Urban Mass Transit and Social Sustainability in Jakarta, Indonesia

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Introduction

Government responses to increasing motorization in cities and growing awareness of the critical interaction between accessibility and economic growth, particularly across Asia, has increasingly focused on the planning and implementation of large-scale urban mass transport systems (UN-Habitat, 2009a, p38). There is, however, a significant challenge of delivering such large investments in a manner to produce equity in the benefits produced across different urban spaces and amongst different social groupings (ADB, 2010; World Bank, 2002, p109). In order to address this challenge, new methods and protocols are needed in transport planning and management to ensure that such systems promote social sustainability. For example, the mainstreaming of gender, the incorporation of the influence of age or impaired physical mobility and the considerations of different socio-economic groups into the planning, financing, implementation, operation and management of such large-scale urban transport systems are fundamental components of the challenges facing the delivery of social sustainability. One rapidly-growing Asian city where the policy discussion and government action around investment in urban mass transit is currently taking place is Jakarta. It is being recognized that the growth of Jakarta is leading to changing urban densities, long journey-to-work times, increasing energy use and resulting pollution, all of which is threatening economic growth (Senbil et al, 2006, p6).

This case study will look at the refurbishment and improvement of the Jabotabek Suburban Rail system in the Jakarta city-region, as an example of a large-scale mass transit investment. Using research that shows the interaction between travel and social practices, it highlights the social implications of such investments and possible ways forward for similar investments in other developing country cities. For example, it highlights that the gender differences in the use of this large urban transport system, in how the system interacts with geographies of opportunities and daily travel patterns and in the impact of the systems operation on passenger safety and security which have implications for the impact of the urban mass transit investment across Jakarta, for the equitable distribution of benefits from this investment and for the long term social sustainability of the mass-transit in the city region. It highlights the need for new user group protocols in the planning, implementation and management of urban mass-transit systems, in order to enhance the social sustainability of such urban transport investments. It also provides some concrete examples of what measures may arise from such new planning protocols.

Urban Mass Transit in the Extended Region of Jakarta, Indonesia

The capital of the Indonesia, Jakarta is, one of the fastest-growing megacities in the world with approximately 8.5 million inhabitants. Furthermore, over 21 million people, or 10 per cent of the population of Indonesia, currently live in the wider metropolitan region of Greater Jakarta, frequently referred to as Jabotabek, which is composed of 6 independent municipalities; Jakarta, Bogor, Tangerang, Bekasi, Depok and South Tangerang (see Figure 1). The population of the Jabotabek region is expected to rise to around 30 million people within the next 20 years (UN-Habitat, 2009b, p136).

Much of this rapid growth is mostly a result of migration from rural areas. Much of the growth of the city in recent years, and expected growth in future years has been in expansion of peri-urban areas to the west, south and east of central Jakarta as the rents in the centre are

Figure 1. Greater Jakarta metropolitan region (Jabotabek)

Source: http://www.google.co.uk/maps?f=q&source=s_q&hl=en&geocode=&q=jakarta&aq=&sll=-6.15593,106.909948&sspn=1.166009,1.755066&ie=UTF8&hq=&hnear=Jakarta+Capital+Region,+Indonesia&ll=-6.211551,106.844788&spn=1.165888,1.755066&z=9.

too high. However, as much employment is in the service sector and often located in the metropolitan centre, with most commercial, government and business land-uses in the centre of Jakarta and outlying cities of Bogor, Depok, Tangerang and Bekasi having overwhelming residential land-use (Senbil, 2006, p7). As a result, this increases mobility needs (with average commuting times of between 82 and 90 minutes) and distances (the greatest population growth is in communities within a ring 5–15km from central Jakarta) that in practical terms only can be overcome by motorized transport (Jakarta's car fleet was growing at 140 cars a day in 2006) (Senbil, 2006, p5) or a fast, reliable public transport system. Furthermore, there have been successive government-financed road investments to facilitate the increasing peri-urban developments.

The implications of this spatial distribution on the social practices across a sprawling urban region are significant for understanding social sustainability. Women, in particular, are affected by the spatial separation of employment and housing as the city grows. They are most frequently responsible for household reproduction activities such as housework, shopping, medical care and care for family members, both young and old. In addition they are increasingly active members of the labour market[1] and have to reconcile these often competing time demands, thus women are much more 'time poor' than men. Their access to personalized means of transport that may provide them with convenient, but as importantly, reliable access (in terms of journey time) is often constrained within households. As a result, women are particularly dependent on (reliable and affordable) public transport and therefore public transport systems are often of greater value to them than men.

Every day there is a huge stream of commuters flowing from the suburbs of Jakarta into the city centre. Whilst data on the social composition of this commuting flow is not readily available, it is clear from surveys undertaken in 2003, that over 50 per cent of Jakarta's population commute by public transport. Older data from 1987, suggested that 60 per cent of commuting trips made by the lower-income half of the population were made on foot. Thus, one can suggest, even adjusting data for changes in time, that the lower-income sections of the population are making relatively short journeys on foot, that the middle-income groups are

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1. Female labour participation rate in Indonesia is 37.5 per cent (ADB et al, 2006, p1), although it is reasonable to assume it to be considerably higher in Greater Jakarta.

Figure 2. Crowded Jabotabek commuter train prior to improvements

Source: http://www.flickr.com/photos/chris-railway/3751400074/sizes/z/in/photostream/2009.

commuting long-distances across the city by public transport and the still relatively small high-income groups are commuting by car. The existing suburban rail system was in poor condition and often overcrowded (see Figure 2) within a congested urban environment (see Figure 3). For a number of years prior to 2007, there had been very little investment in infrastructure and trains. Taxis and private cars were unaffordable for the poor. The existing private and public buses are often stuck in traffic and also contribute to significant air pollution in the metropolitan area.

As a result, there has been significant government focus on investing in the improvement and refurbishment of the Jabotabek Rail System as well as changes in institutional structures to create a free-standing operating company, called KRL. Support for the Indonesian government's approach has also come from the international development agencies (see Figure 4 for new trains financed by this route). For example, KfW (the German Development Agency) were seeking to provide support, through financial co-operation, new features and improvements in repair shops, power and signal systems for the 160km long suburban rail

Figure 3. Jabotabek commuter train within the urban environment

Source: http://www.flickr.com/photos/chris-railway/4639658913/sizes/z/in/set-72157620754527884/.

**Figure 4. New trains on the KRL Jabotabek rail system**

Source: http://www.flickr.com/photos/29642764@N04/5011839184/sizes/l/in/photostream/.

network in the Jabotabek region (see Figure 5 for route map). The project was seen as the beginning of attempts to strengthen public transport. The improvements to the commuter rail network would, it was argued, make it easier for people in the greater Jakarta area to access jobs, schools and health care facilities. The Jabotabek rail system offered an environmentally friendly, energy efficient solution and one that was much safer than road transport.

Research was undertaken in 2007 on behalf of KfW, to understand the interaction between travel, social practices of everyday lives and the social sustainability implications for the design of the urban mass-transit investment (Spitzner et al, 2007). In particular, it focused on the gender impact of this investment and ways to inform the gender-equitable planning of KfW's existing and potential investments in urban transport associated with the suburban railway system in Greater Jakarta, Indonesia.

Figure 5. Route map of Jabotabek rail system

Source: http://www.krl.co.id/index.php/C-Track.html.
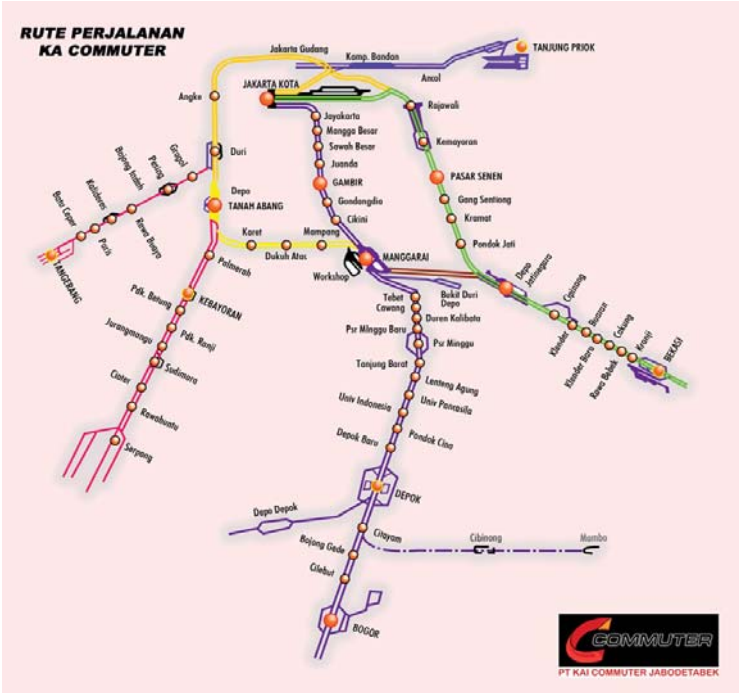
Figure 6. Reasons for using the Jabotabek rail system
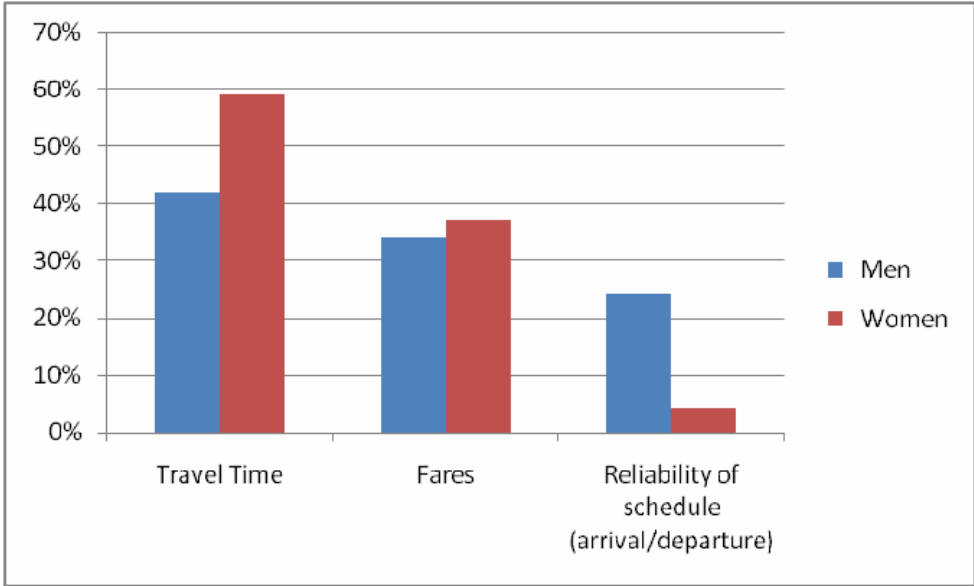
The suburban rail system has significantly greater potential benefit for women in the greater Jakarta as the city and the spatial distribution of activities and opportunities placed very high demands on mobility. Research undertaken reported that women were found to spend twice as much time for in caring activities compared to the men interviewed. As a result, for women with a double burden of employment and care work, the fast journey time and travel time reliability arising from the segregated track operation of the suburban rail system were important elements of the systems attractiveness.
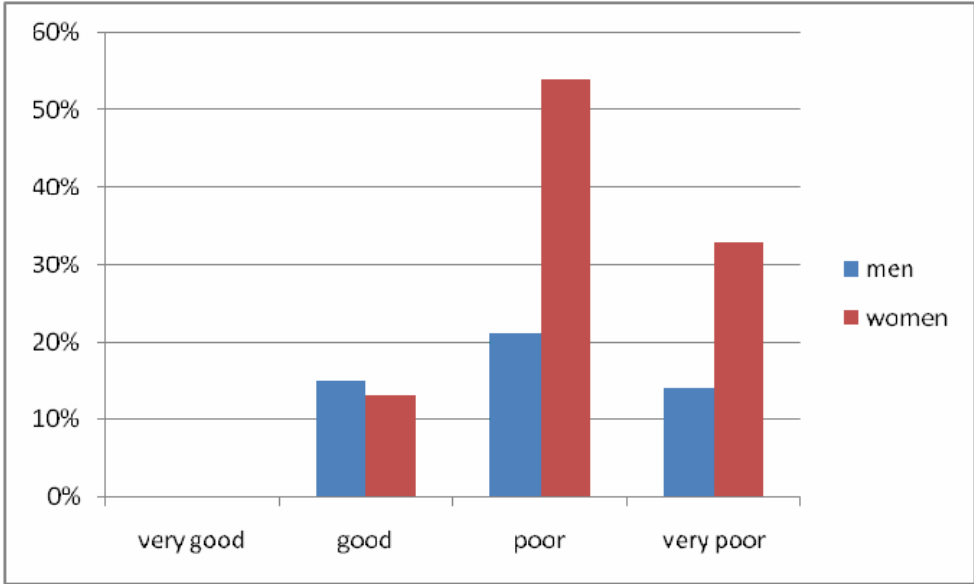
Some 59 per cent of the women interviewed reported preferring to use the train because their travel time was much shorter compared to other public transport in Greater Jakarta (see Figure 6). This compared with only 42 per cent of men interviewed. Only 37 per cent of women said the competitive suburban rail fare was the main reason for their use. A similar proportion of men (34 per cent) cited fares as their main reason for choosing rail. For many women, the existence of the suburban rail system and the fast travel times it brought was the only way that they were able to take up employment or engage in a range of activities across the city. By contrast, 24 per cent of men compared with only 4 per cent of women gave reliability of arrival and departure as the main reason for choosing rail.

Sexual Harassment

As part of the proposed development of the suburban rail system, authorities were keen to increase its capacity. As a result of its popularity and the growing urban population, the existing system was plagued by over-crowding. This had a significantly negative impact, particularly on women and more vulnerable users. The passenger survey found that considerably more women (89 per cent) than men (35 per cent) rated the safety of the Jabotabek rail system to be as 'poor' or 'very poor' (see Figure 7). Relatively equal numbers of men (15 per cent) and women (13 per cent) found the security to be sufficient.

Women reported that, as in urban transport systems in other countries (GTZ, 2007, p10) this over-crowding, resulted in significant levels of sexual harassment. Whilst this was foreseen as being largely overcome through the provision of extra capacity, there was also a policy discussion around the provision of dedicated space within carriages for female passenger. The

Figure 7. Users perception of security on the Jabotabek rail system

research found that 100 per cent of the women and 48 per cent of men supported the existence of dedicated women's carriages. Women interviewed, however, highlighted that it was important that the characteristics of such segregated women's section did not so much protect women "needs", but rather highlight the public unacceptability of men's sexual harassment of women within this culture. Special segregated carriages with areas marked '*Not for Men*' rather than marked 'O*nly for Women'* or for women and children were suggested as one approach.

Women also reported that the overcrowding and resulting threat of sexual harassment was producing a shift towards preferring to travel on the relatively new Trans-Jakarta Bus Rapid Transit system in Jakarta. Whilst this means of travel is often slower and more expensive, the lower likelihood of over-crowding this system was perceived to suffer from relative to the suburban rail system and the perceived lower levels of sexual harassment were cited as key reasons for the shift.

Men and women interviewed also raised concern about suburban rail fares levels following system improvements and their possible gender impact. Fares for the lower travel classes and slower trains are currently regulated by the state. These lower fares and slower trains are deliberately subsidized in order to maintain affordability of this mode for low-income travellers, many of whom are women, older people and large sections of the middle-income population who are engaged in long-distances commutes to commercial and business activities in the centre of Jakarta. It was perceived as a real possibility, by respondents, that system improvements would need to be paid for by increasing fares. This would have a negative impact on many respondents who felt they would struggle to be able to afford increased fares. This could have very negative effect on their ability to access employment and other opportunities given the concentration of many commercial and business employment opportunities within the centre of Jakarta and the majority of residential opportunities in the growing outlying cities. This could result in only being able to access more localized lower-paid employment or, particularly for women, 'stealing' time from other household activities to travel by slower, more unreliable and hopefully cheaper modes. The need to carefully design fare structures to be able to maintain affordable access to low-income passengers and to increase sophistication through the use of family ticket was a clear message

from the interviews undertaken. The use of electronic ticketing to provide more sophisticated and more flexible fare solutions is an area of possibility presented by available technologies and one being explored by authorities in Jakarta, though to what extent the potential of these possibilities can be maximized as a way to tackle social sustainability issues remains to be seen.

Transport Interchange/ Informal Economy

There was also concern about the interaction between the formal rail system and the informal public and commercial space in the system improvement process. Over time rail stations have become a focus for informal economic activity such as food stalls and household services. This interaction has a number of negative impacts in terms of reduced pedestrian space and increased insecurity. However, it also carried a number of positive elements in terms of people, particularly 'time poor' women, older and lower-income people being able to easily combine low-cost shopping and work journeys in a time-efficient manner, by buying household goods on their way to and from work.

Furthermore the interaction of fixed-rail transport system and localised flexible transport systems such as bicycle rickshaws and informal mini-vans was also an area where traditional practice had allowed interaction, but at the cost of increased danger. However, the benefits of such integration for time-efficient travel are significant and in need of careful design in any improvements to the rail system.

A number of respondents highlighted the fear that refurbishment of the rail system would lead to a loss of the interaction with informal trading and transport systems, though the actual impact of the rail system investment on the informal economy at stations has not featured in the project evaluation, so it is not possible to say whether this came to pass. This would have serious implications for the social sustainability of any investments. Respondents also highlighted that such loss may lead to potential negative effects of greater time spent travelling or meeting household obligations as well greater inflexibility when rail services are delayed or when other obligations demand travel at night.

Social Sustainability Technical Capacity within the Jakarta Urban Transport Planning Profession

Interviews were also conducted with (the mostly male) transport professionals and other stakeholders about the social and gender impacts of the transport system. These interviews highlighted a lack of awareness of the range of possible social impacts that rail investment could have and professional tools to understand the impact of the proposed improvement to suburban rail system on different social groups. For example, many understandings were masked by gendered understandings of household relations and by cultural taboos such as the belief of a lack of sexual harassment in Indonesian society. However, further investigation revealed greater social and gender awareness at operational levels than at policy level of some of the social and gendered characteristics of the suburban rail systems operation. Furthermore, the interviews did promote a useful discussion within the professions and greater dialogue amongst key actors that produced greater awareness of the issues within the profession.

Possible Urban Transport Designs

Demands for user- and civil-society representation and participation (UN-Habitat, 2009b, p93) in all planning and decision-making processes (regardless of sector) in the developing world have been growing for many years. The field is clearly on the move: the issue is now

more about how, as a profession, transport planners address the drive from client governments, from resource rich donors and from local communities for better practices around users and gender participation in urban transport planning for greater social sustainability.

In order, to support the development of user-group approaches and practices to socially sustainable urban transport planning within KfW, for which the Jakarta research was undertaken, participatory investigations were also undertaken to explore the outcomes that greater user group involvement would generate in the design, implementation and management of the urban mass transit investment. The main recommendations from this exercise were:

- **Women's compartments**: It was felt that within the context of Indonesian society, introduction of women's compartments would be a positive thing, however, concerns were raised about the need to empower women in the enforcement of such spaces and the promotion of such measures not as the 'locking away' of women passengers.
- **Advertising ban**: Ban on advertising of foodstuffs and other products that is degrading to women.
- **Handles**: Equip trains with handles at reasonable heights (or with vertical grab bars) as high handles promoted sexual harassment in shared compartments and limited young and old or those burdened with luggage to feel secure.
- **Platform design**: Raise platform heights in order to facilitate access for wheelchairs, pushchairs, luggage and others with mobility-impairment and women wearing traditional female garments (sarong) that gave limited step capacity.
- **Toilets**: Provide a sufficient number of toilets for all users in the stations.
- **Refreshment services**: Existing informal sector provision for passengers should be retained and formalised within any modernization.
- **Access to stations**: Access to the railway system should be improved at various stations. Key entrances should be well lit and station design should ensure personal security.
- **Integration with other transport systems**: Better integration of the rail system with existing transport systems, local informal public transport and longer-distance transport networks as well as footpaths and the neighbourhood walking networks would also promote the mobility needs of women.
- **Fares**: Currently, there is a social imperative to subsidize the fares for certain types of passengers. It was felt that other avenues should be explored for greater revenue, including using technology to support more sophisticated ticketing systems that allow flexible travel patterns, such as journeys made to escort children, women or older people, to be maintained in a higher fare environment, capturing value from other beneficiaries of an improved suburban rail system (e.g. property owners, restaurants, hotels, businesses) and a greater tax burden on private motor vehicles.
- **Technical capacity on social sustainability issues amongst the transport operators and planning and regulatory authorities**: There is a need for greater awareness and expertise on social sustainability amongst the transport professionals and clear plans for user involvement.

User Group Involvement

What this research shows is that (in common with other research) there is a significant need to understand the interaction between travel practices and social practices in everyday life in order to maximise the social sustainability of urban transport. For example, one key area for

the equitable distribution of benefits from urban mobility is in terms of the gender differences in travel (Turner and Grieco, 2005; GTZ, 2007, p6; Odeleye, 2001). Negative practices in respect of gender range from dis-attention to women's collective mobility and accessibility needs and the acceptance of existing gender discriminatory arrangements as the natural order to deliberate exclusion of women from transport forums and transport modes in accordance with local 'customary' practices (Asiyanbola, 2007). At present, transport development, in the developed or developing world is most frequently investment-led and not service-led. However, increasing concern at a policy level in a city such as Jakarta at the growing levels of congestion, concern about the environment and transport's impact on poverty, social sustainability and development are causing a rethink of this focus. The focus must, if congestion is to be conquered, be increasingly on mobility and accessibility (ADB, 2010, p5). Similarly, and parallel, a focus on the mobility needs of low-income communities, people with limited mobility, older people and women, within social sustainability, is not primarily a focus on high tech transport forms but rather a focus on mobility and accessibility. For a wide range of social groups across a city, issues will increasingly emerge, most particularly in the discussion of social sustainability. However, as of yet, the professional transport community does not have a clear understanding of what effect poor accessibility has on the lives of the poor or how to improve their accessibility in order that benefits from mobility planning are equitable. This case study highlights the possible impact of investments on the informal economy, low-income communities, people with limited mobility and time-poor women who use rail systems to manage their travel demands. However, it is not clear that there is readily-available data in Jakarta on the travel needs of such social groups or the impact of transport investments on such groups.

Projects, such as the investments in the Jabotabek rail system, all too frequently accept the immobility of low-income communities, particularly, women as a natural and unchangeable social state which simply explains the low level of women's participation in project planning and design even within communal or popular planning modes. The challenge of participation for a range of social groups, in large-scale infrastructure or city-wide transport planning, is even less addressed. The possibility of bringing participative forms to where these communities are to be found rarely receives adequate attention and projects which attempt to move the boundaries and constraints around a range of different groups access to transport and travel are few and far between. Developing socially sustainable transport and travel services has, with a few notable exceptions (Transport for London, 2007; UN-Habitat, 2008) generally held a low priority status in policy makers thinking both in the developed and developing world. Yet, any attempt to tackle poverty systematically and deliver social sustainability, must tackle disparities, across different social groups in access to opportunities and resources. A critical factor, in its turn, in determining the opportunities and resources available to different social groups, is the spatial distribution of those opportunities and resources and the access to transport and travel to reach them.

This may seem a simple argument but, at the present, far too many urban public services and facilities get built without any social analysis of accessibilities. Indeed, as a profession, transport planners have failed to produce few systematic methodologies which incorporate gender analysis for the purpose of urban development and planning (GTZ, 2007; Hamilton and Jenkins, 2000). At present, it would be fair to argue that there are still too few systematic social inclusion procedures for transport either in terms of the training of professionals, the participation of users or the design and planning of systems, services and equipment. Social sustainability is still too infrequently 'on the radar', with consequence that we have not yet directly addressed the issue of systematic social group representation. Even in those few cases where social impact procedures are incorporated, these components too easily can get 'lost' as

a project is implemented or socially sustainable solutions get ignored, as the implementation of these procedures are rarely audited and even less rectified when they turn towards failure (Turner, 2005).

One of the best ways of getting good social impact information for transport planning purposes and of keeping that information updated is to make use of user group planning techniques. Users have available to them important contextual knowledge which is not easy to obtain from an external perspective and they have a knowledge of system failure which may not be obvious to an external planner (UN-Habitat, 2009b, pp93–110). Historically, there has been a discussion as to the inefficiencies of participation in terms of delaying transport provision or the complexities of administering a process where many voices were present. The prospects of direct democracy in social policy were only possible at the level of very small groups. However, and as is being increasingly recognized, new technologies enable direct democracies at the level of very large groups – the electronic town hall concept.

New technologies also permit levels of interaction and knowledge transmission between user groups and agencies which did not previously exist. There is a new efficiency attainable through electronic participation: feedback systems can exist without unnecessarily disrupting routine administration. Information and communication technologies can readily permit the capture and harnessing of physical access data for transport and travel systems which would better service people with limited physical mobility both in the developed and developing world. For instance, in the developed world, instead of waiting at poorly serviced and supervised bus stops hoping that an accessible vehicle would arrive, people with limited mobility could, through new technology, call demand-responsive services to get them to hospitals in time, with efficiency benefits for the overall urban system. Only because we do not cost, for some social groups, wasted time travelling to over-centralized urban facilities – or because we do not cost for the imposition of poor health on those who are discouraged by the epic quality of low income transport journeys – do we arrive at cost which favour large hospitals on the periphery of urban space, hospitals which rarely have any customised transport to service routine low-income needs. In the developing world, new information technologies would allow users to provide direct feed-back on their transport experience and difficulties to service providers and donors. In the past, user group experiences were relayed to central donors by means of expert opinions and desk officer reports. Rarely was the case that users enjoyed any form of direct interface with those who determined the funding and planning of transport provision. The new electronic capabilities of the central donors permit new forms of direct feedback. Financing user groups to meet as part of a transport development strategy is not fundamentally different to financing user groups to be directly involved in a transparent dialogue with donors as to what their needs are.

Gender and Transport Protocols

Social sustainability, generally and the gender dimension, in particular, within transport planning has been sorely neglected and that the time is ripe for change. It is not sufficient for development, planning and transport service agencies to adopt participatory protocols: although this is a clearly an important and necessary step, it must be shown to fully participatory by an attention to gender before these can achieve their full participatory potential. In addition the incorporation of electronic feed-back techniques in service and development planning would render user needs more transparent and result in user difficulties having a higher priority as performance indicators.

Unless social sustainability is mainstreamed into professional practice, gendered difficulties in the access to transport, for example, will persist with negative social consequences and a

detriment to the social sustainability of urban transport (Rahman and Barter, 1998). Both technology and policy awareness is now sufficiently advanced for gender to be raised up the technical inventory of transport engineering: resources can be claimed for participatory planning modes if the profession places its institutional will behind the agenda. So what would these protocols look like? In order to develop relevant and practical user group techniques which meet the gender issue, a number of dimensions have to be addressed.

There is also need to have a greater inventory of data on the travel and access needs of a range of social groups across the city. For example, sexual harassment of women on urban public transport systems in Jakarta and elsewhere is frequently reported (Yakuz and Welch, 2010; GTZ, 2007, p14), despite it often being considered, officially amongst the transport planning community of the city, as considered as taboo subject and women may not have the social space to complain about their circumstances. Women may, however, have the space to discuss ways in which matters can be improved. It may be that incremental change is the most acceptable local planning outcome but the use of user groups to get to that point is critical as a mechanism for inducing further change. There is also a need to explore the incorporation of different social groups as transport technologies are improved, such as rail carriages, ticketing systems.

There is a need for the development of new protocols in transport planning practice to enable the maximization of social sustainability. The use of user group planning techniques and the incorporation of the potential that information and communication technologies offer for the development of these approaches is one such direction that needs incorporated into the transport planning toolkit. The Jakarta case highlights the potential for such approaches in the design, planning, organization and management of urban transport systems. Furthermore, the case study has demonstrated the importance of such approaches for social sustainability involving the routine and the everyday.

Even more critical is the need for user group protocols to maintain social sustainability in urban emergencies. The widespread use of mobile phones and video-cameras amongst a spatially-distributed user population would enable emergency situations to be managed in a different manner for Jakarta's transport system, than previously possible. Users finally have, through electronic means a mechanism for direct expression and in substantial numbers which need not be limited by the mobility and accessibility constraints. Furthermore, transport organizations have a mechanism for better linkage to all of their markets and its demands for greater social sustainability.

Conclusions

This case study has looked at the refurbishment and improvement of the Jabotabek Suburban Rail system in the Jakarta city-region, as an example of a large-scale urban mass transit investment and the challenges and opportunities such investment has for the social sustainability of the Jabotabek metropolitan region. It highlights the social implications of such investments and the possible ways forward for similar investments in Jakarta and other developing country cities. The case study highlights, through the example of gender, the differences in the use of this large urban transport system amongst a range of social groups, the differences in how the system interacts with geographies of opportunities across the city and the differences in how the system interacts with people's everyday travel patterns. It highlights the importance, for all users surveyed, of a swift and affordable urban transport service for Jakarta that can enable them to manage the different spatial distributions of their economic and social lives across this ever-expanding city. It highlights the importance of viewing the role of urban transport services in Jakarta within the wider context of people's

everyday lives, their roles and responsibilities, their physical and temporal abilities to make journeys.

The case study highlights the impact of urban transport system operation and management on passenger safety and security, which has significant implications for the impact of the urban mass transit investment across Jakarta. It was clear, from those surveyed, that the existing over-crowding increased people's perceptions of fear for their own personal safety and security. Whilst this was most stark for women, it would also have a significant impact on other social groups such as young and older travellers and people with limited mobility. Some travellers were reporting that concerns for their personal security had implications for decisions on what mode to travel, when to travel and whether journeys would be made at all. If the manner in which urban transport services are operated has implications for whether people make journeys or not then this has implications for who benefits and who doesn't from transport investment, the distribution of such benefits and, as result, for the long term social sustainability of the mass-transit in the city region.

The case study also explored the interaction between transport systems and the wider economic and social fabric of Jakarta. It highlighted the interaction between the informal economy, informal urban transport services and walking at the neighbourhood level. It also reported that transport users derive benefit from the flexibility and proximity that such interaction provides. This was in addition to recognising the negative impacts that informal activities at stations often have on congestion, personal security and the local environment.

The differences in people's everyday lives across different social groups, their different travel needs and their different perceptions of personal security need to be incorporated into the planning, operation and management of urban transport systems of cities like Jakarta. The case study has demonstrated a possible direction for Jakarta. It has showed that in taking a participatory approach to exploring the perceptions of transport users, they came up with a range of appropriate improvements and features for the planning and management of Jakarta's urban rail system. The incorporation of such approaches is a key step to enhancing the social sustainability of the urban transport systems of cities like Jakarta.

The lessons learned from this case study are that the planning, operation and management of the urban rail system has a key role to delivery of social sustainability in urban transport in Jakarta. The everyday lives, mobility patterns and perceptions of many different social groups across the city-region need to be understood in all their complexity and incorporated into the planning for urban transport with the city. This presents a challenge on transport professional in cities such as Jakarta to develop new approaches to transport planning. In Jakarta, there is a need to build on civil society groups' activities to connect marginalized social groups with city planning processes. There is an opportunity to work with such groups to increase the capacity of transport professionals in interacting with user groups and to embed participatory processes in planning. There needs to greater presence of marginalized social groups in the composition of transport user groups.

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