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Linkages between Transport and Housing for the Urban Poor: Policy Implications and Alternatives

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1 Executive Summary

This paper investigates linkages between transport and housing/security of tenure issues for the urban poor, primarily in the cities of the developing world (the global South). There are significant connections between transport and housing for the poor but they tend to be inadequately understood. This pilot investigation of the issue has found a range of policy implications that flow from these connections. This pilot project reviewed the literature and canvassed views from key experts and stakeholders on linkages between urban transport policy and housing for the urban poor. The literature review included academic and professional literature and a search of documents held by non-governmental organizations that are active in the areas of housing rights or transport. Stakeholders and experts were contacted by email or were interviewed face-to-face.

1.1 Issues

A central issue connecting transport and housing is that low-income residents face a dilemma between transport and security of tenure in affordable housing. In accessible parts of the city, the poor can afford only precarious sites with insecure tenure. Conversely, affordable sites that have more secure tenure tend to be inaccessible and may involve high costs for commuting. The location patterns of the urban poor were found to be diverse. There is evidence of severe access problems for some of the poor in cities, as measured by long travel times. However, many of the urban poor do manage to retain high levels of access despite their low mobility, by living in locations that are highly accessible to employment and other income generating opportunities. This tallies with the idea of alternative solutions to the dilemma mentioned above.

Patterns in the location of the urban poor in which there is macro-scale segregation based on incomes are thought to create greater access problems for the poor than patterns with little segregation or in which segregation is at a finer grain, allowing rich and poor to live relatively nearby each other. Public policy often increases the pressure pushing the poor towards urban peripheries, causing access problems and hardship. Most prominent are policies or practices on the location of public housing, sites and services projects and/or relocation sites. There are strong transport-related reasons to make greater efforts to promote more accessible locations for urban poor housing.

Changes in urban land use patterns can have important effects upon the viability and attractiveness of the modes of transport that are most important to the urban poor, non-motorised transport and public transport. These modes are vital to allowing low-cost mobility and hence access to a range of urban opportunities for the poor including a wider choice of housing than otherwise. Certain common trends in land use as cities motorise have a tendency to undermine these low-cost modes to the detriment of the mobility of poor. One way to counter this is to actively promote land-use arrangements that are aimed at transport-related goals, such as encouraging viable public transport and non-motorised transport, which especially benefit the poor. Some such policies can also be explicitly linked with housing for the poor in suitable locations. The promotion of greater security of tenure itself may actually promote significant access benefits for the urban poor by several mechanisms mentioned in this paper.

Transport trends or practice have many effects on housing for the urban poor. A key example is eviction and resettlement resulting directly from urban transport infrastructure projects, which are taking place on a significant scale. There is a need for reforms in order to minimise such evictions. Avoiding displacement must be made a higher priority in transport planning practice. Transport policies that reduce the amount of space consumed by transport infrastructure should also help, as would various reforms to assessment procedures for transport projects. If displacement is unavoidable, there is a need for better resettlement procedures, which should also be more sensitive to access issues. Negotiated outcomes to resettlement cases are always preferable, however

excessive secrecy and lack of public participation in transport planning hinders the chances of fair negotiations.

The true goal of transport planning is to provide access. Mobility is only one of the means to this end (planning for proximity being another). Nevertheless, enhancing the mobility of the urban poor, is one way of expanding their range of housing options, since low mobility is a major part of the access problems faced by the poor. However, simply trying to increase mobility in general without addressing transport inequity would result in no benefit to the poor, and could in fact harm their access levels in the longer run. This is due primarily to the effects of high mobility by higher-income groups on the viability of public transport and on land-use development patterns which in turn harm access and make non-motorised transport unviable. Transport inequity is thus fundamentally linked with inequity in housing access.

Great harm can be done to housing affordability by excessive and automobile-oriented standards and guidelines for transport-related infrastructure and urban design. In this regard, reforms to parking policy, for example, have the potential to improve housing affordability in a wide range of cities. An excessive focus on enhancing mobility for high-income groups can also help to exacerbate income-based spatial segregation in cities.

Transport changes can promote gentrification, which is a key link with security of tenure. The lack of secure tenure means that communities are unable to capture the benefits of transport improvements and indeed may be threatened with eviction as a result. However, there are also certain transport-related opportunities for preventing gentrification, for example by limiting access to cars via parking controls. In certain circumstances transport-related improvements can also promote security of tenure if they help to lend legitimacy to a settlement.

Finally, this paper argues that there are strong synergies and potential common cause to be made between the advocates of sustainable and equitable urban transport and key components of the housing rights agenda in urban areas.

1.2 Recommendations

The recommendations listed here are also presented in slightly more detail at the end of the paper. They are grouped into three categories.

1.2.1 Housing and urban planning-related recommendations to reduce access problems for the urban poor

- Stronger efforts are need to increase chances for low-income housing in locations that are accessible to income-generating opportunities and services
- Review/abolish government policies that push poor people to the urban periphery.
- Establish strict accessibility guidelines on the location of public housing for the poor, sites and services projects and resettlement sites
- All relocation sites and transit accommodation for evicted households should be within a short distance of their former location (eg within 5 km)
- Avoid two-step resettlement (i.e. involving transit-accommodation)
- If unavoidable, transit-accommodation should be within or adjacent to the resettlement site
- Keep established communities together in relocation process
- Set planning goals to reduce income-based spatial segregation of housing location
- Aim to reduce the spatial scale of income-based segregation (finer scale segregation is less problematic for access than macro-scale segregation)
- Review housing policies to foster greater residential mobility for the urban poor (the ability to move house). In particular, review policies that restrict security of tenure to long-established residents and deny security to new residents.

- Protect existing access-enhancing land-use patterns
- Promote locally appropriate compact city policies, preventing ultra-low-density development, promoting and protecting mixed land-use patterns, and focus dense development in locations well-served by public transport.
- Link densification with increased affordable housing eg via floor space bonuses for developers, transfers of development rights, etc. Where possible, guide such densification into transit-oriented locations.
- Consider promoting "decentral concentration" of employment (multi-nodal urban form) or a corridor model (employment concentrated along linear corridors), both of which may improve access for the urban poor compared with mono-centric cities or those with dispersed employment.
- Zoning rules (which prevent mixing of land-uses) should be replaced by more specific performance-based regulations that prevent noxious or noisy activities in the wrong locations.

1.2.2 Recommendations related to displacement, especially transport-related displacement

- Promote resettlement guidelines for transport planning that minimise resettlement even for communities with weak tenure.
- Require negotiated resettlement solutions with all displaced communities including those with weak tenure.
- Stop all repression of community organising and instead encourage community development and empowerment efforts by residents, CBOs and NGOs in low-income communities.
- Promote community-based access and transport improvements which increase legitimacy of settlements and hence tend to strengthen informal tenure.
- Require transport planning to minimise the amount of resettlement as an integral feature of infrastructure policy and practice
- Take account of the space consumption of transport modes in transport policy. Strongly consider restraining space-consuming modes (eg private cars), reducing investment in related infrastructure (reduce emphasis on large road projects) and promoting space-saving modes (eg walking, bicycles, public transport).
- Adopt reformed procedures for transport project assessment and revise procedures to ensure adequate assessment of all alternatives, including no-build options and non-transport alternatives.
- All major actors in infrastructure development should adopt best-practice policies on displacement.
- Make transport planning more open, including a requirement for public participation at key junctures. Negotiation with affected communities must be timely, sincere and open.

1.2.3 Transport-related policy and practice reforms with housing-related benefits

- The goal of improving 'access' can and should become part of the housing rights agenda. This includes 'planning for proximity' whenever possible as well as improving mobility for the poorest groups.
- Housing rights advocates can and should support transport policies which restrain (and remove subsidies to) high mobility by high income groups (mainly in cars) while promoting low-cost access.
- Adopt a more realistic, flexible, case-by-case, performance-based approach to transport-related standards, eg create separate markets for housing and parking within each neighbourhood rather than requiring each dwelling to have a parking space.
- Make wider use of 'land readjustment' techniques to provide rights-of-way and common facilities in low-income settlements (thus avoiding wholesale eviction).
- Transport investments must be planned to complement the urban planning strategy and not run counter to it. This is because transport facilities have some influence over land-use development trends.

- Investigate the use of transport-related tactics to slow or prevent gentrification of threatened communities, eg by limiting four-wheel entry or by restricting vehicle parking.
- Establish proper mechanisms for the capture of betterment that results from infrastructure investment. Particular protection may be needed for renters who may face eviction as a result of nearby access improvements.
- Adopt more widely a low-cost approach to urban transport, which is highly compatible with many of the recommendations above and more generally with the aims of the agenda for sustainable and equitable urban transport.
- Investigate further all opportunities for synergy between the sustainability and equity-focused transport strategy and the housing rights agenda.

2 Introduction

This paper investigates linkages between transport and housing/security of tenure issues for the urban poor, primarily in the cities of the developing world (the global South), and especially those that are most relevant to the goals of the Global Campaign for Secure Tenure of the United Nations Centre for Human Settlements (Habitat). Nevertheless, the paper addresses a wider range of housing issues for the poor beyond security of tenure. It is hoped that it may stimulate further discussion of possible policy interventions in this area to improve the situation for the urban poor.

This study was motivated by the observation that this issue may represent a serious gap in policy debates in both transport and housing fields, particularly in the context of the developing world. For example, the well-established housing rights movement has rarely addressed transport. Similarly, there is a danger that the emerging movement promoting transport alternatives may tend to focus more on environmental issues to the neglect of social equity including housing for the poor.

According to the literature, the inter-relationships between poverty and urban transport are apparently still rather poorly understood (Gannon and Liu, 1997). Although equity is often cited as a concern in transportation decisions, it has in fact received relatively little systematic research (Litman, 1996). The crucial role of transport in the quest for sustainable human settlements and improving the lives of the poor has now been acknowledged at a number of international meetings, particularly during Habitat II in Istanbul in 1996 and at the Second International Conference on Urban Poverty in 1997 in Florence. However, a great deal remains to be done (Barter, 1999b).

There are intimate links between the transport issues for the poor and their housing issues. These links are the focus of this study. Detailed evidence for this assertion will be presented below. Despite these links, government policies and programs in many countries tend to ignore links between housing location, livelihoods of the urban poor and transport. It is vital to understand how policy makers can do better in view of the rapid pace of transport change in most cities and of the huge numbers of poor people who are expected to be living in urban areas in coming decades. The earlier experience of cities in the North is not always helpful since the transport situation that faces low-income cities now differs in many respects from the situation that faced the now industrialised cities prior to their mass motorisation (Barter, 1999a).

There is, of course, debate in the development literature on definitions and meanings of poverty and urban poverty. This paper will not restrict itself to one particular definition. Distinctions between income-based definitions of the urban poor versus other perspectives, for example, may become important for further in-depth research. However, for this pilot investigation a catholic approach is taken while at the same time being mindful that ‘the urban poor’, as encompassed by any broad definition, are far from being a monolithic group. Where it is relevant to the argument an attempt will be made to specify which particular aspect of poverty or disadvantage is being referred to (for example, via the use of such terms as ‘low-income’, ‘marginalised’, etc.).

This pilot project reviewed the literature and canvassed views from key experts and stakeholders on linkages between urban transport policy and housing for the urban poor. The literature review included academic and professional literature and a search of documents held by non-governmental organizations that are active in the areas of housing rights or transport. Stakeholders and experts were contacted by email or were interviewed face-to-face[1].

[1] Interviews were: (a) by Paul Barter with participants at the Hangzhou preparatory meeting for Habitat+5 in October 2000; (b) by Paul Barter with participants at the UN-ESCAP/CITYNET Seminar on Transport and Communications in Kuala Lumpur, November 2000; (c) by Chris Wilson with participants at a housing rights workshop held at the Urban Resource Centre in Karachi in November 2000; and (d) by Paul Barter via email.

3 Underlying Issues and Background

Before discussing specific linkages between transport and housing for the poor it is necessary to first mention a number of important underlying issues before moving into the details.

3.1 Housing, evictions and the urban poor

One of the most important unresolved problems for many of the world's cities, especially in low and middle-income countries, is housing for the poor. The UN estimates that more than one billion people worldwide are homeless or inadequately housed. A large proportion of these households lack secure tenure to their homes and many are therefore in danger of being forcibly evicted with little or no compensation or provision for resettlement. Housing issues for the urban poor have been successfully pushed by among others, a vibrant international advocacy movement for housing rights, which includes such organizations as Habitat International Coalition, the Asian Coalition for Housing Rights and their various affiliates. The issue of security of tenure is central to the provision of adequate housing and to providing adequate protection against forced eviction and Habitat considers it to be the first step to realising the 'right to housing'.

3.2 The purpose of transport: mobility versus access and accessibility

Moving now from housing to transport, it is necessary to clarify the usage of three key transport-related terms used in this paper. This is important because these terms are often used in various slightly different senses in the literature, and this is liable to cause confusion and a lack of clarity in analysis. Many of the linkages between the transport and housing difficulties of the urban poor relate crucially to these definitions and comments on access, accessibility and mobility.

Mobility refers to the ability of a person or group of people to actually move if they wish. It depends on the transport system and on the characteristics of the person involved (Jones, 1981). Strictly speaking, mobility is not a measure of actual movement. However, high levels of travel imply that there must be a high ability to move and therefore indicators of actual travel (such as trips or person-kilometres) are often used in practice as measures of mobility.

Access refers to people's ability to reach opportunities, such as reaching a place or obtaining services or goods, etc. (as in 'person X's ease of access to place Y was high due to a convenient direct public transport link' or 'child Y's ease of access to education was reduced by the lack of any schools nearby). Note that high levels of access by a person can come about via a combination of mobility and of proximity to whatever is to be reached. If the destination (or set of possible destinations to satisfy the need) is distant then access to it will require high mobility. If the destination or service is nearby (or if it can be delivered physically or electronically) then easy access may be possible with little or no actual personal movement. Barriers may also constrain mobility in certain directions (eg a river with no nearby bridge or steps for a wheelchair user) and hence reduce access even to nearby destinations.

The **accessibility** of a place refers to the ease with which that place can be reached from elsewhere (Hansen, 1959). Note that 'access' above is something available *to people* (as a result of their spatial contexts) whereas 'accessibility' is an attribute *of places* (as a result of their spatial contexts). Accessibility is always relative to other places. Accessibility is sometimes used with respect to specific other places (as in 'place A is highly accessible from place B but not from place C). It is a function of both the proximity between places and the quality of the transport connections (or barriers) between places. Thus A may be accessible from B because they are close together or because there is a good transport connection between them or both.

More often, accessibility is relative to a set of places (a region) rather than just one place. That is, the word accessibility can be used to describe how easily a place can be reached from all other places

within some region (which would be the sum of all the individual accessibility levels from each of these places). We might say, 'place D is the most accessible place in the metropolitan area' and this could come about through some combination of the centrality of D and the quality of the transport connections to D. This conception of accessibility plays a key role in land rent theory and related models of urban form. It is also possible to talk about the accessibility of a set of places from within a region, for example the accessibility of hospitals or employment opportunities. In this case accessibility will be influenced by the distribution pattern of these destinations in the urban area.

Since the 1970s, promoting ease of access has increasingly been recognised as a more fundamental goal of transport planning than promoting mobility (Cervero, 1997). Traditionally, a lack of mobility was seen as the main constraint on residents' ability to gain access to opportunities. So increasing people's ease of movement was seen as a the obvious way to increase access (and hence their opportunity space and welfare). However, awareness of limits to ever higher mobility has prompted attention to shift to other ways of increasing access without maximising movement, such as 'planning for proximity' (paying closer attention to the accessibility characteristics of development sites).

It is also important to note that increasing mobility does not always lead to increased access levels for the population, as described by Manning (1981) and Whitelegg (1993) among others. This is primarily because higher mobility tends to be associated with land-use changes such as the dispersal of activities. In the short run higher mobility will increase access levels for those people who enjoy the new higher mobility (eg people who can newly afford cars or motorcycles). In the longer run, as substantial numbers of people gain higher mobility levels, land-uses tend to disperse and access levels (even for car users) may drop back almost to what they were before. However, anyone who does not have access to fast transport will now face substantially lower levels of access since many destinations are now further away than before. This dynamic between access and mobility (and other related ones) is particularly relevant to the connection between transport and housing for the poor.

3.3 Dynamic interaction between transport and urban land use

The comments above raise the issue of the mutual influences between transport and urban land-use development. It has long been known that there are intimate interconnections between them (Hall, 1983; Hansen, 1959; Manning, 1984; Newman and Kenworthy, 1989; Newman and Kenworthy, 1996; Owens, 1993; Thomson, 1977 and many others). Despite the long-standing knowledge of these interactions, they are difficult to quantify and predict precisely and are still too often ignored in decision making in both transport and in urban planning. Transport planning must be seen as de-facto urban planning and vice-versa. Any major investments, policy changes or trends in transport will inevitably have their influence on urban land-use development patterns. Conversely, any major land-use development initiative will have implications for transport demand (including which modes can most easily serve the demand patterns). Policies to improve housing options and security of tenure for the urban poor must take these interactions into account.

3.4 Poverty and inequity

An obvious underlying issue for this study is the existence of poverty and gross income inequality in cities, which are often particularly pronounced in cities of the developing world. There is increasing recognition that housing and transport (or more precisely, improved physical access by the poor to urban goods, services and opportunities) are among the important enabling factors for overcoming poverty. Housing is increasingly recognised as a productive asset (eg by the World Bank). There is also recognition of the roles that transport deprivation and insecurity of tenure (and so-called 'asset vulnerability' more generally) play in perpetuating poverty. For example, Hook (1998) argues that poor 'mobility' is not only an effect, but also a cause of poverty. In view of the comments above defining terms, this could be rephrased as 'poor physical access to urban opportunities is not only an effect, but also a cause of poverty.'

Housing and transport problems for the urban poor both relate intimately to the underlying issue of inequity in the distribution of urban space, both in use and in ownership. It seems reasonable to suppose that this inequity is in large part an underlying cause of both problems.

3.5 Political power

The marginality of the poor, especially the poorest of the poor, and barriers that reduce their ability to wield significant political power represent further underlying causes of the disadvantage that the poor face in both housing and transport. It is no accident that in numerous cases, subsidies and special programs in housing or transport actually benefit people with high incomes the most. The powerlessness of the poor is most stark whenever their interests clash with those of powerful groups, such as land-owning elites that control most urban space in many developing cities. Unfortunately in both housing and transport matters, the interests of the poor often clash with the interests of these landowner groups.

3.6 Transport disadvantage and deprivation of the poor

There is a growing literature on transport-deprivation among the urban poor in various contexts in both the North and South (Dimitriou, 1992; Dimitriou, 1993; Linn, 1983; White, 1990; Zahavi, 1976; Gannon and Liu, 1997; Hook, 1998). This literature tends to point to a mutually reinforcing cycle between poverty and transport deprivation. Some of the mechanisms for this interaction involve housing, especially issues related to the location of affordable housing.

Constrained mobility is the key feature of the travel patterns of the lowest income groups in most low-income and middle-income cities. People living in poverty, on average, cover less distance and make fewer trips but take more time to do so than higher-income people (Hook, 1998). This fact is a key basis upon which to build a deeper understanding of the intimate links between the low mobility of the poor, their levels of access to urban locations and opportunities, and their range of housing and employment options. The ‘opportunity space’ or range of movement of people living in poverty is often extremely limited, primarily because many cannot afford any mode of transport faster than walking. Very few can afford any form of motorised private transport (although in some cities motorcycles penetrate to households of rather low income). Many cannot afford to ride public transport regularly. Many cannot afford the up-front cost of even a bicycle (or the risk that such an asset might be stolen). Nevertheless, it is very important to note that whether or not this low mobility translates into low levels of access depends upon proximity, in particular the proximity or otherwise of homes to all the facilities, services and income opportunities that need to be reached regularly.

3.7 Marginalised modes of the marginalised

The quality and level of service of the low-cost modes of transport that are available to the urban poor are often even lower than they need to be due to official neglect or even active hostility to these modes by the authorities. This is especially the case for non-motorised vehicles and walking, which in most developing cities are viewed as marginal and stigmatised or even as a nuisance getting in the way of ‘real’ transport. It is ironic that modes such as walking are so neglected, since in many cities more than half of trips by the urban poor are on foot. For example in Jakarta in 1985, walking accounted for almost 60% of the trips taken by the lower-income half of the population (JICA, 1987). Neglect of modes used by the poor is one cause of the transport problems of the poor. Conversely, these modes are neglected or, in some cases, invisible to decision-makers precisely because of their use predominantly by the poor.

3.8 Gender and transport disadvantage

In most societies women tend to face greater transport deprivation than men in the same social status groups (Grieco and Turner, 1997; IFRTD, 1999). Most women who work outside the home have complex transport needs related to their need to also fulfil domestic and care-giving roles. Therefore transport problems related to inaccessible workplaces or housing located in inaccessible areas are likely to hurt women disproportionately.

Access and Mobility Problems for Low-Income Women in Dhaka
During the International Decade for Women reserved seats for women (10 seats or so at the front) were established on the buses in Dhaka. But if these seats filled then further women would usually be denied entry. Buses now have no reserved seats on the grounds of equality. However, women are now often not admitted to buses at all in peak times. Conductors and drivers were said to think that a woman takes three "men's" places. Levels of harassment of women on the buses are said to be extreme. The alternatives, such as rickshaws, scooters are expensive. As a result NUK has found that many low-income women are walking long distances. NUK has also found that women tend to have to pay more for transport than the men within the same economic group. With an increase of women's employment and education there is more need than ever for transport services for women. *Information provided by Ms Mashuda Khatun Shefali, of Nari Uddug Kendara (NUK) (Centre for Women's Initiatives), Dhaka, Bangladesh.*

3.9 Dilemmas of housing security versus access

A central issue connecting transport and housing is that in many cities, particularly large cities, low-income residents face an acute dilemma or trade-off between transport and security of tenure in affordable housing. In accessible parts of the city, the poor can usually afford only the most precarious sites with insecure tenure[2]. Conversely, affordable sites that have more secure tenure tend to be inaccessible (often being located on the far periphery) and may involve high costs for commuting (in terms of both money and time). Most urban residents around the world face some form of this dilemma but it is most acute for the poor. Unable to afford secure housing with good access to income-generating opportunities, they must often choose between insecure tenure (and poor housing conditions that go with it) or accept arduous and lengthy daily travel. This trade-off applies even to many of the home-based self-employed, in particular those who need to visit markets on a daily basis or need to be accessible to customers. The poorest groups face enormous problems achieving decent levels of either housing security or ease of access to opportunities, let alone both.

Authorities seeking land for housing the poor face a similar trade-off between accessible sites that are expensive versus inaccessible but low-cost sites. As a result, resettlement sites all over the world tend to be remote from concentrations of income generating opportunities (Fernandes, 1998). The issue of the location of housing for the poor is explored in more detail in Section 4.1.

This concludes the introduction to underlying background issues that will be useful to keep in mind while reading the rest of the paper.

[2] For example, a survey by SPARC in central Bombay of pavement dwellers showed that 80% walked to work. The author comments that their choice came down to: "they were willing to live in congested dwellings without safety or security just so they could walk to work" (Gopalan, 1998).

4 Urban Planning and Housing Impacts on Transport for the Poor

This section looks at ways in which changes or interventions in the housing and urban planning side can potentially impact access and transport for the urban poor. Various effects of planning, land-use and housing issues on transport are discussed but the key aim is to relate the discussions on policy interventions that can make a difference to the urban poor. The first section of the chapter discusses the many access implication of the location of urban poor housing and of policies that have an influence of such locations. This is followed by a discussion of several other ways in which urban form influences access and transport for the urban poor. Finally, the chapter addresses the question of how a substantial improvement in security of tenure generally might affect transport.

4.1 Location of urban poor housing

The location of affordable low-income housing and the policies and urban forces that affect it can have a highly significant impact on the transport (access) disadvantage faced by low-income households. This fact needs to be considered in a wide variety of policy contexts, from individual resettlement location choices to the large-scale planning and transport strategy of the urban area. It is argued that greater efforts need to be made to increase the chances that low-income housing will be located in locations that are accessible to income-generating and the other vital urban exchange opportunities.

4.1.1 Where do the poor live?

Many cities have distinct patterns for the location of the different socio-economic groups in cities but these vary widely around the world with no single pattern dominating. The most common patterns can be summarised as follows:

- ***Scattered throughout***: where low-income neighbourhoods, although distinct and separate from other social groups, may be located in most parts of the urban area, whether centrally or on the periphery and in most radial sectors. This pattern is common in many Asian cities.
- ***Mixture***: where rich and poor are intermixed in a fine grained way within many or most neighbourhoods. A common pattern, in large parts of Indonesian cities for example, has higher-income people fronting onto roads (with four-wheel vehicle access) and the poor living along alleyways behind and lacking road frontage (Silas, 1983).
- ***Concentric rings***: where the poor are disproportionately located within certain rings of development from the centre. There are two contrasting patterns:
    - located in the ***inner city*** (although beyond the central commercial and office districts) as is common in the USA and the UK.
    - located on or near the ***periphery*** (or what was until recently the periphery). Examples include Paris and many western European cities, South African cities (where Apartheid was a key reason for this pattern), certain other southern and eastern African cities, and many large Latin American cities, most famously Lima, Mexico City and Sao Paulo. Several informants mentioned a trend towards this pattern in Seoul and Bangkok.
- ***Sectors***: the poor may be concentrated in certain sectors radiating outward from city centres, while higher-income groups are located in other sectors. Examples include Tehran and Bogotá, Colombia. Radial spines of high or low-income housing were also a feature of a generalised models of both Latin American and Southeast Asian urban structure (Griffin and Ford, 1980; McGee, 1967).
- In practice, most cities show a ***combination*** of some or all of these patterns at the same time.

4.1.2 What location patterns for urban poor housing help maximise access?

This section seeks conclusions on what patterns of location for the urban poor tend to maximise access to the income generating opportunities and services that they need, while also providing security of tenure.

The patterns of income-based segregation of housing location in which such segregation has a very coarse grain, with rich and poor generally living considerable distances from each other (such as the 'sector' and 'concentric rings' patterns mentioned in Section 4.1.1), are likely to be associated with greater access inequity than those patterns in which income-based segregation of housing locations is finer grained (such as the 'scattered throughout' and 'mixture' patterns). Completely eliminating income-based segregation would be extremely difficult, since high-income groups in most cities go to great lengths to 'protect' themselves from the perceived problems of sharing a vicinity with lower-income people. However, the argument here suggests that at least an effort should be made by planners to foster a finer grain to income-based segregation.

Stretton (1975) provides arguments on both equity and efficiency grounds against income-related segregation and in favour of the intermixing of rich and poor throughout an urban area. He was discussing Australian cities but the arguments apply generally. Among his most important arguments was that mixed areas often provide relatively equal services to unequal residences but segregated areas ensure the poor get only what they can pay for. This argument extended to other issues, such as urban open space, protection from environmental hazards, etc. Put another way, "There are also a number of services which plenty of the poor can pay to use individually, but which exclusively poor areas can't collectively attract (commercially) or finance (municipally)" (p.106). In low-income cities, public transport with sufficient level of service is an example.

Angel et al. (1983) also argue for less macro-scale segregation of different income groups: "… the location of settlements must be a prime consideration. The poor in order to survive, need access to a variety of economic opportunities which are only available in the central areas of cities, in commercial concentrations, and in close proximity to the residential areas of higher-income groups. Their segregation and isolation in remote areas drastically reduce their ability to gain incomes from formal and informal economic activities, and create dangerous social tensions. To be most useful, land uses in the city must remain mixed, keeping people close to economic opportunities, and keeping higher-income and lower-income groups in close proximity."

A particularly problematic patterns appears to be where most of the poor are in peripheral areas of large cities. But any distinctly segregated pattern of locations for different socio-economic groups can lead to access problems for the poor. For example, in Tehran low-income workers (who tend to live in the south where most industrial employment is also located) face difficulties travelling to construction sites in the prosperous north of the city (Nasser Nikouseresht, personal communication, Oct. 2000). Enabling large numbers of low-income people to remain in inner cities is clearly better than allowing all of them to be pushed to the urban periphery. However, if the poor are segregated in the inner areas and there is a flight of higher-income groups elsewhere then the accessibility benefits will be lost to some extent. For example, low-income inner city dwellers in the United States are reported to face difficulties reaching employment locations that are increasingly suburbanised and to face time consuming commutes (Hook, 1998).

In addition, a well-distributed location pattern of affordable housing opportunities is not enough on its own to improve access levels for the urban poor. Residential mobility seems also to be important. It must be possible for low-income households to change location. Among other things, economists argue that this requires well functioning land and rental markets (Gannon and Liu, 1997). This also raises a very important connection between the access issue and security of tenure policies. Many policies tend to restrict security of tenure to long-established residents and to deny security to new residents. Therefore, in many countries staying put in one place for many years is an important way to establish and retain tenure rights. The lack of secure tenure for newly arrived residents is probably

a strong factor discouraging residential mobility among low-income groups. This will tend to exacerbate transport and access hardship by reducing their willingness to move house.

4.1.3 Evidence of access problems for the urban poor

What evidence is there for severe access and transport problems for urban poor households in cities with various location patterns? The incidence of very long commuting times for the urban poor would be a key indictor of poor access. The evidence that has come to hand on this issue seems to be mixed.

There is some evidence of very time-consuming commutes for low-income people in certain cities of the South. Poor residents of the peripheral settlements of Sao Paulo and Mexico City have often been cited as examples (eg by Pendakur, 1997). Travel times in Sao Paulo for low-income people have been observed to be higher than for higher-income people and in 1987 about 44% of trips on public transport in that city lasted for an hour or more. The problems are most acute on the urban periphery: public transport commuters from one peripheral suburb of Sao Paulo spent an average of 3 hrs 15 minutes per day travelling and 45% of public transport trip time was spent gaining access to the system (walking or waiting) (Poole et al., 1994 citing Pacheco, 1985). Gannon and Liu (1997) cite the problems of low-income residents of the low-income settlement of Chalco on the south-eastern fringe of Mexico City where many residents have to commute to industrial areas on the north-western edge, taking about 90 minutes each way by public transport. In some low-income cities there are also high incidences of long, time-consuming walking trips, especially in Africa (Godard, 1997).

Gannon and Liu (1997) suggest that problems related to extremely long commuting times are partly a result of an inability to change residential location. They suggest that reasons for this include limited choices simply because of low incomes but also point to policies and regulations, such as certain zoning and building codes, that can restrict the range of housing open to the poor. Other barriers to the efficient supply of low-cost housing and self-housing opportunities are likely to also be important.

However, there are also reports, particularly from Asia, that trips by the urban poor tend to be relatively short (albeit slow). Some studies emphasise the very limited mobility of the urban poor in dense low-income urban settlements (Dutt, Tripathi and Mukhopadhyay, 1994). This suggests a strategy of limiting employment options to those that can be reached easily from their homes, and/or limiting their housing options to those that are accessible to employment (and other) opportunities.

There is also evidence that very long commuting times may not be a problem in all cities, even some large ones. For example, Ocakci (2000) studied industrial labourers in Istanbul and found that since the 1970s the squatter areas where most industrial labourers live and the industrial plants are both somewhat farther from the CBD than before, they still tend to be relatively close to each other and 67.8% of the workers live within 45 minutes journey from work. The average trip to work time for the metropolitan area as a whole is 49 minutes. Almost all the industrial workers used public transport (formal public transport 37%, informal "service buses" 52%, walking 9.8%, car 1.2%). There is evidence that extremely long commuting times (eg 4 hours per day) reported in Bangkok represent a small number of extreme cases, and that much shorter times are more typical for Bangkok's residents at all levels of income (Poungsomlee and Ross, 1993). It may also be worth noting that few of those interviewed for this study suggested long travel times as a major problem for the poor in their particular cities, except in the context of people who had been forced to relocate to peripheral locations.

Problems of access also appear to be less severe in small and medium sized cities where the distances from urban periphery to core tend to be fairly short, especially where the density of urban population is high. For example, Dr Suparb Pasong from Nakhon Sithamarat in southern Thailand reported to the author that the poor in his city of about 100,000 people can walk or cycle to most

destinations (personal comm., Oct. 2000). Mr Chularathna of Sevenatha in Colombo, Sri Lanka, also reported that in that city of 1 million or so the peripheral areas remained reasonably accessible, thanks in part also to a reasonably efficient and affordable bus system (personal comm., Oct. 2000).

Manning (1984) provides a useful perspective on this, citing data on travel patterns in Agra and Madras in the 1950s and 1960s to illustrate these issues. In pre-public transport cities travel distances tended to be very short. For example, in Agra in the 1950s the main means of transport was walking with a small amount of bicycle use. Journeys to work averaged about 1.2 km with 90% of all trips to work being less than 3 km and the compactness of the city was probably due in large degree to the need to minimise walking distances. He compares this with Madras by 1961, which was already rather large with a well-developed bus system. However three-quarters of poor slum dwellers walked to work. Even for trips of 5 km (an hour's walk) almost half of them walked and some even walked for trips of 10 km, presumably because they could not afford to ride public transport or a bicycle. Nevertheless, the average walk was a little less than 2 km, which is very reasonable. Manning interprets these data as implying that "when the wealthy citizens of a city adopt faster transport some of their poor neighbours attempt to perform the same journeys more cheaply and slowly, at greater time cost. On the other hand, most of those who could not afford bus fares opted for the appalling living conditions of the inner city slums rather than spend hours daily walking to and from a hut in the less congested outer areas" (p.41).

So it is likely that the apparently conflicting reports on commuting times represent diversity in the situation and strategies of the poor even within each city. The urban poor are not a monolithic group. Even in Latin American cities many live on the periphery and must face access problems, others live centrally but face crowding and lack of security (Carmona, 2000). Further investigation is needed into why the problem of time-consuming commutes is so severe for some urban poor people in some places and not for others.

4.1.4 Explicit policies pushing low-income people to peripheries

There are explicit policy factors that reinforce the pressure for the poor living on urban peripheries. These are in addition to well-known demographic and market factors that contribute to a trend.

Demographic and market factors include:

- The simple fact that most new urban development is on the urban fringe during most stages of urban growth so most new building or occupation opportunities for the poor will also tend to be near the periphery.
- Land values are lower on the urban fringe (c.f. urban land rent theory) in market economies.
- Perhaps most importantly, the land available for urban poor settlement is apparently becoming scarcer in large cities. Much evidence points in this direction, although there is still some debate (Gilbert, 1994; Angel et al., 1993).
- Increasing land prices associated with urban population growth (and hence land scarcity), economic growth (with greater competition for land), increasing commercialisation of land markets, etc.

Explicit government policies that reinforce the pushing of poor people to the periphery include policies on the location of public housing for the poor, of sites and services projects, and resettlement sites. Publicly provided housing intended for the poor is very often located in inaccessible locations, primarily as a result of the need to reduce costs. This has often been the case with sites-and-services and mass public housing schemes, such as Nigeria's mass housing provision in 1971 in which projects were located in peripheral areas with severe problems of access (Keivani and Werna, 2001). Professor Eduardo Vasconcellos of Brazil reports that in Brazil the federal and regional government housing policies "locate new low-income housing complexes in the periphery, where land is cheap and monthly instalments will be accordingly low." Often little or no urban infrastructure is provided (schools, health care) and public transport is very deficient so long, uncomfortable journeys to work are common (personal communication, Nov. 2000).

Relocations to peripheral inaccessible sites

Perhaps most drastic in their access harming impacts are cases of communities being involuntarily relocated to inaccessible (usually peripheral) locations. Numerous examples were encountered during this pilot study from a wide range of cities including Seoul, Manila, Kuala Lumpur, Phnom Penh, and Bangkok. For reasons of cost, governments frequently site housing for low-income households (including those who have been relocated) in peripheral locations. All too typical is the example of Santiago de Chile where in the early 1980s approximately 150,000 families were evicted from central districts and resettled to distant locations, with little infrastructure, increasing the distance between rich and poor, breaking social ties, and making travel to the city centre very difficult (Fadda, Jirón and Allen, 2000).

The sudden wrenching nature of such relocations tends to make the transport-related problems more severe. Immers and Bijl (1993) studied Bangkok slum-dwellers who had been relocated to peripheral sites from inner city locations. They found that before relocation more than half of the slum dwellers worked in the informal sector within 400 metres of their dwellings. On average residents spent 100 baht per month and 20 minutes per trip to get to work. After relocation, they spent 750 baht per month and 90 minutes per trip to work. Fifty two percent lost their old jobs while 50 percent suffered a decrease in their informal sector business incomes due to less favourable locations.

In addition, there are strong reasons to believe that the impacts of such relocations are even more severe on women than they are on men, with case studies documenting a higher proportion of women losing employment than men (World Bank, 2000).

A further access-related problem is that many resettlements involve two steps, with the people first being moved into temporary accommodation and then only later to a permanent site. For example, in Malaysia most of those evicted are moved first to wooden "longhouses" and in some cases they remain in these for many years or even decades in some cases (Urban Resource Unit, 2000). Two-step resettlement involving such so-called transit-accommodation further multiplies the access problems and transport disruptions faced by those evicted, especially if neither transit accommodation nor eventual resettlement sites are close to each other or to the original settlement.

One of many examples of evictions to urban peripheries cited by Eviction Watch Asia (Murphy and Pimple (1995, p. 16) is a New Town in Mandalay, Myanmar:

> "…some people say it wouldn't be such a bad place to live if it weren't so far from their jobs. Most of the people ordered to leave Mandalay still work in the city. Getting there and back is time-consuming and expensive. For low-wage earners like Maung Ko, it is becoming almost impossible to make ends meet. On a good day, he can make about 100 kyats. After paying his bus fare, he has barely enough to eat."

According to the Jesuit Social Institute, Jakarta:
"A lawyer organiser said that … People prefer compensation to relocation and rehousing in government public housing. The first is too far from their workplace and the second is beyond their financial capacity. Usually people are able to get a compensation of Rp 70,000. With this amount they "buy" new land somewhere in Jakarta. A World Bank official, however, said this option is getting narrower because the government's plan for the squatters is to relocate them to the periphery of the city." (Murphy and Pimple, 1995, p.31)

From Urban Poor Associates' document "Resettling Communities" on the situation in several peripheral resettlement sites in the Manila region:
"Informal settlers from Malabon, Navotas and areas bordering the Pasig River were relocated to government resettlement areas… North Hills Village in Norzagaray, Kasiglahan I in Montalban and Kasiglahan II in Taguig…

North Hills Village (NHV) … maintained by the Department of Public Works and Highways (DPWH) consists of 4,70l lots with core housing units. The relocation of slum and squatter families to NHV was prompted by former President Fidel Ramos' order to clear all hazardous structures along the R-10 Road Right of Way in Malabon and Navotas…

Somewhere in Montalban, Rizal, mountains have been literally moved to pave way for Erap City – a new town which will manifest the President's call for mass socialized housing. This 2,500 hectare development is now home to over 2,000 families relocated from areas bordering the Pasig River. Their slice of Erap City is known as Kasiglahan I…

Montalban is a great distance from Makati, Manila, Mandaluyong, Pasig, Quezon City – the places Erap City residents were relocated from. Commuting to and from work, therefore, has become more expensive. As a result, some relocatees have resorted to renting rooms near their places of work and go home only on weekends. Others simply try to cope with the drastic increase in expenses. The more unfortunate lost their jobs….

Life at the resettlement areas is hard, as shown in the cases of North Hills Village, Kasiglahan I and Kasiglahan II. Relocatees complain of several things, foremost of which is the lack of basic services such as water and electricity. In addition, the resettlement sites are located far from commercial centers, raising thus the transportation expenses of relocatees in going to and from work and school. Other problems cited include uncooperative local governments, the lack of schools and health centers, the lack of livelihood opportunities, maintenance of peace and order, the possibility of flooding and the lack of financial support from government." *(Source: Urban Poor Associates, 2000)*

Many of those relocated to the urban periphery return

A measure of how often these peripheral relocation sites are totally unsuitable is the fact that many families (or at least the family breadwinners) soon leave the relocation sites and return to locations close to their former residences and workplaces. The lack of accessible employment and other facilities are prominent among the reasons given for this (Fernandes, 1998; Murphy and Pimple, 1995).

Klong Toey Bangkok:
"… As it turned out, evicted people could not adjust to their new accommodation provided by the state. They simply returned. Most of the new communities are relocated 30-40 kilometres from their old residences. They are unable to commute daily to their previous jobs. For the urban poor, jobs go hand-in-hand with where they live. The Klong Toey slum-dwellers worked as daily wage labourers in the Klong Toey port. When they were relocated they were spending a good proportion of their income on commuting. Finding a job nearby is not easy… It is estimated that eventually 60% of the families helped by UCDO will sell their land and return to Bangkok to earn their livelihood. Consequently, an attempt to relocate people within a 15 km radius of the city is strongly aspired." (Fernandes, 1998, p. 146).

Phnom Penh, Cambodia
The first major eviction in Phnom Penh was in 1991 when 300 families were evicted from Monamontrey Temple and relocated to several sites 10 km from town. The relocation sites had no services or employment and the families soon returned to squat in other areas of Phnom Penh. (Murphy and Pimple, 1995).

Informants mentioned other similar stories from Bangkok and Phnom Penh of women and children remaining in the relocation site while the men return to live in the central area and go "home" to the fringe once every couple of weeks. Mr Chea Surin from Phnom Penh (personal communication, Nov. 2000) reports that peripheral areas of Phnom Penh have almost no public transport. For

example, a new resettlement area for 250 families at Toul Som Bo about 20 km from the city centre is served by only an informal truck-based service making 2 trips per day (and even this is ceasing service because of losses). The only other option is motorcycle taxi for $1.50 but most of the men are daily construction workers who only earn $2 per day. As a result, many of the men are returning to Phnom Penh during the week, leaving families in the relocation area. These families were removed from 3 settlements: Daikrahom, Prayuwong and Basak, which are all near the city centre.

Evicted for road projects – twice!

The following is a real illustration of how demolition of "problem areas" really does not solve any problems from the long-term municipal standpoint… The 226 houses in the Mahakali pavement settlement were part of a larger slum that was cleared years ago, to make room for a new arterial road in Worli. Back then, most of the families didn't qualify for resettlement, and those who did were unable to survive out at Malvani, where the city had dumped them. So many ended up on the pavements back in Mahakali. When they began building a Mahila Milan collective with help from Byculla pavement dwellers, they knew rough times were ahead. A few years later, the Mahakali settlement found itself again in the path of urban improvement, this time for a road-widening. Despite urgent negotiations, the municipal demolition trucks finally came and hundreds of huts were destroyed. The Mahakai community remained steadfast, throughout, and is now planning for its eventual resettlement, which the new SRA policy entitles them to.
Source: Excerpt from Citywatch, 1998.

In the case of a community evicted from the Sang Kye Dong area of Seoul to peripheral areas in the surrounding province of Kyonggi-do, transport to jobs in the previous area and in other inner Seoul locations was a great burden in terms of both time and money. Even almost a decade after eviction, more than 80% of the men were still commuting to Seoul and Sang Kye Dong. The residents had been given 600 000 Won for settlement fees, provided that they not move again for 5 years. Consequently, they could not move to other places; nonetheless, 27% secretly left their houses empty and rented other houses in Seoul (Kim, 1998).

Increasingly, housing rights activists are demanding that relocation of evicted households be within a short distance of their former location (such as within 5 km in a Mumbai case mentioned in Murphy and Pimple, 1995).

4.1.5 Promoting urban poor housing in accessible locations

The analysis in Section 4.1.2 above suggests two main policy goals that could help to maximise access for the urban poor to opportunities. These goals are the promotion of: 1) intermixing of different income groups in cities or at least segregation at a relatively fine grain, and 2) greater opportunities for affordable and secure housing for the poor in proximity to employment opportunities, especially in the inner city but also elsewhere.

These goals are already on the policy agendas of the housing rights movement and of various relevant agencies. However, the argument here is that a heightened awareness of access as a key issue and the need for accessible locations for urban poor housing may significantly strengthen the arguments for these goals, which inevitably face opposition from certain groups whose interests can be threatened by the goals themselves or the changes required to reach them.

It is also recognised that location patterns are driven by many factors many of which may be beyond the direct influence of public policy. These include such factors as ethnic polarisation, concentration of land ownership, amenity factors that make parts of an urban area more prestigious or desirable for high-income groups, and so on.

Although it simple to suggest that policy-makers should aim for such goals, in practice it may not be simple to act on these suggestions, particularly for cash-poor governments in urban areas where land values in central areas are high. Nevertheless, most governments do have a range of potential policy

levers at their disposal that can influence the location and supply of affordable housing. They need to take account of these transport-related issues in using those policy levers. In many places, current policy tends to systematically push low-income people into inaccessible locations. Such policies urgently need to be reassessed. This section has provided arguments for more vigorous efforts to be made to take access and transport into account in housing policy, especially policies that affect the location of urban poor housing, and in urban planning more generally.

4.2 Other impacts of urban layout on access and transport for the poor

In addition to the location of urban poor housing discussed in the previous section, there are several other ways in which the character of urban land-use development can have an impact on accessibility and transport, and hence affect the poor and their housing choices. One important way in which urban land-use patterns and their detailed layout can affect access for the poor is by their impact on the viability of the modes of transport upon which the poor are most dependent, namely walking, cycling and other non-motorised vehicles (NMVs) and public transport (also called transit or collective transport). The viability, quantity, quality and affordability of these transport modes are vital to enhancing access by the urban poor to a range of opportunities for employment, education and housing. There are debates about which urban land-use policies best complement various desirable transport outcomes, such as enhanced viability of public transport. These include debates over the benefits or otherwise of the 'compact city', mixed land-use patterns, corridor-based development and the nature of employment sub-centres. However, only rarely have these debates included an emphasis on the implications for urban poor housing or possible synergies with urban poor housing.

4.2.1 Viability of non-motorised transport

Land-use patterns strongly influence the convenience and viability of making many trips by non-motorised transport. Non-motorised transport includes walking and various kinds of non-motorised vehicles, the most numerous being bicycles. The land-use patterns in long-established areas of low-income cities (especially those areas developed prior to mass motorisation or by low-income communities) tend to be well suited to allowing accessibility with a low level of mobility or with low-cost modes of transport, especially non-motorised transport (Barter, 1999a).

The land-use features that are associated with this include:

- high urban population densities (despite a low-rise built fabric in many cases);
- intense mixing of different land uses at a fine scale throughout the urban area;
- low-income housing interspersed with other land-uses throughout the urban area including the central and inner areas;

These patterns allow for many daily trips to be very short and thus able to be made by foot or by non-motorised vehicles. They work reasonably well to minimise the need to travel for the residents of low-income settlements and maintain the accessibility of useful destinations even for the poor with their low mobility[3].

[3] There is one feature of some former colonial cities that runs counter to these comments. In these cities, accessibility can be reduced by large central areas devoted to low-density land uses such as administrative buildings set in large grounds, ceremonial spaces and elite housing. New Delhi offers a dramatic example, so much so that Kumar (2000) describes the 'inverted compact city of Delhi' where, he argues, densities tend to be higher closer to the periphery rather than in inner areas. Nevertheless, as with many other low-income cities, the urban poor in Delhi live in high-density (but low rise) settlements located throughout the urban area.

4.2.2 Viability of public transport

Land-use features that can be served efficiently by low-cost public transport, such as jitneys[4] and buses, include some of the same land-use features that help to promote non-motorised transport as well as some additional ones that are also common in many low-income cities (Barter, 1999a; Thomson, 1977). Such land-use features include:

- high urban densities, which ensure that there are many potential customers for public transport services within walking distance of routes;
- mixing of land uses;
- a high proportion of jobs located in the central and inner areas of the city and in concentrated corridors of commercial land-use along many main roads [5];

4.2.3 Land-use trends undermining viability of public and non-motorised transport

A number of land-use trends in many cities tend to undermine the pro-poor land-use features mentioned above (Hook and Replogle, 1996). Some of these trends are associated with motorisation, as well as other factors, including the attitudes or many officials and planners who view the 'traditional' or vernacular urban fabric in a negative light as being backward, associated with poverty and unsuited to modern modes of transport and styles of living.

One such trend associated with motorisation relates to a mechanism underlying the phenomenon discussed in Section 3.2 in which it was argued that access levels for low-income people could suffer as the mobility of higher income people rises. As higher-income earners have acquire private vehicles, developers increasingly locate new developments to be easily accessible by private vehicle, even if this renders them inaccessible by public transport and non-motorised transport (Barter and Kenworthy, 1997). This trend is accelerated since vehicle owners, with their higher economic power, account for a large share of economic demand. Higher travel speeds now available to the high-income groups encourage some development to disperse in ways that are difficult to serve by public transport or to access by non-motorised means (Poboon, 1997).

Another mechanism by which motorisation harms access by the poor is related to congestion. This might appear to be purely transport-related and thus not to belong in this section. However, land-use is important here because high urban density (which is characteristic of cities with low-motorisation) is one reason that congestion can become such a severe problem so quickly, even at surprisingly low levels of vehicle ownership. High-density urban development is extremely unsuited to high rates of private car use and such development inevitably has low levels of road capacity per person (Barter, 1999a; Zahavi, 1976). The congestion that then results from even the earliest spurt of motorisation has an immediate and drastic negative impact on bus and jitney speeds and service levels and also quickly clogs much of the urban space making non-motorised transport dangerous and difficult.

Therefore in many cities that are rapidly motorising, travel for the poorest groups of people tends to become even slower and more difficult than it was before. At the same time, the land-use changes mentioned above tend to reduce the proximity of key destinations, thus reducing access just as mobility is being reduced. Worse still, these trends occur at the same time as many of the urban poor are being displaced away from central informal settlements to more peripheral locations (Immers and Bijl, 1993; Murphy and Pimple, 1995).

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[4] The word "jitney" refers to public transport operated by small enterprises using minibuses, minivans or similar on fixed or semi-fixed routes with little government regulation. Manila's jeepneys are an example. Similar services operated in many Western cities earlier in the 20th Century.

[5] However, within the inner area, jobs are often relatively dispersed with no intense concentrations of employment, which is a pattern that is suited to access by many relatively low -capacity public transport corridors (such as those served by jitneys).

4.2.4 Potential of land-use policies aimed at achieving transport-related goals

Is there potential to implement policies aimed at retaining the best of the traditional land-use patterns with the aim of retaining high levels of access to destinations for those using non-motorised modes and public transport? Transport goals such as these are among the motivations for so-called "Compact City" policies (Jenks and Burgess, 2000) and other transport-related land-use policies, most importantly transit-oriented development, in which urban development is explicitly planned to be supportive of public transport ridership (Cervero, 1998).

There is a great deal of argument over the pros and cons of encouraging compact urban form in the context of high-income countries, where the main issues have been attempts to reduce dependence on automobiles and on reducing the cost of providing infrastructure to outer areas. The terms of the debate, even when focused narrowly on transport, are very different in cities of the developing world, where relatively high densities are already the norm (Barter, 2000). Nevertheless, it is clear to many that promoting compact urban form, mixed land uses and encouraging specific other transit-oriented land use patterns, such as high-density nodes of activity around public transport interchanges, can enhance the use and viability of walking, non-motorised vehicles and public transport.

This section will now focus on the specific implications of these efforts for the urban poor and their levels of access. To the extent that such policies enhance the modes of transport upon which the poor depend, then we can be relatively confident that such policies will enhance access levels for the poor. However, the issue is complicated. A recent attempt to answer the question of whether compact cities offer equity benefits (in various arenas, not just transport or just housing) in the context of a sample of British cities yielded mixed results, although not completely discouraging (Burton, 2000).

Some worries about these land-use proposals relate to concern over high-density housing forms. High-rise public housing has fallen out of favour in most countries for various reasons. In the context of the South the main reasons for this appear to be the high costs (Keivani and Werna, 2001). In addition, housing activists and community organizations and others have often expressed the view that high-rise is often inappropriate for urban poor communities, especially when there is a significant level of self-employment with a need to store, handle and deliver goods. Concern has also been expressed that high-density urban form tends to go together with low internal housing space per person (World Bank, 1996). However, it is unclear if in this case both high density and cramped housing are associated with low-incomes rather than necessarily with each other. High-density cities that have high incomes apparently tend to have expensive housing but again it is not clear where causality lies. It may be that other factors (such as scarce land and very rapid development) have contributed to both high densities and high prices per unit at the same time. Many of these objections have counter arguments. For example, middle and high densities need not be restricted to the urban poor or just to residential land-uses as some of the objections seem to assume. Secondly, densities that are high enough to offer significant access benefits do not necessarily require a predominantly high-rise urban form.

High densities alone are not sufficient to offer dramatic access benefits. Location and proximity to useful destinations is still very important. Dense housing located in an inaccessible peripheral location will still have problems of lack of access, as with many eastern European flats from the communist era or some of the high-rise estates on the periphery of Paris. Even in Hong Kong, according to Lau (1997), the residents of the very dense but far-flung New Towns in the New Territories suffer from a lack of access to jobs and services that are concentrated in central Hong Kong and Kowloon.

All of this suggests that more attention is needed to seek low-cost approaches to compact urban form and/or public transport-oriented urban form that also increase the affordability of housing overall. A starting point here should be Thomson's (1977) 'low cost' archetype or transport and land-use

'strategy'. He outlined five 'strategies' or viable solutions to the challenges of modern urban transport in large cities.

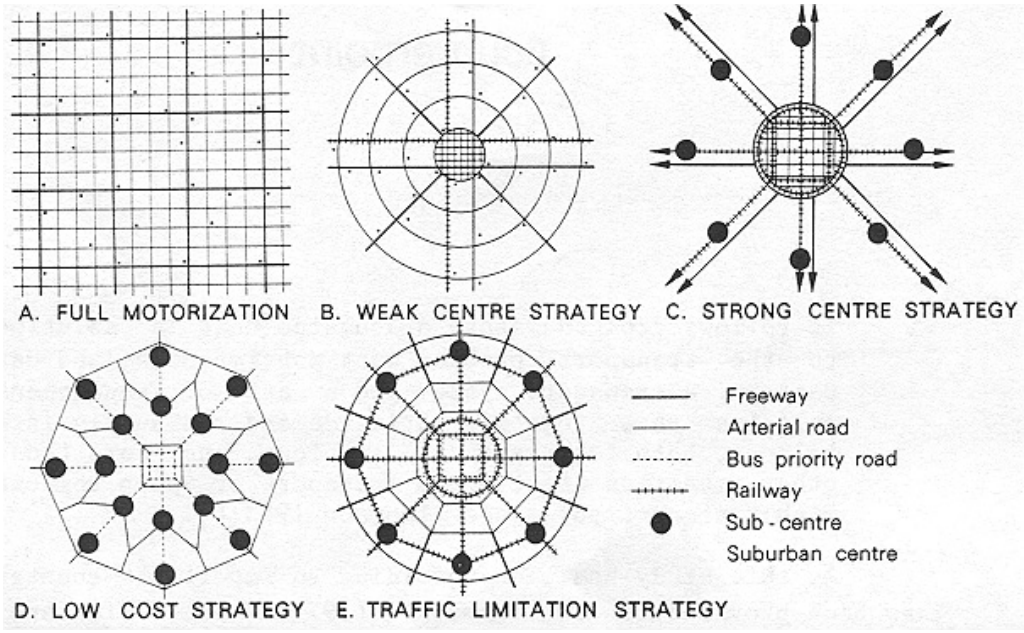

Figure 1 Thomson's archetypes of urban land use and transport strategies
Source: Thomson (1977) as adapted by Rimmer (1986: 262).

According to Thomson, the main features of the low cost strategy were that buses (and perhaps trams) are expected to carry most traffic and roads must be managed to make this possible. The city must be high density, with a large centre of up to a little over 500,000 workers, with an approximately equal number of residents within walking distance of the centre. In very large cities other sub-centres will be needed. To minimise transport costs, these would be located along radial roads as near to the centre as practical without further overloading the radial road and bus network. No city actually follows this strategy in its entirety. However, many low-income cities have some or all of these features out of sheer necessity. Mixed land use throughout the urban area is another feature that could be added to the strategy.

4.2.5 Explicitly linking transport-related land-use initiatives and housing for the poor

There are examples in the developing world of policies linking densification with increased social housing. In most cases, transport considerations do not feature is these initiatives, although such benefits may often be an inadvertent by-product. And in principle such efforts can also be applied explicitly to transit-oriented development.

In an example from Sao Paulo, Brazil, densification is linked explicitly to the provision of social housing via transfers of development rights and/or the relaxation of floor area ratio or plot ratio standards. However, some problems have resulted from a failure to integrate this densification program adequately with public transport or other accessibility considerations (Acioly, 2000).

Similar initiatives are also reported elsewhere, such as Mumbai where a floor space bonus (the usual plot ratio of 1.3 can be relaxed to 2.6) is offered to developers on condition that housing within the site is given free to the low-income slum-dwellers who would otherwise be displaced by the development (V. Ranganathan, personal communication, Oct. 2000). This Mumbai example is similar to the practice of land-readjustment or land-sharing which is widespread in Asia (especially Korea, Japan and Thailand) (Lloyd Jones, 2000). Such practices have the important advantage of resettling people on-site (or very close to their original site) and avoiding many of the problems with relocation to remote sites.

It is also possible and important to guide such densification into locations that can cope. Most importantly they should already be accessible or be provided with quality public transport service of sufficient capacity. In Curitiba, Brazil, such a transit-oriented development approach is indeed taken and the location of densification zones are explicitly linked with the "structural corridors" of the urban plan which have excellent public transport and accessibility (Cervero, 1995). Curitiba is now famous for this effective linkage of the transport corridor plan with densification close to excellent public transport. This policy has been vigorously pursued since 1975 with transfers of development rights as a key mechanism. In the 1990s, Curitiba followed Sao Paulo's lead and linked the densification and transfers of development rights with the social housing program (Acioly, 2000). Thus not only does densification take place in the most accessible locations that are well-served with public transport (and at the same time enhancing public transport ridership) but the supply of affordable housing is enhanced at the same time. However, in the Curitiba case the social housing is not necessarily within the densification zones. Instead it is the revenues from the transfer of development rights program that are used for social housing. From 1990 to July 1999, transactions of development rights generated nearly US$8.4 million for the social housing development fund (Acioly, 2000).

4.2.6 Employment distribution

Earlier, Section 4.1 discussed the implications of the locations of urban poor housing for access to employment. The converse should also be considered, namely the impact of the pattern of employment locations. One of the main reasons for the unsuitability of many peripheral housing projects is the lack of employment opportunities within easy commuting distance. What distributions of jobs would help increase accessibility to employment from a wider range of locations (and hence allow a wider range of housing locations for the poor)?

Many in the planning literature argue for "decentral concentrations" of employment or a multi-nodal urban form, highlighting benefits from concentrating substantial employment into sub-centres (in addition to continued plentiful employment in central areas). Thomson's (1977) "low-cost" transport and land-use strategy for example urges such sub-centres. Transport and access benefits are prominent among the benefits. Indeed, to some extent such sub-centres do tend to emerge spontaneously in large cities and almost certainly for the same reasons (Lloyd Jones, 2000). Multi-nodal urban form with several major centres of activity is a now a common goal of urban planners.

The corridor model, in which employment and dense development are concentrated along linear corridors, ideally with the corridors based primarily on public transport, is another model that is thought to provide a healthier pattern of accessibility than either a mono-centric employment or a pattern in which employment is highly dispersed throughout the city. Curitiba's structural axis plan is a famous and successful implementation of a corridor model (Cervero, 1995).

With both the multi-nodal city and the corridor model it is hoped that there would be more opportunities to build affordable, low-cost housing in a wider range of locations when compared with a mono-centric city. This is because theoretically the pattern of land values in a multi-nodal city would not simply be concentric as in a mono-centric city and there should be more locations that have relatively low land values but are nevertheless not too distant from one or another employment nodes. However, this pilot study has not yet come across any detailed studies that can confirm these benefits for urban poor housing from such urban morphologies. This is an important question to be answered with further investigation.

A further question is how can urban structure be moulded into these desirable patterns? Master planning of urban structure at this scale has been found to be impracticable in most places, especially in the South. However, with a strategic planning approach infrastructure investments are a seen as a key tool with which to guide development. Transport infrastructure is in fact one of the key tools that can be used to guide such development. For example, spontaneous sub-centres will tend to emerge at

locations of high accessibility. Therefore in any deliberate planning of sub-centres of activity it is vital that the desired locations be made highly accessible. Conversely, transport planners need to be conscious to make sure that high-accessibility locations are placed wisely so that the sub-centre that will probably emerge does not become a problem in other ways (eg due to a environmentally sensitive location). This is a reminder of the comments made in Section 3.3 on the interactions between land-use and transport planning.

4.2.7 Mixed Land Use and accessibility

For several decades, mainstream planning opinion, but not necessarily planning practice, has been moving away from a preference for segregated zoning of land uses towards a more pragmatic approach, if not outright advocacy of mixed land use patterns. It is now increasingly recognised that only a relatively few, very obnoxious, land uses really do need strict segregation from others. Many authors and more and more urban authorities now advocate mixed land uses (TEST, 1991; Campbell and Newman, 1989). The accessibility benefit is one the primary arguments in favour of this change. While not necessarily being the major determinant of travel behaviour, mixed land-use certainly increases the potential to satisfy more travel needs with short, non-motorised trips, even in high income contexts (Van and Senior, 2000). Indeed, as mentioned previously, mixed land use patterns are a traditional feature of many low-income cities, as a spontaneous adaptation to enhance access in a context of low mobility.

However, many urban authorities retain strict zoning regulations that seek to reduce or prevent mixed land uses. Even though in practice, these zoning rules are frequently not enforced, such regulations should be replaced by more specific performance-based regulations that prevent noxious or noisy activities in the wrong locations, rather than blanket bans on the mixing of land-uses. Zoning rules are also an example of the unrealistic standards and regulations that render low-income housing either illegal or unaffordable and which will be discussed in section 5.3.1.

4.3 How will greater security of tenure affect transport?

We have looked at various ways in which housing, urban morphology, and related policies, affect transport and access for the urban poor. The Global Campaign for Secure Tenure is seeking some important changes in housing-related policy. Therefore it seems pertinent to ask what would the implications be for transport issues if the aims of the global campaign are successful. There may be obvious synergies or there may be implications that might be opposed by interests in one or another transport-related industry. Does the global campaign need to integrate an awareness of such transport issues?

Insecure tenure increases the likelihood of involuntary resettlement for transport infrastructure and reduces the ability of affected households to obtain proper relocation assistance and compensation. The existence in an area of large numbers of people with insecure tenure tends to encourage such areas to be seen as corridors that can easily be cleared without great expense in terms of compensation. Furthermore, a widespread lack of security of tenure probably discourages transport planners from making strong efforts to minimise displacement as a result of transport infrastructure proposals.

Therefore, it is likely that any widespread increase in the security of tenure enjoyed by low-income residents (as aimed for by the Global Campaign) might increase the pressure for transport infrastructure to be planned more carefully with fewer relocations, otherwise, higher costs would be faced as more compensation and better resettlement procedures would become necessary. As a result, some transport infrastructure industry interests may tend to oppose increased security of tenure due to fear that it may hinder their activities, making them more costly or less attractive.

It is well known that a lack of security of tenure tends to inhibit initiatives by low-income communities to improve their housing and local environments. Likewise for transport-related issues, communities with insecure tenure are unlikely to be able to do much to improve their street environment, pedestrian environment, crime situation, and their transport situation in general. Conversely, more secure tenure may encourage communities to invest more into improving their local access infrastructure and services. This is by analogy with other self-help improvements observed to take place when security of tenure improves. Settlement upgrading experiences, such as Indonesia's Kampung Improvement Programme, suggest that local footpath improvements (including covering drains), local access roads, etc. have potential here. Such initiatives would also be suitable together with labour-based approaches.

In addition, part of the mobility burden that is faced by the urban poor (especially women) relates to the lack of basic services in low-income settlements. Trips to collect water and dispose of waste may be burdensome in many low-income urban settlements and would be rendered unnecessary by non-transport sector solutions, such as the provision of these basic services via piped water and efficient collection services (UNDP, 1998). These basic services are more likely to be provided when settlements achieve some degree of security and recognition.

Another, indirect transport-related consequence of greater security of tenure might be that residents will then tend to be in a better bargaining position when facing eviction, and will more often be able to negotiate successfully for outcomes that maintain their levels of access to urban opportunities. Examples of negotiating demands that have considerable access and transport related benefits for the community are resettlement on-site, resettlement to a site nearby and/or for any transit accommodation to be located directly on the final relocation site rather than at a third location.

Therefore, in conclusion, greater security of tenure should substantially alleviate access problems for the poor by reducing the total amount of transport-related of eviction, by increasing their ability to negotiate proper relocation and compensation, and by increasing the chances that access-related improvements will be made in low-income communities.

4.4 Summary: housing policy and urban planning for better access by the poor?

Section 4.1 of this chapter focused on the location of urban poor housing and how this relates to access issues for the poor. This was investigated first by looking at where the poor characteristically live in cities but it was found that their location patterns are diverse. The next sub-section considered which kind of location patterns offered better access opportunities than others. It was argued that patterns in which there was a macro-scale segregation based on incomes were likely to create much greater access problems than patterns with little segregation or in which segregation was at a finer grain, allowing rich and poor to live relatively nearby each other. Evidence on the access problems of the poor in cities was then considered and many reports were found of severe access problems, as measured by long travel times. However, many of the urban poor do manage to retain high levels of access despite their low mobility, by living in locations that are highly accessible to employment and other income generating opportunities. Next the chapter discussed several ways in which public policy often increases the pressure pushing the poor towards urban peripheries. Most prominent are policies or practices on the location of public housing, sites and services projects and/or relocation sites. The access effects and the evidence of hardship associated with being pushed to the urban periphery were also discussed. Finally the chapter argued that there are strong transport-related reasons to make greater efforts to promote more accessible locations for urban poor housing.

Section 4.2 then investigated other effects of urban form on transport that are of particular relevance for the urban poor. It first emphasised that changes in urban land use patterns can have important effects upon the viability and attractiveness of the modes of transport that are most important to the urban poor, non-motorised transport and public transport. Certain common trends in land use as

cities motorise have a tendency to undermine these low-cost modes to the detriment of the mobility of poor.

The section then investigated options for promoting land-use arrangements that are aimed at transport-related goals, such as encouraging viable public transport and non-motorised transport. The main focus was to discuss the implications of such efforts for the urban poor. Some possible objections to 'compact city' and other related policies were discussed. Then Thomson's archetype of the 'low cost' transport and land-use strategy was suggested as a useful framework for promoting an accessible low cost transport system and the urban land-use pattern to complement it. The next sub-section moved on to examine ways of making more explicit the link between such transport-related land-use initiatives and housing for the poor. Examples of policies linking densification with increased social housing were presented as well as examples that make this link as well as directing such densification into public transport oriented locations. The section then discussed the impact of alternative patterns for employment location, with a focus on the potential benefits of 'decentral concentration' (or an emphasis on multiple transit-oriented sub-centres) and on concentration along linear corridors, supported by public transport spines. Section 4.2 ended by discussing the access benefits of mixing different compatible land-uses together, rather than strictly segregating them.

Finally, section 4.3 asked how greater security of tenure in cities might affect transport. It was concluded that there may be significant access benefits for the urban poor of an improvement in security of tenure.

5 Transport Impacts on Housing for the Urban Poor

Section 4 examined various urban planning and housing impacts on transport or access for the poor. Now we turn to the other side of the coin, transport impacts on housing for the poor. These effects are also various and both direct and indirect. They include evictions directly for transport infrastructure projects and various ways that these might be reduced, the role of mobility for the poor and its impact of their housing choices, what transport policies might complement 'pro-poor' land-use planning, transport investments and gentrification, the impact of transport-related standards on housing for the poor, and the impact of transport policies on security of tenure. As before, the aim is to detail the implications for policy.

5.1 Eviction and resettlement for transport infrastructure

Transport projects themselves have become an important direct cause of relocations, especially in large, dense cities, where there is little spare room and any new land-use generally requires an existing use to give way. Many of the evictions still violate housing rights and tenure rights norms that are being promoted by the Global Campaign.

5.1.1 Scale of evictions for transport infrastructure

A comparative perspective is difficult to come by but it is nevertheless clear that evictions for urban transport are very significant in many, if not most, cities. Transport related evictions are likely to be most intense in lower-middle income cities in many of which motorisation is increasing rapidly, population densities are high, there are often weak legal institutions, and in which there are often large populations living without secure tenure. It is difficult to estimate the overall proportion of evictions in developing cities that are directly attributable to transport infrastructure but on the basis of some of the clues so far (presented below) it seems likely to be of the order of 10 percent in many cases and much higher in certain cases. Given the large scale of evictions reported by sources such as Habitat and various Housing Rights NGOs (for example the Eviction Watch program of the Asian Coalition for Housing Rights), this level of transport-related evictions is likely to involve very significant numbers of people.

The World Bank has identified transport as the largest single cause of resettlement in its portfolio of projects. For example, transport accounted for 25 percent of projects active in 1993 that involved resettlement (World Bank, 1994). Transport infrastructure is also often the primary cause of resettlement in urban and industrial development projects; for example, 67 percent of the resettlement in the World Bank's Surabaya Urban project is associated with the project's transport components (World Bank, 1996).

It seems likely that people evicted for transport infrastructure are disproportionately from among the most vulnerable groups in society and to have particularly weak housing tenure, perhaps even more so than most other causes of eviction. Transport-related resettlements and evictions affect the poor in disproportionate numbers because low-income settlements naturally tend to be identified as low-cost, "easily cleared" alignments for new transport routes (Gannon and Liu, 1997; Hook, 1998). In addition, a common location for informal settlements is on linear reserves of land (usually state owned) that have been earmarked for infrastructure of some kind, not necessarily transport infrastructure, but nevertheless attractive for transport projects. Examples include reserves along waterways, electric power lines and of course road and railway reserves. It is particularly difficult, if not impossible, for settlers to gain security of tenure on such infrastructure reserve land. For example, in Mumbai the 18,000 or so families living within 10 metres of the suburban railway tracks are prohibited from getting secure tenure and basic facilities because of the location on central government land that is intended for public purposes (Patel, 1999). Settlers in these types of reserve are, of course, particularly likely to be evicted for transport projects.

In India, "pavement dwellers"[6] are among the most vulnerable to eviction and, given their location, road work is obviously high on the list of reasons for eviction. Eviction Watch Asia (Murphy, 1995) states that those who suffer most in evictions are the pavement dwellers who live on sidewalks, those living along railway lines, in hazardous conditions without water, electricity or sanitation. They are denied access to public services and are not enrolled in the electoral lists. Around 600,000 people are estimated to live on pavements in Mumbai. In six cases monitored for Eviction Watch the most common reasons stated for evicting pavement dwellers were: building or expanding public utilities such as roads (eg Ambedkar Road widening, Byculla); commercial activity, including commercial transport activity (eg in Mahim the pavement was cleared to provide parking space for private bus operators); and "political reasons".

Eviction Watch Asia (Murphy, 1995) identifies infrastructure demands, such as the construction of roads, airports, railways and water stations as an important cause of displacement in India. In Mumbai 6,000 families were said to face displacement to make way for five link roads. The same source mentions the Jogeshwari – Vikhori link road which affected about 800 families. They were given a resettlement site close to their original residences but only after a struggle of 25 years! The rehabilitation scheme also called for houses that were more expensive than most could afford.

In wealthy countries too, public spaces associated with transport facilities are some of the most common sleeping places for homeless people, who are also vulnerable to eviction from these spots. Ms Suzuko Yazu of the Resource Centre for Homeless Human Rights in Japan reports (interviewed by Chris Wilson, Dec. 2000) that the Tokyo Metropolitan Government forcibly removed about 200 homeless people from an underground walkway connected to the central area's busy Shinjuku rail station. The Government claims this was necessary to build a 300 metre moving walkway but activists believe that this was an excuse in order to remove the homeless people from this public space.

Even if most of the time the proportion of evictions directly attributed to transport projects might be relatively low, individual large projects or major programmes (such as under a large international loan) can result in very large numbers of people being displaced in a short period of time. One example often cited in the literature is the Jabotabek First Urban Transport Development Project in the Jakarta region, financed by the World Bank in the early 1990s (World Bank, 1996).

Transport related eviction and eviction threats in Metro Manila

Metro Manila is one urban area where an unusually close and efficient watch is kept on evictions by civil society, in particular by Urban Poor Associates. Here follow a number of recent insights on transport-related evictions from UPA's publications. It is unlikely that the Manila example is atypical. There is no special burst of infrastructure construction in Metro Manila as compared with many other cities around the region or the world.

Of the year 2000 evictions listed systematically in the Year 2000 Demolition Monitor by Urban Poor Associates 7.2% (or 436 out of 6,059 families) were evicted for explicitly transport-related projects).

The Department of Public Works and Highways (DPWH) estimates that ***Radial Road 10*** (a road expansion project funded by the National Government) will require resettlement of 10,000 families, who have stayed in the area for a minimum of two years and a maximum of ten years. During early 2000, the DPWH evicted several hundred families along R-10 but then stopped, saying that they did not have a resettlement site for those who would be evicted because the North Hills resettlement was already full.

The ***Philippine National Railways Road Widening, Skyway and Beautification project*** (a road and railway project) extends from the PNR head office in Tutuban Center, Divisoria, Manila, connecting to Espana St., Blumentritt up to Sangandaan, Manila in the north then goes to Magallanes in Makati until Nichols Area in the south. The whole stretch has an estimated population of about 15,000 families who would need to make way

[6] People living in the open or in small impermanent constructions on the pavements or streets beyond the official building line.

for the project. Sixty percent of the population have stayed in the area for 10 years. Ten percent have stayed between 3-7 years while the rest are relatively new.

Circumferential Road 5 (C-5) is a project requiring the construction of a circumferential road which starts from C.P. Garcia Street at the University of the Philippines in Diliman, Quezon City and ends at Letre Road in Malabon. The number of urban poor families affected is estimated at more than 10,000 whose lengths of stay in the area average from seven to 15 years.

Two major rail projects (to upgrade and provide fast trains on existing PNR routes) in and beyond the Manila region threaten large numbers with eviction. These are the ***Northrail project*** (20,000 families threatened) and the ***Southrail project*** (24,000 families). In the North Rail project the government sent out demolition notices to squatter families living along the railroad tracks in Caloocan and Malabon in the middle of 2000. No actual demolition operation, however, took place.

In April 2000 the government demolished some 500 structures along Commonwealth Avenue and IBP Road because of its plan to construct an interchange.

Sources: Urban Poor Associates (1999); UPA, COPE & CO-TRAIN (ca. 2000); Urban Poor Associates (2001); Urban Poor Associates (2000)

Another example in which road-related evictions were prominent is the cases of Santo Domingo in the Dominican Republic documented by Morel and Mejía (1998). In this case, from the 1960s to the 1990s, road projects featured prominently as part of "urban renewal" campaigns by the authorities resulting in large numbers of evictions, most of them from the central areas to the urban periphery. Road projects included in the late 1960s an inner ring road and in the 1980s and 90s the Quinto Centenario Expressway, an expressway extension to José Contreras and an outer ring road.

The Urban Resource Unit (URU) of Malaysia monitors evictions, with a focus on the urban region around Kuala Lumpur where there is continuing rapid development of transport infrastructure, including railways and expressways. In 1999, transport infrastructure development accounted for 203 (or about 27%) of the 745 evicted households counted by URU's monitoring in the urbanised states of Selangor and Kuala Lumpur Federal Territory. The breakdown was 66 for the Express Rail Link (ERL) to the new airport, 113 for road projects and 24 for a bridge. Transport infrastructure development accounted for 1,133 (or about 12%) of the 9,710 households facing planned evictions as of early 2000 (Urban Resource Unit, 2000).

A study of official resettlements of low income communities from inner Bangkok provides some information on resettlement outcomes seen in that city. Of the 61 cases examined from between 1984 and 1995, only 6 involved resettlement on-site via land-sharing arrangements. The other 55 involved resettlement to locations between 14 and 48 km from the Central Business District (CBD) with an average of 24 km. One site was 6.7 km from the nearest main road! About 40% of those relocated subsequently moved away from the relocation site. Of 23 sites for which the cause of the eviction is listed, 6 were a direct result of expressway or interchange projects. In 5 of these the community was relocated at least 32 km from the CBD. *(Source: Presentation by Mr Vichai Viratkanan, of the School of Environment, Resources and Development, Asian Institute of Technology, made at Chulalongkorn University, Bangkok, 31 Aug. 2000 and notes from the event by Craig Townsend).*

Evictions for the purpose of road expansion or construction, and to a lesser extent for rail projects, are thus prominent in many accounts of resettlement and demolitions from many cities.

5.1.2 Minimising the need for resettlement

The best way to reduce the impacts of resettlement is to minimise the amount of it. This is best achieved at an early stage in the planning of a project, or even better, as an integral feature of infrastructure policy and practice.

For example, the Center for International Environmental Law (CIEL, 2000) criticises the World Bank for not placing sufficient emphasis on avoiding resettlement for infrastructure projects.

However, CIEL praises the Inter-American Development Bank (IDB) for the strong language in its resettlement policy, which includes the following:

> "Every effort will be made to avoid or minimize the need for involuntary resettlement. A thorough analysis of project alternatives must be carried out in order to identify solutions that are economically and technically feasible while eliminating or minimizing the need for involuntary resettlement. In examining the trade-offs between alternatives, it is important to have a reasonable estimate of the numbers of people likely to be affected , and an estimate of the costs of resettlement….
> When a large number of people or a significant portion of the affected community would be subject to relocation and/or impacts affect assets and values are difficult to quantify and to compensate, the alternative of not going forward with the project should be given serious consideration." (emphasis in the original) (Inter-American Development Bank, OP-710 Involuntary Resettlement, available at www.iadb.org/cont/poli/OP-710E.htm).

Such language in resettlement policies obviously needs to be followed through into practice but is certainly a useful model for relocation policies at all levels (international, national, local agencies) to adopt. Transport infrastructure agencies could also adopt similar policies on minimising the need for resettlement and integrate these policies into their mainstream planning processes.

5.1.3 Space devoted to transport facilities

As mentioned above, even better than reducing evictions at the project planning stage, would be to reduce them through reforms at the level of the overall transport policy and practice. An important factor contributing to transport-related evictions is that modern transport infrastructure can be very space consuming. We will see that transport policy choices can have a great influence on the amount of land required for transport facilities.

Airports are the most obvious single example of space-consuming transport infrastructure but are relatively few in number and their peripheral location reduces somewhat the numbers of people affected. Port expansions are also important in some cities, although land reclamation is often used to accommodate these. Ports and airports are also beyond the scope of this paper which focuses on urban transport. Rail marshalling yards also take substantial areas although few new yards are being built these days, except in the form of mass transit depots in some cities. Rail improvement projects, especially conversions from single tracks to double tracks can be important and there have been recent examples in the Kuala Lumpur region and ongoing projects in the Manila region. Bus depots are lacking in many developing cities and projects to provide these can also lead to evictions as the search for cheap sites often targets informal settlements.

Private passenger cars and associated infrastructure as the most space consuming mode

Private cars require a great deal of space both for their movement and for parking when compared with other modes, particularly highly space-saving modes of public transport. Even in cities, such as Manila, where public (collective) modes of transport carry most trips, private transport dominates traffic and the consumption of road space (Kirby et al., 1986). It is road projects that account for most of the space devoted to transport and seem to account for most of the evictions that are directly attributable to transport infrastructure. Major highways, especially limited access roads or expressways with their requirement for on and off ramps and interchanges, are very space consuming and are commonly built even into heavily populated areas. For example, even a modest urban expressway with a 50-metre right-of-way occupies at least 5 hectares of land (not counting exits and interchanges) for every kilometre of road. The people-moving capacity of such a road is comparable to that on a light rail system (if used at full capacity) with a much narrower right of way (approximately 10 metres). A randomly chosen 5-hectare strip within a large developing city will typically contain between 500 and 1000 people (or even more in especially dense housing zones). Elevation of expressway does reduce the land take (although not completely) but increases other cost elements considerably.

Parking may be equally significant, perhaps even more important than the space taken for roads and vehicles in motion. There is also increasing awareness of the importance of assessing parking space when considering the spatial impact of different kinds of transport. By calculating the product of the space occupied by the time that it is occupied, attention is focused on the enormous differences (up to 90 times) in "space multiplied by time" consumption between cars and public transport for a trip to work in a central business district (Bruun and Schiller, 1995). This approach emphasises the importance of the space consumed for car parking that is occupied continuously for the entire day in expensive central areas. It also emphasises how quickly the spatial demands of transport escalate as the ownership of private cars increases. Every urban car requires road space to drive on and several parking places per car at various places around the city. The impact on urban space consumption of parking is also more insidious than that of roads in that it tends to be incremental and hence rather invisible. Only very occasionally does the land taken by parking become a matter of debate or controversy.

For these reasons, increasing motorisation puts great pressure upon planners and developers to try to increase road space, including explicitly raising the roads ratio (or the percentage of urban land devoted to roads) even in established parts of the urban area.

Road area and transport policy

In the literature on Asian urban transport, a low percentage of urban land devoted to roads is often stated as a major problem, with the comment typically being made that the roads ratio is far below the levels of western cities (Chae, Kim, and Hong, 1994; Soegijoko, 1997; World Bank, 1996: 4). Roads ratios for large low-income cities are typically estimated at between about 5 to 15 percent. Such laments sometimes imply that cities should strive for some ideal percentage for roads, which is usually put at 20 percent or 25 percent of the urbanised area, and which is said to be a general yardstick in the West (Tanaboriboon, 1993). Such comments are an oversimplification and ignore wide variations even among rich cities. For example, some European cities (including Paris with 11 percent and Munich with 13 percent) and rich Asian cities (Tokyo with 13 percent and Hong Kong with 12 percent) seem to have relatively low roads ratios (Kenworthy et al., 1995). This suggests that high roads ratios are not an inevitable part of increasing wealth and development but must be considered together with urban transport policy. Cities that place high emphasis on space-saving modes of transport, especially public transport, can apparently make do with rather low road ratios, even in a high-income context. The car-oriented cities of the US and Australia seem to have much higher ratios. For example, Poole, Pacheco and de Melo (1994: 22) suggest about 35 percent of land is devoted to roads in cities in the US.

Reducing land requirements for transport infrastructure

There are thus transport policies that can minimise the land required for transport. The cities mentioned above as having rather low road ratios are all cities in which there is a strong role for public transport, despite their wealth. Transport policies which place strong emphasis on space-saving modes of transport and restrain the use of the most space-consuming modes (of which the private car is the most dramatic example) will tend to reduce the amount of land required for transport facilities, even as incomes rise and aspirations for greater mobility rise too (Barter, 1999a). The question of synergy between such policies and other development goals, including welfare of the urban poor, will be addressed in a section below.

5.1.4 Reform of transport assessment procedures

Methods used to assess the feasibility of transport infrastructure proposals may also be encouraging displacement. There has been criticism of the commonly used models and assessment procedures for transport infrastructure projects for not adequately taking account of environmental externalities, synergies with urban land-use development, impacts on non-motorised transport users, impacts upon the poor and for not addressing gender. An example is the failure of Highway Design Maintenance

Model (HDM) Version II to take account of indirect social costs associated with relocations for transport infrastructure (Hook, 1994). Although the World Bank and others using this model included the direct effects of relocation, Hook argues that they ignore the many indirect effects which are no less serious and real, including loss of businesses and related jobs in the localised economy, increased business costs due to relocation, increased housing and household costs in many cases, increased transport costs, and temporary or permanent loss of employment.

Although assessment techniques used by the World Bank and others have been gradually improving to take account of some of the criticisms, inadequate assessment techniques are still very widely used and most will therefore have a tendency to encourage undue displacement.

5.1.5 Resettlement procedures for transport infrastructure projects

The resettlement procedures that apply to transport projects do not necessarily have issues that are unique to transport. Therefore a detailed account is beyond the scope of this pilot study which is focused on transport-related issues. However, one closely related issue is particularly relevant to transport and has already been discussed above, namely the importance of the location of the resettlement and of reducing the use of two-step resettlement (first into temporary accommodation then to a permanent site).

In addition, the fact that international donors and lending bodies often finance large transport projects makes their resettlement policies relevant. Partly because of their strong potential influence, the resettlement policies of international agencies have come under scrutiny from activists and there have been various efforts to strengthen the protection that they offer people facing resettlement due to major projects. An example can be seen with the Mumbai Urban Transport Project II (MUTPII) to improve the railways, roads (flyovers mainly) and other transport infrastructure that was initially to be financed by the World Bank. An estimated 30,000 households, mainly slum dwellers with unclear security of tenure, would need to be relocated under the proposals. This generated substantial opposition and debate. The World Bank required the State (Maharashtra) Government to formulate a resettlement and rehabilitation plan. A Task Force was formed which consulted the relevant NGOs and Community Based Organisations (CBOs) in its efforts. This was the first time the State Government had a resettlement policy in an urban area (Patel, 1999).

However, resettlement policies of international donor or lending agencies may not always be followed strictly on the ground by recipient governments or implementing agencies. Furthermore, the policies of some agencies, including the World Bank, remain under attack from some quarters (eg see CIEL, 2000) and may not go far enough in light of the Global Campaign for Secure Tenure. National, provincial or state and local governments are under pressure to adopt policies that are in line with international norms on resettlement but many still fall short, either in rhetoric or in practice or both, particularly when a project does not involve any international finance and is not subject to the resettlement policies of such international bodies.

5.1.6 Resistance of transport-related evictions

Inevitably, evictions and displacements for transport projects have provoked resistance. In this section the focus will be on aspects of such resistance that are especially relevant to transport. One such issue is that many transport plans are of great scale and involve large numbers of people to be relocated. The sheer size of these projects tends to bring the resettlement issues to wide attention, compared with other categories of displacement, which may be more numerous but with fewer large-scale eviction episodes. Large-scale evictions are clearly problematic but there may also be a benefit because the glare of attention may then prompt a better approach. Community resistance, NGO activism and media interest can reach critical mass and may prompt the relevant authorities to come up with a better policy or a plan to address resettlement issues properly. Mumbai's MUTPII that was mentioned above is an example. The scale of resettlement under World Bank financed transport projects in the Jakarta region in the late 1980s and early 1990s also generated concern and activist

attention which increased pressure to reduce evictions in similar projects and for the Bank to review its approach.

In 1999, 700 families from Bgy. Tanong, Malabon in Metro Manila, were evicted for a road-widening project. "Instead of acquiescing to the government plan to transfer them to a relocation site which they find very far from their sources of livelihood, they have built temporary shanties along Tanong's roadsides."
Source: ECDFC, 1999.

The large scale and strategic nature of many transport investments means that there is often some involvement of international finance agencies or companies, international engineering consultants, construction companies and such like. As mentioned above, this may provide activists with leverage in some cases if there is an opportunity to lobby the lenders, whether they are private financial institutions (as in the example from Chile below), bilateral lenders (as in the DAMPA example from Metro Manila below) or multilateral agencies (as with Mumbai's MMTPII initially, which was mentioned previously and the second Manila example below).

Creatively fighting transport-related forced evictions in Metro Manila.
When local government didn't respond to protests over large-scale forced evictions in Manila an association of poor people's organisations, called DAMPA, called on the Japanese Government to investigate the violations of the rights of people displaced by Japanese-funded public projects. The projects included a highway flyover, an aqueduct, a railway extension, and an airport expansion. The Philippines and Japan are both signatories to international treaties which prohibit funding of projects which violate the rights of displaced residents. In March 1996, a Japanese fact-finding team, including church, academic and NGO representatives, made a much-publicised visit to Manila. They found that: people were evicted without prior consultation or notice; in relocation sites, people were left without basic services, water, electricity, schools and hospitals; people lost jobs in the relocation process; people were taken to relocation sites without choice of where to go, resulting in community disorganisation; implementing agencies reneged on promises of compensation, support services. The mission's findings came out in all the local newspapers, along with its recommendations to OECF: affected people, especially the poor, must be included in planning relocation programmes, and some of the project budgets should be allocated for relocation of displaced residents. The OECF promised to cancel funding for projects involving involuntary resettlement, and to investigate complaints of affected residents and rights violations.

(Source: Asian Coalition for Housing Rights, 1997 cited by SUSTRAN Resource Centre, 1997).

Targeting investors in a Chilean expressway
A coalition of community organisations opposed to a major urban highway project in Santiago de Chile has launched an international campaign directed at companies interested in the project (to be offered as a concession), potential investors and public opinion in the companies' countries of origin. The project is the controversial "Costanera Norte" or "East-West System", sponsored by the Chilean Public Works Ministry, a 33 km highway that would cut the capital city of Santiago in half, devastating some of its most historical and culturally significant neighbourhoods. France, Spain and Italy are the main countries of origin for companies interested in the project. Among the companies are the world giants, Egis Bouygues and Suez Lyonnais-owned GTM. The freeway would basically serve Santiago's well-heeled upper-class neighbourhoods, allowing drivers to reach the city centre, the airport or connections to their homes on the beach at speeds of 80-100 km/hour. Only one out of every five daily commutes is made in a car, but cars contribute 50-80% of Santiago's worst pollutants, ozone, carbon monoxide and volatile hydrocarbons. "Living City" (Ciudad Viva), the 25-member coalition, opposing the project, plans to take its case straight to investors and consumers if necessary.

Source: SUSTRAN Resource Centre, 1999, citing Ciudad Viva sources.

The World Bank and roads in the Manila region
As part of its Resettlement and Development Review, the World Bank commissioned a report from Philippines NGO Urban Poor Associates which severely criticized the Bank's operations in Metro Manila and the adjacent provinces of Rizal and Bulacan. The report found that 36,767 people are currently threatened with eviction in this area. "No clear resettlement or resources for compensation are being set in place for the 19,680 persons who will be displaced in the Metro Manila area within the next year. Of 745 people evicted between 1989-

1992 by the Bank's water supply and road network projects in Bulacan and Metro Manila "[a] majority of the oustees had no compensation…" The review found that reactions by those facing eviction vary from resistance to passive acceptance. Successful resettlement occurred where grassroots organizations and NGOs took initiatives, not because of the actions of officials… The Fifth Highways Project Component, Parallel Road of the Metro Manila Urban Transport Project was stopped due to displacement problems. In an interesting comment on Bank accountability and management, the review records that this road was not mentioned in the Bank's Staff Appraisal Report because it is a "rider project," created as an afterthought with surplus funds from another project.

Source: Urban Poor Associates, 1993.

The second Manila example mentions factors contributing to successful resistance. As with most security of tenure and displacement cases, a very important factor in the outcome is the strength of the community and its own organizations. The case of the Ban Krau community provides a striking example.

The Ban Krua community in central Bangkok

Since 1988, residents of the Ban Krua Muslim community and several other neighbouring communities, such as the Wat Phrayayoung, Saphan Huachang, Petchaburi 20 and Wat Pathumwanaram communities have been resisting a planned 2-km road that would cut a swathe run through their neighbourhoods along the Saen Saep canal from Uruphong to Ratchadamri road. The road link is part of the second-stage expressway system awarded to Bangkok Expressway Co.Public hearings in 1993 and 1994 came out against the road, declaring it unnecessary. The Ban Krua community is a distinct ethnic minority in Bangkok, being Muslims of Cham origins, whose ancestors resettled in Bangkok from Cambodia about 200 years ago. A recent student thesis (by Chuleerut Chareonporn, for a Masters Degree at Thammasart University in 2000) suggests that, 'The main condition which led to success in their protest is social cohesion of the Ban Khrua people which rooted from their "being Islamic" and the community's relative autonomy in economic, social, cultural and political affairs. This community's relative autonomy empowers them to resist the state policy.' In addition, the community has shown flexibility in its tactics, with an ability to collaborate with other networks, both Islamic and non-Islamic, to further their cause.

(Sources: Satyawadhna, 2000; The Bangkok Post Internet Edition, 14 July 2000, http://bangkokpost.com/today/140800_News01.html; Craig Townsend, personal comm.. Oct. 2000).

The Lyari community in Karachi also successfully resisted an expressway project. In this case, important factors in the resistance to the Lyari Expressway project were the relatively well-established security of tenure of the community involved, together with strong community organization and the involvement of a well-organised NGO, the Urban Resource Centre (URC) of Karachi. A motivation for the project was port-related goods traffic, which is a nuisance on Karachi's central and inner main roads. Therefore, the government proposed an expressway along the Lyari River from the port to the Superhighway that connects Karachi to the north of the country. However, the Urban Resource Centre, Karachi and 42 Lyari community groups opposed the project, which would have passed through residential areas and would have required removal of 25,000 houses belonging to urban poor groups. They also pointed out that the land-uses that would be attracted to locate along the highway (warehouses, manufacturing, and storage) were inappropriate for this inner urban area. Instead they proposed and lobbied for another option, the Northern Bypass, which would be cheaper and would not pass through inner urban areas and would also open up appropriately located land for warehouses, etc. After a five-year struggle the government dropped the Lyari expressway and opted for the Northern Bypass (Muhammad Younus of the Urban Resource Centre, interviewed by Chris Wilson, Dec. 2000; Hasan, 1999).

5.1.7 Negotiated resettlement outcomes – access issues and examples

Low-income residents themselves are acutely aware of their own access needs. This is reflected in the desire for a say in their own relocation sites. Increased commitment to negotiating with settlers over resettlement issues (which is one of the beneficial outcomes of better security of tenure) also

brings transport benefits for the communities concerned, since they tend to take access into account in their site preferences.

The case of the railway dwellers of Janjur Marg in Mumbai, which has been highlighted by Sheela Patel (1999) of SPARC, provides one example. In this case, 900 families were empowered to negotiate and take action on their preferences. The community accepted the offer of a site in an accessible location. Although the resettlement was a two-step process, the first step was to transit accommodation on the same site as their eventual houses. This increased confidence and also allowed the residents to build new roots only once instead of twice in the case of two-step resettlement with two different sites. In addition, the entire community were kept together in order to maintain community bonds and organizations. This case was one milestone within a long process of community organising, negotiations with authorities, building of trust, and occasional setbacks documented by Patel (1999). The full story involves about 18,000 families who have been living in slum dwellings within 10 metres of sections of the 3 suburban lines in Mumbai. A further transport connection, of course, was the fact that the railway slum dwellers need to be moved in order to allow the vitally important suburban railways to attain higher speeds in safety and then to be upgraded (under proposals initially contained in MUTPII). These suburban rail services of course also important to residents of the city of various income levels.

5.1.8 Openness and transparency in transport planning

A lack of openness in transport planning is an obstacle to achieving good negotiated outcomes for low-income communities that may be threatened with eviction due to a transport project. Major transport decisions are currently shrouded in secrecy in many countries and open, transparent, consultative approaches to transport planning are extremely rare, whether in North or South. Several community organizations and NGOs have expressed frustration to the author over their difficulties in obtaining sufficient information on transport projects that threaten communities with eviction. Even when such details are released they are rarely released in a timely fashion when there is still a chance for negotiation free of a sense of intimidation or threat.

More openness in transport planning and a greater commitment to negotiation with affected communities are essential. The Recife Declaration on urban poverty includes a strong emphasis on recognising the fundamental right of the poor to take part in decisions which impact on them. The traditional mistrust by many transport planners of community involvement must be overcome.

5.2 Increasing housing options through greater mobility for the poor

As has been emphasised previously, in seeking to improve access by the urban poor to services, goods and opportunities, there is a need to consider proximity, mobility as well as the possibility of delivering some services to communities or houses. A narrow focus on mobility is not enough. Nevertheless, for the moment let us discuss the goal of increasing the mobility if the poor and how this connects to housing issues. As was mentioned in Section 3.6 the urban poor tend to have very low mobility. Clearly, low mobility has an impact on the range of housing choices available. It is likely that, all else being equal, expanding the level of mobility that is affordable to the urban poor would expand their range of shelter options.

5.2.1 How to increase mobility for the urban poor?

The prevalence of long walking trips (such as those of longer than 45 minutes or so) is a key indicator of poor access by the urban poor – whether through a lack of nearby opportunities or lack of mobility or both. For example, the economic privations of the 1980s in Brazilian cities saw a large increase in the share of walking trips (Poole, Pacheco and de Melo, 1994). There is some evidence that the proportion of spending that is devoted to transport by the poorest segments of the population (including monetised time) is highest in large cities and that, at least in these very large cities, low-

income people spend a higher proportion of their disposable income on transport than higher-income people (Pendakur, 1997).

Increasing levels of access to affordable public transport (including informal transport services) and bicycles could dramatically increase the opportunity spaces of poor people. Small changes in public transport prices and service levels can make a large difference to the mobility of the poor. For example in 1990 in the lower-middle-income city of Jakarta, 14% of households could afford only 20 bus tickets or less per month, and 40% could afford only 53, compared with the average household usage of buses of 101 tickets per household per month (Dreesbach and Wessels, 1992). Even for those who can afford to use public transport, the services available in many cities are woeful in many respects, most importantly in terms of operating speeds, reliability, frequency, and ability to meet peak period demands (White, 1990). In many countries, tariff and tax policies make bicycles unaffordable to poor households, and reform of such imposts can quickly increase access to non-motorised vehicles.

In recent years there has been heightened attention in the international development community to the urgency and benefits of increasing mobility for the poorest segments of the community, first in the rural context and subsequently in urban contexts. There appears to be a growing consensus on at least a core set of policies for increasing mobility and access for the urban poor (Hook, 1998; United Nations Centre for Human Settlements, 1997; Gannon and Liu, 1997; World Bank, 1996; World Bank, 2000; Koster, 2000).

However, this report is not the place for a full survey of the important debates and findings on how best to increase the mobility of the poor. The focus here is to argue that improving mobility for the poorest people should become part of the housing rights agenda. The most important connection is that, all else being equal, better, lower-cost access to a wider range of destinations can expand the range of housing options for the poor. This would also tend to reduce the extent to which they are forced to live in precarious and insecure locations due to the need to be within walking distance of employment. This may be particularly vital for women who tend to have greater home-based responsibilities. Housing rights advocates can and should take part in public policy debates over urban transport by pointing out the housing implications of alternative policies.

5.2.2 Transport inequity harms housing access

Simply expanding mobility will not guarantee improved access to opportunities or housing access by the poor in the long term. Transport equity must also be considered. As discussed in Sections 3.2 and 4.1.2, caution is warranted when seeking mobility increases because if the mobility of higher-income groups increases faster than that of the poor (as is all too likely) then longer term land-use changes and the undermining of low-cost modes of transport can harm access levels for the poor.

Section 4.2.3 mentioned some of the changes in urban structure that can undermine accessibility for the urban poor by undermining the modes most used by the poor. These effects arose primarily as a market response to increasing mobility by high-income segments of society. So even if mobility for the poor increases, other transport and urban trends may be undermining access levels at the same time and hence reducing the benefits for the poor, including any benefits in terms of increased housing options. Manning (1984) provides an example from the history of Australian cities. As soon as many families had access to faster transport the layout of the urban area began to change. This is because the benefits of increased speed for individuals are mostly achieved with increased journey range rather than time savings. Cities could now house larger populations at lower densities and activities could concentrate into larger centres (big factories, large supermarkets, etc). These changes result in a loss of local accessibility. This is not problematic for those with cars but the costs of decreased local accessibility are disproportionately born by those without cars. The rise of cars to a dominant position harms those without cars by worsening public transport services and increasingly hostile streets, and by the spread of activities beyond convenient locations for non-car access.

Similar findings have recently been highlighted by Whitelegg's (1993) concept of "time pollution" and in work by Ross (2000) contrasting mobility and "community accessibility".

Thus increasing mobility might have unintended results. If the increase in mobility for the poor is accompanied by an even more pronounced increase in motorised mobility of higher-income groups then accessibility for the poor may actually decrease, via an undermining of non-motorised modes and public transport and by dispersing destinations. This suggests that if attempts to achieve greater mobility in low-income cities are to help the poor then they must not focus on private vehicles. In fact, they must actively restrain private vehicle use (Linn, 1983). It implies that policy makers need to redouble efforts to eliminate subsidies for high-cost private modes of transport that enhance the mobility primarily of high-income groups.

This implies that inequity in mobility is fundamentally interlinked with inequity in housing access. It suggests that housing rights advocates could fruitfully also take an active interest in transport equity debates that rage in most cities. A long-term perspective is needed. Championing transport policies that maximise access for the poor while opposing unrestrained motorised mobility for higher-income groups is necessary to prevent land-use and mobility changes that further marginalise the poor and reduce their housing choices.

5.3 Other impacts of transport on low-income housing

There are a number of other possible impacts of transport investments, policies and practice on low-income housing access. These include impacts of transport changes on urban amenity which in turn may affect housing issues, for example the phenomena of urban blight and gentrification which can be influenced by transport. Inappropriate transport-related standards or requirements, such as excessive minimum road widths or minimum parking requirements, can also affect housing primarily via their impact on costs. Transport also may play a role in creating or perpetuating income-based segregation, which was highlighted earlier in this paper as, in turn, having negative access implications for the poor. This section will also investigate if transport has any direct impacts on security of tenure itself.

5.3.1 Transport-related standards and guidelines – connections with housing

Excessively high, often car-oriented, standards and requirements for transport infrastructure in building or urban design codes can significantly raise the cost of new developments, further taking them beyond the reach of the poor. Examples of transport-related standards that are often set at unrealistic and unnecessary levels include minimum road width standards, minimum set-backs of structures from the road and minimum parking supply requirements. The effects of these standards is analogous to the impact of unrealistic housing design standards, which have similar cost impacts. This issue is relevant also in high-income cities (Litman, 1996). In theory, such standards have a legitimate purpose, such as to prevent conflict over parking or to protect minimal rights of way for the future or to ensure all categories of vehicle, including large ones, can pass unimpeded. Sometimes access for emergency vehicles is a justification but a better way to enhance access by such vehicles is to use smaller emergency vehicles that are able to penetrate smaller streets or alleyways. However, in the case of low-income settlements, many of these justifications for high standards are very low on their list of pressing issues.

Such standards may both reflect and affect attitudes to low-income settlements and attitudes to low-cost transport modes, which are thrifty in their space requirements. As with other standards, transport-related standards may be used to legitimise or rationalise policies of removing 'sub-standard' housing. Conversely, the standards reinforce negative attitudes to informal settlements. Unrealistically high standards for parking or street widths may place legal barriers in the way of regularisation or legalisation of low-income settlements. This is despite the fact that some of the land-use and layout features of such settlements are increasingly seen as beneficial in some ways, in

that they are well adapted to providing for low-cost accessibility on foot or by non-motorised vehicles.

There is evidence from North America that enforcement of high parking requirements affects housing affordability. Many developing cities, such as Bangkok, have adopted requirements for parking provision in real-estate developments that are similar to the very high levels seen in North American cities. This is despite very much lower levels of car ownership compared with North American cities. Jia and Wachs (1998), Litman (1995) and Shoup (1995) argue for removing parking requirements in residential areas. They argue that separate markets for housing and parking would be more efficient and flexible and would lead to greater availability of affordable housing. Jia and Wachs (1998) estimate that in the context of San Francisco in 1996, 24 percent more households could afford houses (and 20% more could afford condominium units) if they did not have to include parking. Minimum parking requirements in residential areas are a poor way to deal with perceived parking shortages. Elimination of unrealistic parking requirements and establishing a separate market in parking places may increase housing affordability in a wide variety of cities. An example of policies similar to those advocated above exists in Singapore's public housing estates where parking is generally not provided for each residential unit. Those households who own vehicles must rent a parking place in the vicinity. This example is worthy of further study.

More realistic and appropriate standards can and should be developed, not just for low-income communities but more generally. Ideally new standards should be developed in consultation with relevant community organizations and NGOs, which would help to ensure understanding of the rationale behind the rules and should encourage cooperation. Instead of setting one-size-fits-all standards an alternative pragmatic approach would be to tackle specific problems with narrow rights of way or inadequate parking and such like, on a case by case basis in negotiations with the community involved. Vernacular settlements that have obtained secure tenure can gradually be upgraded in-situ. 'Land readjustment' techniques have also become a common way to provide adequate rights of way and common facilities in established low-income settlements without the need for wholesale eviction. Transport-related improvements are one of the main applications of land readjustment in Japan for example (Inoue, 1994).

Mr Chularathna of the housing rights NGO, Sevanatha, in Sri Lanka reported on the pragmatic approach to such standards in that country (interview with Paul Barter, Oct. 2001). In 1978 new standards for building codes provided for relaxed minimum lot-size and setback requirements for low-income settlements. This came about after a study recommended relaxed standards for such settlements. So the normal lot size of 6 perches was relaxed 1.5 to 2 perches and minimum setback relaxed to only 2 feet from 10 feet. Areas have to be declared as special low-income settlement areas to qualify for these regulations. Similar pragmatism should be possible for a whole range of transport-related standards that have an impact on housing affordability.

5.3.2 Transport and income-based segregation

It was mentioned previously in sections 3.3 and 4.2 that transport policy and practice has an influence on land-use development. It appears that transport can also play some role in influencing patterns of segregation of income groups, although it is clearly not the only factor at work. The highly-mixed land-use with rich and poor interspersed in many very low-income, low mobility cities suggests that low overall mobility may be a factor encouraging such a pattern. There is also some evidence that transport investments that have encouraged high levels of mobility by high-income people have facilitated segregation of socio-economic groups, or have helped to reinforced segregation in some cities. For example, in Latin American cities there is often a spine of higher income housing that radiates from the centre. In most cases this spine extends along a high-quality transport route, such as a wide boulevard (Brunn and Williams, 1983). The role of transport in promoting segregation may also have occurred in the United States. It is thought that high investment in expressways in the USA since the 1950s played a role in encouraging suburbanisation of higher-income and middle-income groups (although transport is clearly not the only factor). In

Jakarta there is a trend for high-income real estate housing on the periphery, possibly representing an increase in income-based segregation. This has been facilitated in part by significant toll-road construction during the 1980s and early 1990s in the Jakarta area. More investigation is needed to know exactly which transport investments generate such consequences and how they can be prevented.

5.3.3 Urban blight

In the context of high-income cities in the North, urban decay can sometimes be triggered or accelerated by the proximity of highways (most famously in the case of the West Bronx, New York). However, this phenomenon does not seem to have been noted in cities in developing countries.

5.3.4 Gentrification and transport

A major problem associated with lack of tenure - and a key link between transport and the tenure campaign - is the fact that lack of secure tenure often prevents low-income residents from benefiting from improvements in transport infrastructure or services. Such improvements tend to lead to increases in the accessibility of land parcels. This in turn leads to increases in land-values. For landowners with recognised title (either in the public sector or the private) increasing land values offer a benefit. However, for renters without protection against rent increases and for others without secure tenure to the housing that they occupy, increases in land value are a direct threat. The recognised land-owners now have a greater incentive to evict them in order to capitalise upon the increased value of the land, either through redevelopment or by renting to new tenants who are able to pay more[7]. These and other related processes are known as gentrification, which is the replacement in a particular area of low-income residents with higher income residents, without necessarily involving wholesale redevelopment.

Another transport connection with gentrification comes about because gentrification may also occur as an indirect result of congestion. If new rapid motorisation occurs in a city and leads quickly to severe congestion, the pattern of accessibility (which parcels of land are most accessible from the rest of the urban region) will also change quickly. Typically the premium on sites close to main employment centres tends to increase with congestion. This increases pressures for the gentrification of inner-area low-income communities with poor security of tenure. This congestion mechanism is over and above the various other trends that tend to lead to higher land prices in inner areas.

The inability of people with insecure tenure to capture any of the benefits of transport improvements also reduces their incentives to take part in collective efforts to upgrade transport-related infrastructure and services of their area as was mentioned previously. They may even feel hostile towards such efforts if they realise the threat posed by gentrification. Therefore increased tenure security is vital to allow the poor to benefit from any transport improvements in their vicinity.

However, there are also related opportunities. Certain transport-related policies can be used to slow or prevent gentrification and thus to protect low-income settlements from displacement. One example is from Indonesia's Kampung Improvement Program (KIP) in Surabaya in the 1980s. A conscious decision was taken in that city to avoid providing four-wheeled vehicle access into the interiors of low-income areas in the inner city because it was feared that such access would trigger gentrification. The policy is said to have been successful in slowing gentrification (Prof Johan Silas, interview by Paul Barter, Oct. 2000). Parking restrictions probably also have the potential to be used in a similar way, although the practical details would require careful investigation in each context. This is also relevant to the issue of excessive standards for transport-related infrastructure, including parking, setbacks and road widths.

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[7] A related issue here is that many developing countries lack effective mechanisms for governments to 'capture' this 'planning gain' (the increment in land values attributable to the investment) for the public good or to help fund the investment itself. Thus land-owners obtain an unearned windfall.

Nevertheless, it appears that gentrification may not always be inevitable. In certain circumstances, especially when the improvements help to lend legitimacy to a settlement, and hence indirectly contribute to security of tenure, residents can reap rewards themselves without being displaced. Indonesia's Kampung Improvement Programme, which included upgrading of alleyways, local streets, drainage, sanitation and water supply in Indonesian urban low-income settlements, may be one example according to a World Bank analysis.

> KIP did not encourage an influx of higher-income groups (that is, "gentrification") into the kampungs, as had originally been feared. In fact, KIP did not disturb the existing, residential stability of the kampungs although the social profile of the kampungs has changed under KIP. Residents are better educated and healthier; household sizes have declined; more residents are employed and have greater income; and women have taken a more active role in meeting the economic needs of their families. Improvements in population conditions are not only caused by KIP but also by the opportunities generated by economic growth." (World Bank, 1995).

5.3.5 Transport project benefits for security of tenure?

The example above highlights at least one way in transport improvements can sometimes improve security of tenure. The World Bank evaluation of the Kampung Improvement Programme offers further insight on this:

> "Although KIP did not attempt to influence land and housing tenure directly, the expectation was that it would increase ownership; as community security increased, more people would be motivated to clarify and improve the status of the land they occupied. The study found that KIP did in fact increase ownership throughout the improved kampungs or at least greater security of tenure. In addition, the stronger sense of tenure gave residents an incentive to participate actively in the operations and maintenance, O&M, of community facilities, although O&M levels vary from place to place and it is considered one of the weakest points of KIP." (World Bank, 1995).

Such an outcome is likely to be very much dependent upon other factors such as government policy, the level of community involvement and control of the project. Nevertheless, it suggests that is it worth investigating further the potential for security of tenure benefits from local access and mobility initiatives in low-income settlements, where there is strong community involvement, including perhaps the use of labour-based approaches.

5.3.6 Transport and common public spaces

Another issue that relates especially to the space consuming character of private vehicles (especially cars) is the erosion of public common space in urban areas. Throughout most of the history of cities, streets and other public spaces have been put to multiple uses, not devoted solely to traffic and motor vehicles (both moving and parked). Such common spaces include streets, alleys, paths, parks and squares. Some high-income cities have begun a concerted effort to claim back some of the street and other spaces, for example through pedestrianisation and other traffic calming measures. However, in much of the developing world the trend continues towards devoting more and more space to movement and to motor vehicles. This affects the poor disproportionately, since they control little private space and are therefore particularly dependent on the 'commons'. This trend adds further to the already highly inequitable distribution of space (both private and public) in most cities. It also puts greater pressure on the already meagre private housing spaces available to the poor.

5.4 Synergy with a sustainable and equitable transport agenda?

It is now possible to examine briefly the question of how the transport changes that might be considered as a result of a focus on housing for the urban poor compare with an active and important transport policy agenda, the push towards 'sustainable transport'. Key relevant elements of this agenda include: reduced emphasis on mobility and greater emphasis on promoting access; reduced

emphasis on the most space-consuming, energy-consuming and/or polluting modes of transport; more emphasis on space-saving, low-energy, non-polluting modes, such as walking, non-motorised vehicles and public transport; less focus on predicting and building transport capacity; more focus on integrated planning, including managing demand for transport; and greater effort to better integrate land-use and transport policy and practice in pursuit of these various goals. Many sustainable transport advocates take this agenda a further to include a push for social equity, including gender equity, access for people with disabilities, a strong pro-poor stance and an emphasis on low-cost solutions. Although many aspects of these agendas are very much debated, they are also increasingly being adopted in the mainstream of transport planning practice, especially in parts of Europe.

Many (if not most) of the elements of such a sustainability and equity-focused transport strategy have been mentioned in this paper. Many of them are expected to provide some indirect (or direct) benefit to the urban poor and their housing situation. For example, this paper argued that reducing transport inequity is likely to have great benefits for the urban poor, including their access to affordable housing in accessible locations. Furthermore, many of the urban planning and housing-related conclusions from Chapter 4 also seem to complement the sustainable and equitable transport agenda.

The example of a low-cost approach to urban transport policy will be used to further illustrate the potential synergies. A pro-poor approach to urban transport must inevitably be a low-cost approach. In addition to increasing access to housing for the poor, such a strategy is also apparently compatible with economic efficiency, an emphasis on ecological sustainability and with the creation of highly liveable and attractive cities. The successful low-cost strategy of Curitiba in Brazil with its ‘surface metro’ using busways is now well-known (Cervero, 1995; Rabinovitch and Leitmann, 1993). A low-cost, pro-poor approach is also not necessarily a second-class transport approach. It is not widely realised that a number of cities that are now quite wealthy but which have successfully retained a high role for public transport (and in some cases also bicycles) actually adopted a low-cost strategy during the early stages of motorisation. Figure 1 illustrates some of the possible development trends in a schematic way. Seoul, Hong Kong, Singapore, Amsterdam, and Copenhagen are all cities in which the ownership of private cars was restrained severely for decades beginning when motorisation rates were low. Investment in public transport and road infrastructure were also kept at modest levels until incomes per capita had risen to high levels (Barter, 1999, in preparation). Even Zurich in wealthy Switzerland has had great success with a relatively low-cost approach to both its public transport and road systems (Taplin, 1992).

A key element of a truly pro-poor transport policy is some restraint on the growth of private vehicle use. Such policies can be difficult to sell politically, of course, but they have had tangible and demonstrable benefits in cities that have pursued them. For example, it is not widely realised that traffic restraint policies played a big part in helping Hong Kong, Singapore and Seoul to keep traffic congestion at bay and to buy time so that they could continue to function successfully with bus-based transport systems and then to eventually provide high quality public transport in the form of expensive mass transit systems (Barter, 1999, in preparation). Singapore, Seoul and Hong Kong began their restraint measures in the 1960s or early 1970s, long before they were able to afford to build mass transit systems.

Even though it may not be easy to formulate politically acceptable restraint policies that are equitable and that do not unduly damage rural interests and commerce (Foo Tuan Seik, 1995; Spencer and Madhaven, 1989; Tanaboriboon, 1992), finding such measures needs to be a high priority for cities everywhere at all income levels. Korea’s example of very strong restraint of private vehicles throughout the post-war period right up until the mid-1980s may be a particularly useful example to other countries that currently have low-incomes and low motorisation (Barter, 1999; Gakenheimer, 1995). Restraint of private vehicles offers a way for such cities to buy the time needed for a gradual improvement to public transport. Restraint of private vehicles also reduces the urgency to expand the road system.

The low-cost approach also tallies with placing a very high priority on dealing with most urgent and pressing needs of the urban poor, such as sanitation and access to clean water, and obtaining secure and affordable housing. It is hard to justify high levels of investment in urban mobility when these urgent needs are not available to large numbers of people. For example, Owen (1987) argues that in Sao Paulo five times more was spent on transport than on the water-sewage system but 40% had no sewer connection and 60% had no piped water.

The apparent synergies between progressive transport policies and the housing rights agenda need to be investigated in more detail to find out which policies offer the greatest benefits, to ensure that these opportunities are realised and to ensure that unforseen negative side-effects are avoided.

5.5 Summary: transport impacts on housing for the urban poor

Chapter 5 examined various ways in which transport trends or practice can have an effect on housing for the urban poor. It began with section 5.1 which focused on many aspects of eviction and resettlement resulting directly from urban transport infrastructure projects. It showed the significant scale of such evictions and then discussed ways in which such evictions can be minimised. These included, simply making avoiding displacement a higher priority, adopting transport policies that reduce the amount of space consumed by transport infrastructure, and reform of transport project planning and assessment procedures. The section also discussed prospects for better resettlement procedures for those who are evicted for transport projects and highlighted various forms of resistance to such evictions. It argued for the benefits of negotiated outcomes to resettlement cases but cautioned that the excessive secrecy and lack of public participation in transport planning hinders the chances of fair negotiations.

Section 5.2 turned to exploring the issue of using better mobility for the urban poor as a way of expanding their range of housing options, since low mobility is a major part of the access problems faced by the poor, which in turn severely limits their opportunities and choices. However, it was strongly argued that simply trying to increase mobility in general without addressing transport inequity would result in no benefit to the poor, and could in fact harm their access levels in the longer run. The section argued that transport inequity was fundamentally linked with inequity in housing access.

A number of other transport issues with an impact on low-income housing were addressed in section 5.3. These included the harm done to housing affordability by excessive and automobile-oriented standards and guidelines for transport-related infrastructure and urban design. Reforms in particular were suggested to parking policy which could potentially improve housing affordability in a wide range of cities. Next, examples were given which suggested that an excessive focus on enhancing mobility for high-income groups can help to exacerbate income-based spatial segregation in cities. Then ways in which transport changes interact with gentrification were explored. This is a key link with security of tenure, the lack of which means that communities are unable to capture the benefits of transport improvements. However, some transport-related opportunities for preventing gentrification were also presented. It was also shown that in certain circumstances some transport-related improvements could help security of tenure if they were associated with lending legitimacy to a settlement.

Finally, section 5.4 argued that there are strong synergies and common cause between the main proposals from advocates of urban transport that is more sustainable and equitable and key components of the housing rights agenda in urban areas.

6 Key Policy Implications

This section now provides a concise summary of the main policy implications that have arisen in this paper. Even though a number of these recommendations may already be on the agenda of various relevant organizations, an important argument here is that an awareness of access and transport issues provides an additional argument to take such policy options more seriously.

The policy implications and recommendations are groups under three headings:

1. Housing and urban planning-related recommendations to reduce access problems for the urban poor;
2. Recommendations related to displacement, especially transport-related displacement; and
3. Transport-related policy and practice reforms with housing-related benefits.

The summary is presented in the form of a table.

Problem/issue	Policy implications and recommendations
	1. Housing and urban planning-related recommendations to reduce access problems for the urban poor
Very poor access (eg time consuming trips) by some urban poor	Stronger efforts to increase chances for low-income housing in locations that are accessible to income-generating opportunities and services
"	Review/abolish government policies that push poor people to the urban periphery.
"	Establish strict accessibility guidelines on location of public housing for the poor, sites and services projects and resettlement sites
Access drastically harmed by relocation process	All relocation sites and transit accommodation for evicted households to be within a short distance of their former location (eg within 5 km)
"	Wherever possible avoid two-step resettlement (i.e. involving transit-accommodation)
"	Wherever possible transit-accommodation for relocations should be within or adjacent to the resettlement site
"	Keep established communities together in relocation process whenever possible
Income-based housing segregation harms access for the poor	Set planning goals to reduce income-based spatial segregation of housing location
"	Aim to reduce the spatial scale of income-based segregation (i.e. finer scale segregation is less problematic for access than macro-scale segregation)
Residential mobility is discouraged and access harmed by tenure rules	Review housing policies to foster greater residential mobility for the urban poor (the ability to move house). In particular, review policies that restrict security of tenure to long-established residents and deny security to new residents.
'Traditional' land-use patterns that enhance access are threatened by 'modern' planning	Protect (or at least retain the best features of) existing access-enhancing land-use patterns (eg small blocks, intensely mixed land-use) which tend to be well suited to allowing accessibility with a low level of mobility or with low-cost modes of transport.
Motorisation-induced land-use trends threaten low-cost modes and harm access for the poor	Promote locally appropriate compact city policies, especially preventing ultra-low-density development, promoting and protecting mixed land-use patterns, and focus dense development in locations well-served by public transport.

Problem/issue	Policy implications and recommendations
" and lack of low-cost housing	Promote the linking of densification with increased affordable housing via floor space bonuses for developers, transfers of development rights, etc. Where possible, guide such densification into transit-oriented locations.
Access problems of large monocentric cities and cities with highly dispersed employment.	Consider promoting "decentral concentration" of employment (multi-nodal urban form) or a corridor model (employment concentrated along linear corridors). Both may improve access for the urban poor compared with either mono-centric cities or those with dispersed employment. If such a planning goal is chosen, ensure transport planning complements it and does not run counter.
Strict zoning harms access (and promotes income-based segregation)	Zoning rules (which prevent mixing of land-uses) should be replaced by more specific performance-based regulations that prevent noxious or noisy activities in the wrong locations.
	2. Recommendations related to displacement, especially transport-related displacement
Insecure tenure increases amount of resettlement for transport infrastructure	This is another reason to promote security of tenure. Promote resettlement guidelines which minimise resettlement even for communities with weak tenure.
Insecure tenure reduces ability to negotiate access-sensitive solutions	Another reason to promote security of tenure. Require negotiated resettlement solutions with all displaced communities including those with weak tenure.
"	Stop all repression of community organising and instead encourage community development and empowerment efforts by residents, CBOs and NGOs in low-income communities.
Insecure tenure reduces incentives for community-based access and transport improvements	Another reason to promote security of tenure. Promote community-based access and transport improvements which also increase legitimacy and hence tend to strengthen informal tenure.
Resettlement harms communities and livelihoods and access	Set strong requirements for transport planning to minimise the amount of resettlement as an integral feature of infrastructure policy and practice (or at least at an early stage in project planning of a project).
High levels of space consumption by certain modes of transport promotes displacement for infrastructure	Take account of space consumption of transport modes in transport policy. Strongly consider restraining space-consuming modes (eg private cars), reducing investment in related infrastructure (reduce emphasis on large road projects) and promoting space-saving modes (eg walking, bicycles, public transport).
Transport project assessment under-estimates impacts on the poor, thus encouraging displacement.	Adopt reformed procedures for transport project assessment and revise procedures to ensure adequate assessment of all alternatives, including no-build options and non-transport alternatives.
Not all actors involved in infrastructure follow best practice resettlement policies.	All major actors in infrastructure development should adopt best-practice policies on displacement. This includes finance agencies or companies, engineering consultants, construction companies, bilateral lenders, multilateral agencies and all levels of government.
Secrecy in transport planning is an obstacle to negotiated outcomes	Implement reforms to make transport planning more open, including requirements for public participation at key junctures. Negotiation with affected communities must be timely, sincere and open.

Problem/issue	Policy implications and recommendations
	3. Transport-related policy and practice reforms with housing-related benefits
Access and transport linked in many ways with housing issues	Improving access should become part of the housing rights agenda. This includes 'planning for proximity' whenever possible as well as improving mobility for the poorest groups.
Transport inequity is an underlying factor in lack of access to housing for the poor	Housing rights advocates can and should support transport policies which restrain (and remove subsidies to) excessive mobility by high income groups (mainly in cars) while promoting low-cost access.
Excessive, car-oriented, standards and guidelines for transport facilities can raise housing costs or render low-income housing illegal	Adopt a more realistic, flexible, case-by-case, performance-based approach to such standards in negotiation with communities rather than applying one-size-fits-all requirements. For example, create separate markets for housing and parking within each neighbourhood rather than requiring each dwelling to have a parking space. Make wider use of 'land readjustment' techniques to provide rights-of-way and common facilities in low-income settlements (thus avoiding wholesale eviction).
Automobile-oriented infrastructure and transport trends may exacerbate income-based segregation	Transport policies that place high priority on local accessibility and on mobility by the poor, rather than on longer-distance, higher speed mobility, are likely to help discourage macro-scale income-based segregation
Planning system unable to guide development in line with multi-nodal or corridor-based plans that should aid access for the poor.	Transport investments should be planned to complement the urban planning strategy and not run counter to it. This is because transport facilities have some influence over land-use development trends and can thus be used to support planning goals of achieving multi-nodal or corridor-based development patterns.
Poor people without secure tenure often gain no benefit from new transport infrastructure or services; they may even be harmed via gentrification	Another argument for secure tenure. Establish proper mechanisms for the increased value that results from infrastructure investment to be captured by the implementer or government (to be reinvested for the public good) and not just be a windfall for land-owners. Even with stronger security of tenure for renters, there may still be problems with displacement for this group, who may need specific help.
As the patterns of accessibility change in cities, gentrification can occur, especially in inner low-income settlements.	Investigate the use of transport-related tactics to slow or prevent gentrification of threatened communities, eg by limiting four-wheel entry or by restricting vehicle parking.
High-cost approaches to transport may be draining investment from other urgent priorities, including urban poor housing	A low-cost approach to urban transport is highly compatible with many of the recommendations above and more generally with the aims of the agenda for sustainable and equitable urban transport.
Housing rights advocates and sustainable transport advocates have rarely worked together.	Many (if not most) elements of a sustainability and equity-focused transport strategy complement the housing rights agenda and vice versa. There is more need to investigate all opportunities for synergy between the two efforts and to resolve any clashes.

7 Conclusion

This paper has investigated a wide range of linkages between transport and housing for the urban poor. A number of these are found to be of great significance. Although a sectoral approach, such as

that taken by this paper, is inherently limited, nevertheless it has provided a new perspective which may be useful.

A large number of policy implications have also flowed from the discussion with many recommendations suggested for transport policy makers and practitioners, for urban planning decision-makers and for advocates of better access to housing for the urban poor. While many of these recommendations are not novel, in many cases the link between housing and transport is new and may provide an additional motivation for such policies to receive further attention.

It is also hoped that some of the insights offered here will stimulate further thinking and investigation on these issues in order to move from 'pilot investigation' to practice on the ground. It is hoped that advocates involved in debates on transport policy and on housing policy as well as those dealing with practical transport and housing issues within cities or low income communities will also find useful insights here that will help them in their efforts.

Certain major findings have wide implications. One of these is the argument that transport inequity is an underlying factor in lack of access to housing for the poor, which implies that transport equity issues may need much greater attention from a housing rights perspective. It is hoped that this can lead to action that will improve both access levels and housing for the poor in many cities.

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