Kannada*. This change came into effect on November 1, 2006. The ever-increasing influence of Western modernity has thus been accompanied for some years by a fervent return to the city's own cultural roots. How this struggle between various social interest groups over definitional power will turn out is still by no means decided. But it will have a decisive influence on the future direction of development in the city.



By the end of the colonial era, the principality of Bangalore had developed into an „industrial model state“ and was ranked fourth in India in terms of economic power (cf. Mengers 1997). In 1941, the number of inhabitants stood at 420,000, having doubled within the space of three decades. In 1956, in the wake of the federal reorganisation of India, the city replaced Mysore as the capital of the state of Karnataka, which prompted further rapid population growth. As early as 1961 the million mark was exceeded, and by 1975 the population had doubled once again to over two million people. With more than 8 million inhabitants, Bangalore is now India's third largest city. Thanks to the early decision of the Indian government to establish key state research facilities in Bangalore, the city quickly became a centre of high technology and since then has been considered as „India's city of the future“ (Nehru). Another burst of development was triggered in the mid-1980s when Texas Instruments decided to set up a software company in Bangalore. Slowly but surely other international computer companies followed suit. Whereas in the early 1990s there were just a dozen companies based there, it now has roughly 1,500 companies and 150,000 employees in IT, and is therefore known as the Indian „Silicon Valley“ (cf. Heitzman 2004). In addition, Bengaluru has the best communications facilities and the best connection to the national and international transport network.<sup>34</sup>

„The city thus serves as an initiator and receiver of regional, national and global influences. For opinion leaders from politics, business, culture and media, the city forms the vital hub for innovation and diffusion, for modernisation and changes of all kinds, which then radiate outwards, reaching not just the residents of the city itself, but also the entire state and to some extent beyond it“ (Dittrich 2004: 243).

The growth of the metropolis involved the explosion of the periphery and simultaneous implosion of the centre (cf. Balakrishnan 2016). On the one hand, starting from the centre, extensive settlements were established in all directions, but particularly concentrated along the main arterial roads to Mumbai, Hyderabad, Chennai, Hosur and Mysore. This compact, largely unbroken settlement area now covers some 400 square kilometres (cf. Dittrich 2004: 272). On the other hand, there was a decrease in the population in the inner city, in relative as well as absolute terms. The gentrification that resulted from international corporations setting up their headquarters in the Central Business District (CBD) led to large segments of the original population being displaced. Whereas in the 1950s 26 percent of the population lived in the city centre, by 1981 it was only 13 percent. Today less than ten percent still live in the city

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<sup>34</sup> Until 2008, the city had the only international airport in the state of Karnataka. Due to an impossible level of congestion, it was replaced by the new Bangalore International Airport.

### 3.3 High-Speed Urbanism in Asia

centre (cf. Fig. 82). The proportion of those who live in the periphery increased over the same period from 15 to around 50 percent (cf. Nair 2005).

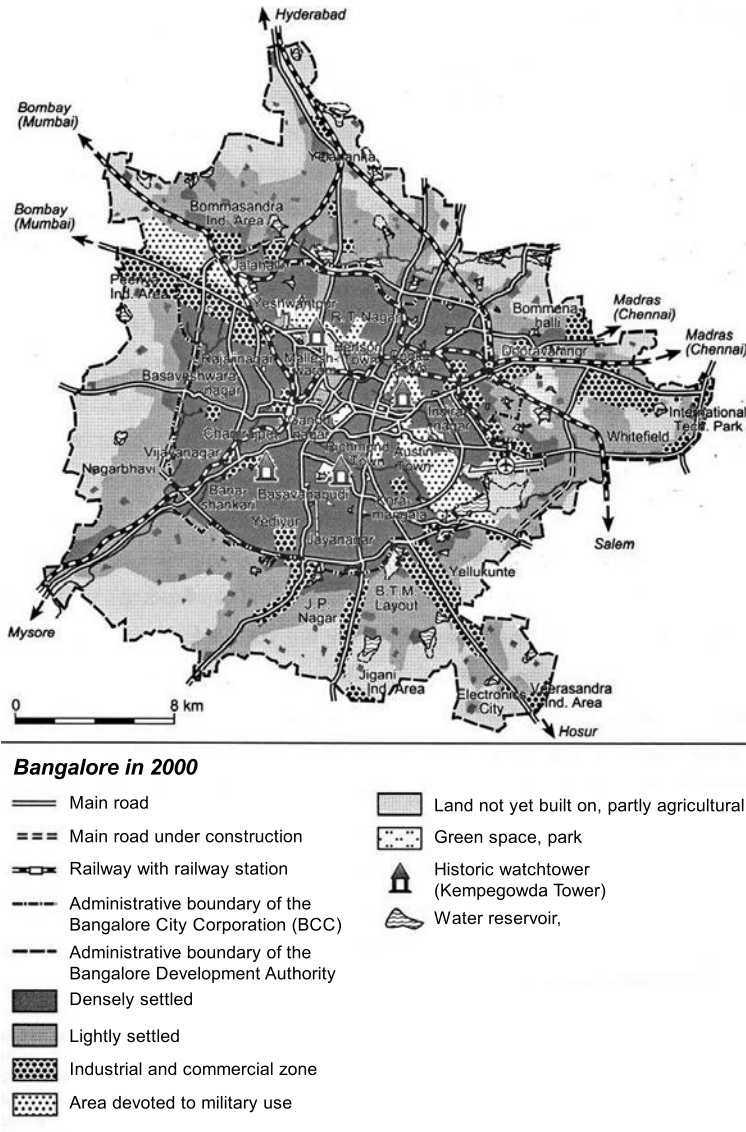
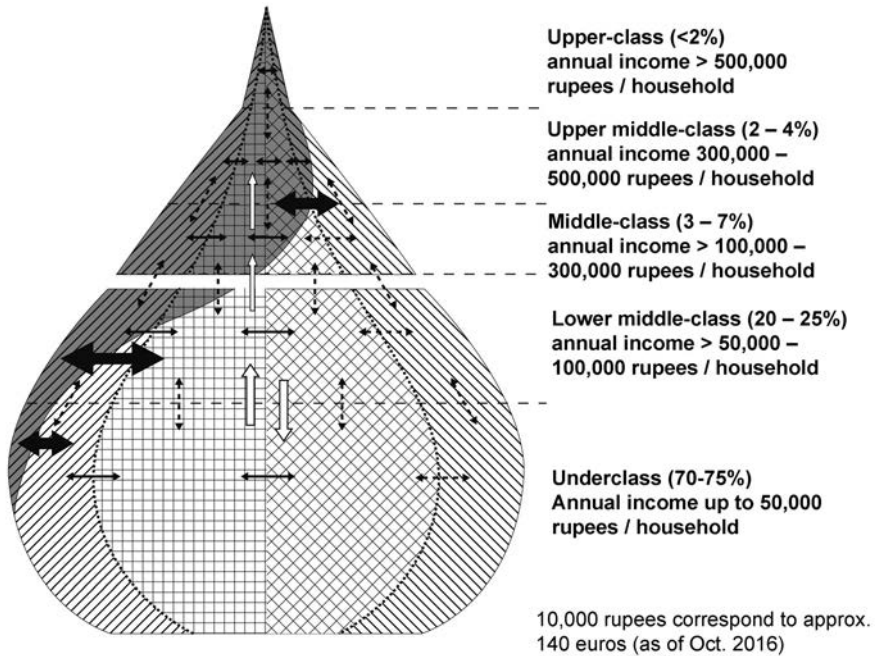


Fig. 82: Bangalore in 2000  
Source: Dittrich 2004: 275

Due to its economic importance, the average per capita income of the population of Bangalore is particularly high; nevertheless, three-quarters of the total

population belong to the economic underclass, while a third even lives below the official poverty line (cf. Census of India 2011) (cf. Fig. 83).



#### Model of Socio-Economic Differentiation in Bangalore as Influenced by Globalisation

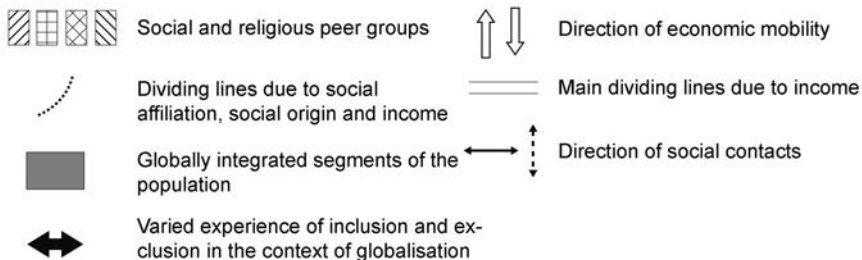


Fig. 83: Model of Socio-Economic Differentiation in Bangalore as Influenced by Globalisation  
Source: Dittrich 2004: 311

Since the early 1990s, in the wake of liberalisation, government services have been scaled back, with the result that all infrastructure sectors, including the

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water and electricity supply, waste disposal, transport infrastructure and housing, are now completely outdated and underdeveloped. Moreover, in recent years, because the construction of public rental housing has been largely brought to a halt and affordable housing has thus become scarce due to the rapid population growth, more and more members of the middle class are being pushed out of the formal into the informal housing market, along with the lower income groups (cf. Balakrishnan 2016). Thus, it is estimated that 20 to 25 percent of the population live in marginal settlements, spread in patchwork-fashion over the entire metropolitan area.

„The spatial and structural fragmentation of Bangalore is an expression of the intensified socio-economic inequality. An ever-widening gap between the rich and the poor is exacerbating the structurally inherent disparities in Indian society. While salaries have risen sharply in the modern services sector in recent years [...], wages in other formal sectors of the economy have increased only slightly. [...] In contrast, in the unsecured informal economic sectors wages have been stagnating for several years, which can be attributed to a surplus demand for jobs in the sector, exceeding its capacity to provide them. In addition, most informal occupations are subject to strong seasonal variations and are thus paid on a daily rather than monthly basis“ (Dittrich 2004: 303).

80 percent of the city's workers are now affected by these precarious conditions in the informal sector (cf. Chen/Raveendran 2014: 6). These masses of people are increasingly turning into a foreign body in the mechanism of the city-machine – their presence alone obstructs its functioning in a scarcely tolerable fashion. In conjunction with the utterly neglected urban infrastructure, a life based on a certain reliability of expectations is possible only for the elite segment of the population, which is in a position to detach itself from the remainder of the body of the city, living in private enclaves with their own networks of supply.

The vast majority of the population, on the other hand, is facing increasingly chaotic conditions. This includes a dismal water supply and sanitation system, which constantly causes the epidemic spread of pathogens. Power outages are commonplace and the waste disposal is completely inadequate. Lastly, the freedom of movement of the increasingly mobile masses is effectively hindered by the ramshackle transport infrastructure. An average speed during peak hours of 7 km/h is the rule. Another result of the disastrous traffic situation is the second highest level of air pollution of all Indian cities, after Delhi. „The level of pollution encountered on the roads was incredible at times, causing or exacerbating respiratory illnesses and tormenting many (including this author) with regular eye and lung irritation“ (ibid.: 85). Many residents of the city try to protect themselves against it by using dust masks.

Bengaluru's wide-ranging dysfunctionality has in recent years led more and more businesses to abandon the city as a base and either move to another Indian city or to China, where the infrastructural conditions are generally better than in India (cf. Balakrishnan 2016). The city government and private actors each react in very different ways to the shortcomings. With the *Bangaluru Agenda Task Force* (BATF), the city government is trying to introduce order into urban and transport development (cf. Reitz 2002). The practical implementation of this plan, however, has so far proved to be largely uncoordinated and inefficient (cf. Heitzman 2004). The explanation lies in administrative structures that are plagued by patronage, corruption and caste rivalries, as well as the city's huge informal sector, which defies all efforts to influence it. While the elites in government and administration still show little interest in improving the living conditions of disadvantaged groups, the latter are organising themselves. Thus, the districts controlled by the so-called slumlords, the marginal settlements that perforate, so to speak, the body of the city, essentially elude all political influence. The end result is that the formal and the informal sectors are largely cut off from each other.

Both the cause and effect of this structural discrepancy lie in the current development measures, which systematically neglect the disadvantaged social groups or even work directly against them. Thus, to date there has been no investment in the construction of rental housing, so as to be able to use the supply of affordable housing to influence the development of the city. Instead, the marginal settlements are simply unceremoniously demolished if they stand in the way of official plans. The situation is similar with transport policy, mainly centred on encouraging road construction, while public transport, which is particularly relevant for the vast majority of the population, has experienced negligible expansion.

„The overwhelming emphasis during the last decade, and of the BATF itself, is the city as a space of flows, of uninterrupted traffic and information channels, of continuous power and water supply, and of an untroubled market in commercial and residential properties. A great deal of attention, as we have seen, has been on the city's infrastructure, and on the tedium of dealing with state agencies. Singapore, as an ideal of city development, has thus inspired the dream of large scale infrastructural projects, rather than the more innovative public housing schemes that mobilized public (provident) fund for construction on a heroic scale. There are no signs yet that a radical reorientation of the city's housing schemes, which have historically favoured independent sites, is being envisaged“ (Nair 2005: 336).

Thus, the city has so far not been able to remedy the structural deficiencies, the basis of which ultimately lies in the social polarisation.

Since no improvement is in sight for the dismal traffic and transport conditions or for conditions in the city generally, the better-off private players are pursuing a different strategy: they are endeavouring to detach themselves from the body of the old city, with its manifold problems. While the disadvantaged population is being pushed into marginalised neighbourhoods from a defensive position, the privileged classes are pursuing a voluntary form of exclusion. Either they entrench themselves in direct proximity to marginal settlements behind the walls of guarded residential fortresses, or they go one step further and make a complete spatial break with the old settlement structures by moving to new residential developments far outside the city limits. Similar trends are emerging with companies selecting locations for their businesses. Whereas most businesses were previously located in the vicinity of the large state enterprises on the outskirts of the city, the new business parks are being established in the peripheral area, far outside the city. There they are organising themselves – not unlike the marginalised population, only at a higher level:

„Infosys, for instance, one of the largest Indian IT companies, has already completed plans for the next expansion in Bangalore: instead of a simple office complex, a proprietary suburb is to be built on 340 hectares – including a school, a hospital, a shopping centre and an autonomous water supply. The company no longer needs the country, ‚forget the old, sprawling cities,‘ said Ravi Venkatesan, head of Microsoft India. We will simply build new ones“ (Schulz 2006: 80).

Counter to this obviously failed, one-sidedly market-driven urban development, in many countries people are increasingly returning to political initiatives that are designed to serve the common good of urban society as a whole, initiatives that the urban researcher David Gouverneur describes as „acupuncture“ (cf. Gouverneur 2015). These are targeted interventions in the framework of an overall strategy designed to reclaim public space. This counter-movement is reminiscent of the urban and transport development in Europe at the beginning of the 20<sup>th</sup> century, where officials worked towards political re-appropriation in response to the hitherto predominant „laissez-faire capitalism“.

#### 3.3.2.4 Summary

Since the early 1990s, India's government has practiced a liberal economic policy and opened itself to the world markets (cf. Müller 2006). As was the case ten years earlier in China, this has contributed to rapid economic growth, which is most clearly reflected in the increasing urbanisation of the country. Thus, the urban population has grown from 17 percent in 1951 to approximately 35 percent today and it is expected to rise further. In this process, the settlement development in cities as historically different as Delhi, Mumbai and Bangalore

is becoming increasingly similar. At the same time, a close socio-spatial correlation has developed between the processes of urbanisation and mobilisation (cf. Padam/Singh 2001). For city dwellers are travelling ever-greater distances and turning to private vehicles with ever-growing frequency. Their number has for years been growing twice as fast as the population, while public transport has accordingly recorded losses in absolute terms (cf. Pucher et al. 2004).

Similar to China, India's urban and transport development is proceeding in keeping with the ideal-typical pattern of European cities (cf. Deiters 1982; Nuhn/Hesse 2006: 183ff.). Beginning with a core town that can be traversed on foot, whose starting point in the case of many now important Indian cities was formed by the colonial fort complex, on to the expanding city of the tram, and moving on to the present city of the bus. Currently, with the massive emergence of private motorised transport, Indian cities are in the fourth phase of European urban and transport development. It now seems scarcely possible to stop the process. Accordingly, the discussions no longer revolve around the question of whether private motorisation will occur, since it has already taken place. Rather, discussions focus on its magnitude and above all on how to conceptualise an individualised and differentiated transport system, with a view to sustainable urban and transport development (cf. WCTRS/ITPS 2004; White 2006).

Although both India and China are confronted with comparable challenges, India differs to the extent that the local political system stands in the way of establishing a sustainable urban and transport development strategy (cf. Acolin et al. 2016). With its authoritarian constitution, China has been systematically devoting itself since the early 1990s to tackling the processes of urbanisation and mobilisation, with some success. While it is true that, so far, the political elite have privileged the paradigm of economic growth, in recent times aspects of sustainable development are increasingly being taken into account (cf. Zhao 2006). In comparison, India fails even in the provision of the basic infrastructure that is necessary for successful economic development (cf. World Bank 2005a). Its „democracy from above“ (Rothermund 2016) is in a much greater state of disarray than China's authoritarian regime. For a long time very similar in structure to China – centrally organised, with a central government that retained the sole authority to exercise power –, India has been following a different path since the introduction of the new economic policy in the early 1990s, a path characterised by liberalisation and decentralisation of the political system. This manifests itself today, however, above all in unclear relations of responsibility and competence, exacerbated by the failure to establish new political regulatory structures (cf. Drèze/Sen 2013).

China therefore continues to draw on the comfortable ignorance of an over-powerful state apparatus, with the help of which it is able to enforce the measures necessary for successful economic development, within a very short period of time and regardless of resistance; in turn, this can also make it possible for the State to finance sustainable development. By contrast, India's former state-socialist abundance of power is being increasingly crushed between the ever-louder demands for democracy and the promise of freedom of the capitalist market economy. It should be remembered however, that India is lagging about ten years behind developments in China. On the one hand, this means that, after ten more years of successful economic development, India could indeed still carry out a political reform of its democratic system, which would restore the country's ability to take action. On the other hand, it means that, in light of the growing ambitions of the members of civil society to take part in social processes, the supposed political advantages of China's authoritarian regime could in the future prove to be the opposite. As seen from the perspective of the developed industrial countries, at least, India will possibly find itself in an even better position in the medium and long term than its current situation suggests.

An analysis of the social relations, however, encounters structural lines of conflict which date back to the founding of the state after independence and which are still deeply rooted in India's self-understanding (Anderson 2012). Accordingly, there is a large discrepancy between the widespread conception of a tolerant democratic society characterised by cultural diversity and the actual social relations that are marked by systematic ethnic discrimination and an authoritarian political system kept alive by family clan structures. The recent development of the Hindu nationalist party BJP is an expression of these structural deficiencies and reminds us just how fragile the foundation of the sub-continent is (cf. Chowdhury/Keane 2021). Despite the undoubtedly difficult political conditions in most of the Asian countries in transition and the enormous challenges faced by these societies, urban researcher Aprodicio Laquian (2005) comes to a fairly positive assessment of the situation in his comprehensive comparative study of the development of mega-urban regions in Asia. He refers to isolated successes which, added together, already indicate a potential to solve the existing problems. It is true that the positive measures he examines could not be used as a blueprint for all the other countries, since the social, economic, cultural and political conditions that have evolved over time are often so different that instruments and procedures cannot easily be transferred to the different contexts. Nevertheless, on the basis of the positive examples he analyses, Laquian identifies seven general measures that as a rule contribute to successful urban and transport development (cf. *ibid.*: 382ff.). These include,



first of all, relieving pressure on the mostly overburdened inner cities by systematically establishing new, independent settlement centres in the outlying areas. The prerequisite for this is, *secondly*, the implementation of comprehensive strategic regional planning. The latter is, *thirdly*, the prerequisite for being able to supplement the management of sustainable urban development by means of a public transport system integrated into the region in question. The same applies, *fourthly*, to other network-bound infrastructure services that are essential for the functioning of urban agglomerations of this size, such as a water supply system, sewer systems and wastewater treatment plants. In addition, *fifthly*, the basic needs of the population have to be provided for, where special attention is to be given to adequate housing. This requires, *sixthly*, the creation of long-term financing plans, able to ensure sustainable urban and transport development. Seventhly and lastly, a unified regional policy strategy is required in order to implement all these measures.

This brings us back to the crucial question raised at the beginning of the chapter on Asia concerning the capability of the political systems of the Asian countries – and in particular the two most important countries, China and India – to implement the necessary strategy of coherent political reform. The isolated success cases presented by Laquian are certainly important indications, but they don't enable a realistic assessment that would allow us to answer the question. Rather, we would be well-advised to recall the skeptical saying: one swallow does not make a summer.

More revealing, on the other hand, are the experiences with the decades-long attempt at integrated urban and transport policy in Europe (cf. Schwedes et al. 2016). Despite the undoubtedly superior political conditions, there are still no grounds for talk of a successful integrated urban and transport policy, either at a national or European level.

Independently of the assessment concerning which political system will be better able to deal with the future challenges associated with rapid urban and transport development and which instruments are best suited to the task, in the case of India there is broad agreement on the diagnosis and the measures that are considered necessary. An exemplary overall assessment is provided, for example, by the World Bank in its India study, where it criticises the current one-sided, supply-side oriented planning of the Indian government, too dependent on the growth paradigm and too concerned with catering to private modes of transport (cf. World Bank 2005b). This strategic orientation will not be able to meet the anticipated challenges because it largely neglects the mobility needs of the numerically dominant (and likely to remain so) poor population, who in the foreseeable future will be unable to afford private vehicles.

Coping with the traffic volume is possible only by focusing more intensely on public transport. To achieve the objective of sustainable urban and transport development, a political reversal is therefore required, in favour of a demand-driven transport policy, „which would balance growth with equity concerns, with a strong but cost-conscious orientation in favor of public transport modes“ (ibid.: 7). Here, public transport should not become merely a residual form of transport for the disadvantaged; rather it has to be made as attractive as possible, so that it also constitutes an acceptable alternative to private individual transport for the growing middle class (cf. also Deb/Sundar2003; Kohli/Deb 2003). The competition between public and private providers can contribute to stimulating the development of innovative mobility services, which also encompass the individual mobility needs of the growing Indian middle class. Due to the dominant role of the bus system and because alternative rail systems are many times more expensive, the bus is of particular importance, in China and in India. Accordingly, even though in the view of Western industrialised nations, the bus – the conveyance for everyman – has long since passed its zenith, predictions that the future of the bus is still to come, globally speaking, could well be confirmed (cf. Rammler 2013).

There is also a broad consensus that the possibly decisive stumbling block for sustainable urban and transport development in Asian countries consists in the existing and ever-deepening social divide, which cannot be bridged with an attractive transport service for the disadvantaged classes. The expansion of slum areas associated with global urbanisation has now been identified as the likely key issue in the future for progressive social development in developing countries (cf. Montgomery et al. 2004). This „planet of slums“ (Davis 2006), which has been growing for years, obstructs the mechanism of the city-machine in a literal sense and thus constitutes an enduring hindrance to social integration, an important function of cities in the past. Correspondingly, most Asian countries are characterised by a high degree of social and societal disintegration.

This is especially true for India, which is traditionally socially divided in manifold ways by its caste system, but is also characterised by a regional diversity that is expressed in the different cultures and languages as well as in the very different socio-economic conditions. These disparate conditions manifest themselves locally in different interest groups, who stand in the way of a coherent policy strategy that is necessary for sustainable urban and transport development (cf. Gooptu/Parry 2014; Padam/Singh 2001). On the other hand, the advantages of the democratic system are repeatedly brought to the fore, the system which – precisely in the case of India – manages to mediate between the various interest groups; in this way it serves as an important factor in the stabilisation of social relations.

„It is thanks to India’s democracy that no-one fears its political collapse. It is located in an unsafe area of the world, in the immediate vicinity of unstable countries like Pakistan, Afghanistan, Iran, Nepal and Myanmar. With 150 million Muslims, India is also the country with the second largest Islamic population in the world. But so far the terrorist network Al Qaeda has no followers there. In addition to religious peace, democracy provides the country with a balance between political extremes. The spectrum is enormous, ranging from communism to Hindu nationalism. The latter contests India’s secular regime and wants to establish the culture of the religious majority as the official state culture. On the extreme right, there are fascist tendencies; on the extreme left, Maoists are working towards armed revolution. But, after wild swings in one direction or the other, the complex balancing act which the democratic process imposes on all political protagonists in India eventually brings the country back to the centre“ (Müller 2006: 220).

At the same time, the social distortions are the main reason why in India there are still scarcely any serious political activities in the direction of effective „urban governance“ (cf. Vira/Vira 2005). Seen from this angle, the key to sustainable urban and transport development in Asian countries lies above all in finding a solution to the „social question“ – as was the case in the Western industrialised nations.

## **4 Future Challenges for International Urban Development and Transport**

If in conclusion we review global urban and transport development, a vast panorama of quite different paths of development opens up. For an initial systematic approach to this confusing diversity we initially turned to the typology proposed by the United Nations, which mainly assesses individual countries according to their economic development and groups them into regions (cf. UN-Habitat 2004). Accordingly, we began by discussing urban and transport development in the advanced industrial countries of Europe, the USA and Japan and then subsequently compared them with the developing countries of Latin America, Asia and Africa. But the multifaceted character of urban and transport development in the different regions of the world means that a typology based solely on economic criteria cannot do justice to the current dynamics of development. The urban centres of the industrial regions in Europe and the USA, in the past described by all concerned as engines of economic growth, are today characterised by a complex mix of growth in certain localities and shrinkage in others. Moreover, in the regions and countries we have studied, and even in individual settlement agglomerations, different stages of economic, social, cultural and political development overlap. While at an earlier stage political and economic influence in big cities were powerfully interwoven and contributed to social and cultural development, today a city such as Berlin demonstrates the asynchrony that is characteristic of the new type of global development: here the political power that is linked with the function of the capital city exists side by side with a modest economic performance, accompanied on the one hand by profound social disparities but on the other hand by a growing cultural significance. Of course, Berlin is only one instance among many conceivable constellations of the four dimensions of development – the economy, politics, social issues and culture. What is decisive is that now almost all combinations have become feasible.

In China, the asynchrony of the four dimensions of development is even more marked, which makes it so difficult to gain an overall impression of the country, and it also explains why experts present such different assessments of its chances of development. There are economic growth zones, enclaves that are almost free of political influence, in which the culture of global capitalism operates in a pure form and social rights are virtually unknown. These islands of economic prosperity are surrounded by a sea of the rural population which

is economically backward, culturally a captive of feudal structures and with few if any opportunities for social development. Incongruously, it is social movements precisely in these rural areas that are providing an impetus for new political development, with the goal of more social participation. Then there are China's megacities, whose dynamic economic development is taking place under the political control of the central government and in which a new middle class oriented towards Western values is enjoying a vibrant cultural life, while in the immediate vicinity millions of migrant workers are eking out a miserable existence. Sometimes economic development occurs so rapidly that there is not enough time to adjust the political framework or the traditional cultural practices accordingly, and social dislocations are the result. Then again, it can happen that political innovations arise from cultural backwardness, economic poverty and social misery. Or a particular social group speaks out, such as the Chinese farmers, which serves as the motor of an enormous process of societal transformation, demonstrating just how adaptable people can be. This synchrony of the asynchronous can be found not only in China, it is a common phenomenon worldwide in urban and transport development. The urbanisation that occurs in the absence of economic growth, as found in African countries, makes this particularly clear and at the same time contradicts the traditional Western notion of urban development as an expression of progressive civilisational development. A typology of global urban and transport development can therefore no longer be reduced to a handful of typical patterns of development – if it was actually ever possible to do so. Rather, the task at hand is to present an appropriate description of the concrete, historically-specific, local manifestations, using as a basis the many and varied types of development outlined.

At the same time, in addition to the specific patterns of development, the international comparison of urban and transport development also identified structural development trends which affect the various local situations in equal measure. Without doubt the most striking of these is the urbanisation that is occurring in all the global regions we have examined. Regardless of the particular level of economic development, the respective political situation, the different structures of social relations or the specificity of the local culture, rapid urbanisation is taking place everywhere. This development is inextricably linked to the mobilisation that is also occurring at the same pace in societies that are otherwise so different in many respects. Once people have relocated to the urban centres to seek their fortune, they then remain on the move. This social change is in many ways reminiscent of the historical transition from rigid European class structures to the complex, multifaceted social relations characteristic of modern societies. This raises the issue of a third, overarching developmental

trend in societies undergoing modernisation, namely a process of differentiation into increasingly varied economic, social, political, juridical, cultural and religious subsystems. The latter is also expressed, as we have seen, in an extensive, space-devouring settlement structure that gives rise to complex functional systems, resulting in steadily increasing traffic volumes and in an increasingly complex transport situation. Thus, there is no need to deny the social particularities of the individual countries and regions outlined at the beginning of this study in order to recognise aspects of an overarching process of development in which specific countries are pursuing a form of 'catch-up' modernisation (Featherstone 1995; Appadurai 1996).

There are two distinctive, ubiquitous lines of development in this overarching sense that are central to global urban and transport development and which need to be foregrounded. They are not especially surprising, but they do have momentous consequences: first, the ever-increasing global dominance of private individual transport, particularly in the form of the automobile and its precursor, the motorised two-wheeled vehicle; second, the reorganisation of public transport in accordance with efficiency criteria mainly derived from the private sector (cf. also Vasconcellos 2001: 297). These are interlocking developments and they have the effect of accelerating unsustainable urban and transport development. The problems they cause locally have been described in detail. Thus, the initial hope underlying the present study, namely that outside the advanced industrial countries new avenues are being explored that go in the direction of sustainable urban and transport development, at least in some rudimentary form, has not been met. What we find instead are alarming parallels when it comes to the negative social and environmental effects. Due to the sheer quantitative dimensions of global urban and transport development, the issue is increasingly perceived by Western industrialised countries as a global challenge (cf. WBGU 2016) – starting with the fact that, based on Western standards, there would simply be no way of providing the natural resources required for the ongoing urbanisation and mobilisation. An additional factor is the emissions associated with the use of fossil fuels. China and India alone make the scale of the potential consequences clear:

„Our analysis shows that if [these] two countries were to use as much oil per person as Japan does today, their demand alone would exceed current global oil demand. And if their per capita claims on the biosphere were to match those of today's Europe, we would need a full planet Earth to sustain these two countries“ (Worldwatch Institute 2006: xxi).

The report from the IPCC (2007) presents the likely consequences of this development for the global climate. The global temperature increase of 1.5 to 2 degrees – now unavoidable due to the thermal inertia of the climate sys-

tem – will have far-reaching consequences, such as storms and floods, which will make comprehensive adaptations necessary, especially in coastal cities, in order to protect the approximately 360 million urban dwellers who will be affected. Since the available options for responding appropriately to such natural disasters are very unevenly distributed around the globe, in the developing countries serious social instability is already a frequent phenomenon. Violent conflicts over scarce resources and large-scale migration movements are the result. As the World Bank series *Turn Down the Heat* points out, if we fail to reduce global greenhouse gas emissions, then the already apparent negative consequences will assume dimensions that, politically speaking, will be essentially unmanageable (cf. World Bank 2016).

Climate change now dominates the discussion about sustainable urban and transport development. But in view of the urgency of this problem we risk losing sight of the importance of a far more complex and potentially more dangerous development, namely the finite nature and depletion of fossil fuel resources, which should be accorded just as much space in the current debate on mobility. The depletion of natural resources deserves our maximum attention because in both the short and medium term, both politically and socially, it harbours more potential for catastrophe and crisis than climate change. Although both problem areas are of course closely linked, energy supply especially is likely to be the fateful global question of the early 21<sup>st</sup> century. Tackling it means holding the key to many other problems and remaining capable of acting purposefully as a society, including and even especially when it comes to the climate issue. Why is this so?

The steadily intensifying global competition for goods and prosperity generally – which is almost entirely dependent on oil consumption for maintaining its principal coordination mechanism, namely the transport system – brings with it the risk of geopolitical and economic upheavals of such dramatic proportions that they could lead to a lasting destabilisation of world peace and security at all levels. Despite their already high probability and impact, these dangers are nevertheless currently still greatly underestimated. Ultimately, the depletion of fossil fuel resources would lead to complete failure, not just in climate protection but also – even worse – in fending off and coping with the already determinable effects of climate change. Today about 58 percent of global oil consumption can be attributed to the transport sector; by 2030 it is expected to be 64 percent, in some regions even more. The European transport sector is 98 percent dependent on petroleum. It follows that mobility – which actually plays a rather subordinate role in climate change compared to other CO<sub>2</sub> emitters such as domestic energy, industry or agriculture – is one of the key fields of intervention in combating the dangers of dependence on oil.

To formulate it even more pointedly: some of the major conflicts and wars of the present day are to a considerable degree being fought in order to keep the transport sector – the life-supporting motor of western (and not just western) societies – going. Transport is not just another, dispensable organ in a social organism that is undergoing constant self-differentiation; it constitutes the very heart and all-connecting bloodstream of the organism. It is only because of the overwhelmingly strategic role of fossil fuel-based mobility that society is prepared to take such great risks and to bear such high costs – and which is why it is the linchpin of all conversion strategies in energy policy that are working towards a post-fossil culture of mobility.

According to a conservative estimate, between 1991 and 2003 the US spent 600 billion dollars solely on maintaining its military presence in the Gulf region. Since the early 1990s, Britain has also maintained military forces in the Gulf region, at a cost of several billion dollars annually. These amounts do not include the direct costs of the two Gulf wars. China is also increasingly active in the unholy role of a petroleum importer which, in order to secure access to natural resources, is not averse to providing military and financial support for African totalitarian regimes guilty of human rights violations. Today even influential conservative intellectuals, such as the former head of the US Federal Reserve Bank, Alan Greenspan, admit that oil was the main reason for the wars in Iraq. Greenspan is not the only one to hold this view (cf. Kinzer 2003).

The already massive conflicts over energy supplies, which are certain to become even more drastic in the future, highlight the geopolitical and security implications of the destabilisation of social systems worldwide. Even for the most rational, calm and collected, precisely non-normative observer, this points to the absolute necessity of tackling – with the utmost urgency – the transition to a post-fossil energy culture in general and post-fossil mobility in particular (cf. Rammler 2007).

Thus, despite all the regional differences described above, global urban and transport development seems to follow a general process of civilisation with highly ambivalent consequences. The sociologist Norbert Elias characterised the dynamics of this development as a „maelstrom“ that affects all parties equally and which no-one can escape entirely (cf. Elias 1987: 75ff.). As a parable, he uses the story with the same title by Edgar Allen Poe, in which in the wake of a major storm a fishing boat and its three crew members are caught in a huge maelstrom. While two of them – rigid with horror in the face of the immense forces of nature – cling to the boat's planks and are pulled down into the depths along with the boat and perish, the third fisherman sets about examining the way the maelstrom works. He discovers that objects with



different shapes and sizes are dragged down at different rates. When he notices that cylindrical, hollow objects are drawn particularly slowly down into the jaws of the vortex, the fisherman immediately ties himself to an empty water barrel and leaps out of the boat. As he watches the vessel slowly disappear into the depths, the storm subsides, the maelstrom dissolves and the fisherman is released. Elias uses the maelstrom as a metaphor for the process of human civilisation, which, although it is unescapable, one can survive it by understanding how it works, and develop appropriate strategies for coping with it. In light of the global challenges, humanity today finds itself in a comparable situation to the fishermen on the sinking boat. No-one seems able to escape the maelstrom of a world-wide dynamic of urbanisation and mobilisation, stemming from an ongoing process of the division of labour, and powered by fossil fuels. The question is: how can mankind survive this threat?

The present study of global urban and transport development has not found any exemplary, trendsetting development strategies for solving the looming problems. But it has shown that the „conventional“ concepts of urban and transport development appear to fall far short of being able to meet the future challenges. Wherever targeted support has been provided for specific, relatively environmentally friendly modes of transport – such as rapid bus systems, trams, underground rail or bicycles – it has led only briefly to an easing of the pressure. Even Curitiba, which is still cited as an instance of decades-long, successfully managed urban and transport development, is now reaching its limits. A realistic assessment of integrated urban and transport development, which is being promoted worldwide as the *ultima ratio*, shows that, ultimately, it is not an adequate strategy for bringing the anticipated development into line with sustainability. Even assuming the optimistic case, where all developing countries were able to attain the same degree of integration in urban and transport planning as the developed industrial nations – this would most likely provide only temporary relief before the sheer scale of the expected growth in traffic and urbanisation again devoured the achieved efficiencies (cf. Worldwatch Institute 2007).

In order to find a sustainable solution to the maelstrom of urban and transport development – meaning a solution compatible with both human beings and nature – it is obvious that new instruments are required, or rather, an entirely new way of thinking. Yet we continue to rely on traditional approaches that were developed in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, during the peak phase of urbanisation in western metropolises (cf. Hart 2001; Cohen 2006). At the time, far-reaching social reforms helped to establish a balance of interests between the victims and beneficiaries of the prevailing circumstances. The present study has shown that the processes of global urban and transport de-

velopment are accompanied by serious social upheavals which regularly lead to the failure of urban and transport policies aimed at sustainable development. Let us therefore recall the warning from urban researcher Leonardo Benevolo, quoted at the beginning of this study: „The preservation of the city requires the re-establishment of equilibrium between interests in the decision-making process so that the physical setting and the social body can also achieve a balanced coexistence“ (Benevolo 1993: 219f.). Given the completely unprecedented dimensions of the problems that we are facing today, the properly political task of creating a socially balanced situation is also the main prerequisite for designing appropriate, innovative processes for urban and transport development. But the question is: what would an – at least rudimentary – attempt to develop a new global perspective for sustainable urban and transport development look like?



## 5 Back to the Future

Against the backdrop of the trends in global development, it has become clear that European urbanisation cannot be repeated on a global scale. Nevertheless, the historical retrospect does open up possible future perspectives for sustainable global urban and transport development. At the height of European urbanisation at the end of the 19<sup>th</sup> century, the political challenge lay in social problems. At the time, the poor urban population suffered under both sub-standard living conditions and regular epidemics. The health risks as well as the largely precarious living conditions provoked social unrest and endangered urban co-existence. The ruling class found itself increasingly threatened by the situation and therefore decided to invest heavily in the dysfunctional urban infrastructure. From that point on, politicians and public officials took over the task of providing the basic services that are necessary for living together in cities and that individual citizens are unable to provide. This led to the development of the large urban infrastructures, on the basis of which it became possible to organise sustainably the urban organism that consists of people living together in a confined space. This included connecting buildings to a sewage system, providing running water, electricity and telecommunications. In addition, the systematic expansion of public transport was pursued for the common good in order to guarantee every citizen a minimum degree of mobility. The result was impressive: politically-planned and sustainably organised urban and transport development, which was expressed in economic prosperity, social harmony and a flourishing culture.

In the mid-twentieth century, the advent of mass motorisation amounted to the ‘downfall’ of European urban and transport development. Private car ownership for individual city dwellers was tantamount to the privatisation of urban and transport development. While on the one hand public transport was increasingly forced out of urban space, on the other hand urban development was increasingly oriented to the specific requirements of the private automobile. The trams were done away with to make way for the car, the road infrastructure was expanded, including the construction of urban freeways, and where there was insufficient space, existing structures were summarily removed. As public urban space was adapted to meet the specific needs of car owners, the tension between the public and private shifted one-sidedly in favour of private interests. That is, the specific character of urban life – urbanity – was destroyed.

The central insight to be gained from the experiences of the past decades is that urban and transport development has to be politically fashioned in the interest of the common good. Whereas in the past economic and social development were the foremost concerns, today a third dimension has been added in the form of sustainability and the ecological question. This also means that the private automobile appears in a different light: to its economic significance and its promise of individual freedom is now added its bad environmental record. The exhaust gases produced in the transport sector are harmful to human health as well as to the environment and, in particular, contribute to global climate change. In the megacities, the average life expectancy is falling dramatically and worldwide more and more people are already suffering as a result of extreme weather events, which often threaten their livelihoods. The negative consequences of the excessive use of fossil fuels are the new epidemics of our time and the private automobile is one of the major causes.

Accordingly, transport policy should be aimed at facilitating the mobility of city dwellers, to encourage social participation without having to rely on private cars. 'Home access mobility' could serve as the guiding principle, analogous to the publicly assured connection to the sewage system, to running water, electricity and telecommunications, which was formulated and implemented as a political demand in the public interest when European urbanisation was at its zenith. The policy objective should be to provide attractive forms of transport, in order to free citizens from dependence on private cars and to enable them to live a sustainable urban life.

While the policy objective is equally applicable to all the regions of the world considered in this study, the question of how, in concrete terms, this general objective will be implemented in different countries can be answered differently. This is due to the diversity of urban life worldwide, which precludes a simple answer. Rather, the specific local circumstances require distinct solutions in order to meet the mobility requirements of the people. This does not affect the fundamental insight that the good life in the future will be a life without private automobiles.

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# Mobilität und Gesellschaft

For the first time in human history, the majority of the world's population is now no longer living in rural areas, but in cities. Whereas in the industrialised countries urban and transport development has now reached a certain degree of saturation, it is proceeding in other regions of the world with an enormous dynamism. The primary concern of this study is to present for the first time a survey of global urban and transport development in order to gain an overview of the magnitude of the global challenges. Against this background, the study concludes by proposing a direction for future deliberations, in the name of determining an adequate response to the looming problems.

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